



M O N I T O R I N G

The State of
Occupational Safety
and Health
in the European Union — Pilot Study



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Occupational Safety
and Health
in the European Union — Pilot Study

A great deal of additional information on the European Union is available on the Internet.
It can be accessed through the Europa server (<http://europa.eu.int>).

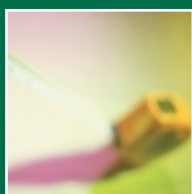
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FOREWORD
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FOREWORD

According to Article 2 of the Council Regulation establishing a European Agency for Safety and Health at Work, *“the aim of the European Agency is to encourage improvements in the working environment by providing the Community bodies, the Member States and those involved in health and safety at work with the technical, scientific and economic information of use in the field of safety and health at work”*. For the purpose of achieving the aim described in Article 2, the European Agency carries out information projects to collect and disseminate relevant information in the Member States.

The European Agency information project “The State of Occupational Safety and Health in the European Union - Pilot Study” is a first step to the development of a system for monitoring the safety and health in the European Union. It aims at providing decision-makers at Member State and European level with an overview of the current safety and health situation in the European Union and in this way supporting the identification of common challenges and priority areas for preventive actions.

The project report identifies for physical exposures, postures and movement exposures, handling chemicals, psycho-social working conditions and occupational safety and health outcome for example sectors/occupations most identified to be at risk. Further, the Focal Points and their national networks provided information on trends and needs for development of additional preventive actions related to these indicators. Implications of the “changes in working life” on occupational safety and health are also touched in this report.

The EFTA countries have agreed to carry out a similar study and the results will be summarised and published by the European Agency in due course.

The draft consolidated European report based on the Member States’ reports was discussed during the Pre-Board Seminar on 22 February 2000 and during the meeting of the Administrative Board of the European Agency on 23/24 February 2000. Based on the results of the discussions, the European Agency produced the final project report. It was evident from the discussions that there were weaknesses present in collecting data from such a diverse range of information sources throughout the European Union. However, the report presents a comprehensive snapshot of the state of occupational safety and health in the European Union.

The European Agency for Safety and Health at Work wishes to thank the Focal Points, the Thematic Network Group OSH Monitoring, the Expert Group assisting the European Agency in drafting the manual for the data collection for their comprehensive work and all other individuals involved in this information project (see Appendix 14).

We especially thank the European Foundation for the Improvement of Living and Working Conditions and Eurostat for their kind co-operation and for providing the European data for this information project.

Bilbao, September 2000

EUROPEAN AGENCY FOR SAFETY AND HEALTH AT WORK

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INTRODUCTION

- 1.1 PURPOSE OF THE PROJECT
- 1.2 HOW TO READ THE REPORT

INTRODUCTION

The European Agency for Safety and Health at Work was set up by the European Union (EU) in order to serve the information needs of people with an interest in Occupational Safety and Health (OSH).

The European Agency is managed by a Board with representatives from Government, Employers and Workers from all fifteen EU-Member States, as well as representatives from the European Commission. Located in Bilbao (Spain), the European Agency has co-ordinated an Occupational Safety and Health network in each Member State of the Union since 1997, and co-operates with many international organisations and with safety and health administrations and interested parties world-wide.

The European Agency's aim, as set out in the founding Regulation, is:

"To provide the Community bodies, the Member States and those involved in the field with the technical, scientific and economic information of use in the field of safety and health at work, in order to encourage improvements, especially in the working environment, as regards the protection of the safety and health of workers as provided for in the Treaty and successive action programmes concerning health and safety at workplace."

Further information about the European Agency and its activities can be found within the European Agency's web site <http://osha.eu.int>

To co-ordinate the work of the European Agency throughout the EU-Member States, each EU-Member State was asked to nominate a competent authority to become a Focal Point in the European Agency's network. The tripartite Focal Points are asked to set up national networks to support the European Agency's work and co-ordinate national information at Member State level.

The Focal Points meet regularly in Bilbao, also present at their meetings are observers from the European Commission and European Social Partners.

1.1

PURPOSE OF THE PROJECT

To pursue the goal of making a contribution towards the development of a monitoring system for safety and health at work in the EU, the European Agency decided to undertake a comprehensive assessment of the state of Occupational Safety and Health (OSH) throughout EU-Member States. This led to:

- the production of a national report regarding the state of OSH in each of the Member States; and
- the production of a consolidated report regarding the state of OSH in the EU based upon the fifteen national reports.

From the onset of the project the amount of work to be undertaken and the effort required to achieve the objectives was recognised. The results were not intended to provide a definitive answer because of the varying complexities and differences between each Member State's national occupational safety and health data collection systems. For this reason the project was initialised as a pilot study to provide a current snapshot of the state of OSH in the European Union. In the process of doing so the project would identify the requirements for conducting future and more regular updates of OSH information across the European Union.

To undertake the assessment of the state of OSH, the European Agency embarked on a major initiative to collect, collate and publish data collected by the tripartite Focal Points.

Together with an expert group and the Focal Points, the European Agency developed a manual, consisting of a comprehensive set of questionnaires that would be completed by each Focal Point and then returned to the European Agency for consolidation. An example from the manual has been reproduced in Appendix 11.

Once the manual had been produced it was left up to the individual Focal Points to decide on the exact method of data collection to be operated within their Member State. This approach was adopted because it was realised by the Focal Points themselves, that there were in existence within each Member State vastly different methods and procedures for data collection and collation.

In some cases a committee of experts was formed to complete the manual, whilst in others, the individual Focal Point completed the manual after seeking out relevant data and/or canvassing appropriate expert opinion.

Once all of the Focal Points had completed and returned the manuals to the European Agency, a contractor was engaged to undertake the data consolidation and the preparation of this report.

1.2

HOW TO READ THE REPORT

This report is arranged in six Chapters and eighteen appendices. The bulk of the consolidated occupational safety and health material is presented in Chapter 4, “The Working Environment”. To understand how the report is structured a summary of each chapter is given below to provide the reader with guidance as to the document’s layout.

Chapter 1 – Introduction

This chapter presents an introduction into the project describing the European Agency’s role and the aims of the project. It also presents a summary of each chapter to assist the reader in understanding the layout of the report and the location of particular elements of information.

Chapter 2 – Data sources and methodology

In this chapter a description is given outlining the concept of the manual, the various data sources used in the project and the background behind the European survey on working conditions. Information about the methodology on the European statistics on accidents at work is presented. A brief outline is also given as to how the Focal Points organised themselves for collecting data and preparing their national reports. Details are provided in this chapter regarding the process adopted in consolidating the information from all fifteen Focal Points. To illustrate this process an example has been included for the occupational hazard “noise”. Furthermore, limitations of the consolidation process are highlighted and discussed.

Chapter 3 – Major findings

The chapter starts by presenting an overview table of the major findings for all exposure indicators and occupational safety and health outcomes assessed in the project. This table is a summary of the more detailed information that can be found in the individual chapters. Also included in this chapter is an overview of the information collated for each exposure indicator and OSH outcome. Each overview presents information on the potential health effects, the sectors and occupations considered most at risk as well as details on exposure trends and whether or not additional preventive actions to control the risks were considered necessary. In addition, summarised information on the need for the development of additional preventive measures, overall European picture for individual risk categories, chemical/biological hazards and emerging risks is presented.

Chapter 4 – The working environment

This chapter presents the bulk of the consolidated information for the working environment. The layout of each individual subsection is identical and consists of:

- a summary;
- a European picture using the data from the 2nd European Survey on Working Conditions (ESWC-data);

- comparison of EU data and national data;
- results from each risk category (sector, occupation, gender, age etc.); and
- responses in relation to trends and evaluation.

In the course of the consolidating process there were several areas that indicated a deficiency of information, where possible, this chapter includes as much useful and relevant information as possible.

Chapter 5 – Occupational safety and health outcomes

This chapter looks at the consequence/outcome of the effects of occupational hazards in the workplace. It considers issues such as accidents with more than three days absence, fatal accidents, work induced musculoskeletal disorders, stress and occupational sickness absence in order to identify the sectors and occupations considered most at risk and to identify any particular trends or significant findings. Also discussed in this chapter are occupational diseases, which can occur as the result of exposure to particular work based activities and their associated processes and substances. Information is presented on the findings of such occurrences by looking at sectors and occupations considered most at risk.

Chapter 6 – Changes in Working life

This chapter presents the findings gathered from asking each Focal Point to evaluate the nature of the changing work place in particular the emerging risks they consider are evident from the national information. Also, within this chapter two other specific OSH topics and their implications are discussed, these include “Telework” and “Employment Status”.

Appendices

Supporting the main report are eighteen appendices. These include the sector and occupation classifications used in the project, risk categories truncated from the main text, a sample page from the manual, acronyms, bibliography, project participants, summary of the national OSH systems in the fifteen Member States and an overview of the European working population.

Navigation – Case examples

To assist the reader in navigating through the report seven case examples are illustrated in the following pages demonstrating how particular areas of interest can be located.

Case Example 1 → Where to find overall, summarised and/or specific information on individual exposure indicators/OSH outcomes?

Example - NOISE

SUMMARY DETAILS

CHAPTER 3 “Major Findings”, 3.1 Overview
<i>Overview table of major findings for all exposure indicators / OSH outcomes</i>

FOR FURTHER SUMMARY DETAILS

CHAPTER 3 “Major Findings”, 3.2 Summary Findings
<i>Summary pages of findings for each exposure indicator/OSH outcomes, with</i> <ul style="list-style-type: none"> • <i>Potential health effects</i> • <i>A European picture</i> • <i>Sector categories most at risk from the national reports and number of Focal Point responses</i> • <i>Occupation categories most at risk from the national reports and number of Focal Point responses</i> • <i>Other risk categories</i> • <i>Trends</i> • <i>Focal Points identifying the need for additional preventive action</i> • <i>Description of indicated action</i> • <i>Other relevant information</i>

FOR FULL DETAILS

CHAPTER 4 “Working Environment”, 4.2 Noise
<i>Detailed information</i> <ul style="list-style-type: none"> • <i>Summary details</i> • <i>A European picture</i> • <i>Comparison between European and national data</i> • <i>Risk categories:</i> <ul style="list-style-type: none"> — <i>Sector</i> — <i>Occupation</i> — <i>Age</i> — <i>Gender</i> — <i>Company Size</i> — <i>Employment Status</i> • <i>Evaluation in the trend of numbers of workers exposed</i> • <i>Evaluation of preventive measures taken/ planned</i>

Case Example 2 → Where to find summary and/or detailed information on emerging risks?

SUMMARY DETAILS

CHAPTER 3 “Major Findings”, 3.6 Emerging Risks

FOR FURTHER DETAILS

CHAPTER 6 “Changes in Working Life”, 6.1 Emerging Risks

- *Topics associated with emerging risks*
- *Implications of the topic on the working environment*

Case Example 3 → Where to find summary and detailed information about hazardous substances

SUMMARY DETAILS

CHAPTER 3 “Major Findings”, 3.5 “Chemical/Biological Risks”

Summary table of most important chemical/biological risks identified by the Focal Points

FOR FULL DETAILS

CHAPTER 4 “Working Environment”, 4.10 Chemical/Biological Risks

Detailed information relating to:

- *Carcinogens*
- *Neurotoxics*
- *Reproductive hazards*
- *Infectious biological factors*
- *Non-infectious biological factors*

For each of the above categories:

- *Evaluation of preventive measures*
- *Summary*
- *Additional actions identified*
- *Most frequently identified substance*
- *Sectors most at risk*

Case Example 4 → Where to find summary information about the OSH systems adopted by the Member States?

FOR FULL DETAILS

Appendix 16 – Presents a summary of the OSH system in each Member State

Appendix 17 – Presents a summary of the OSH inspector resource in each Member State

Case Example 5 → Where to find summary and detailed information about the changes in working life

SUMMARY DETAILS

CHAPTER 3 “Major Findings”, 3.6 “Emerging Risks”
<i>Summary table of topical issues and their implications in the workplace</i>

FOR FULL DETAILS

CHAPTER 6 “Changes in Working Life”
Detailed information relating to: <ul style="list-style-type: none"> • <i>Emerging risks</i> • <i>Teleworking</i> • <i>Employment status: fixed term contract, temporary employment agency contract, apprenticeship/other training and self employed</i>
For the above categories information is given on: <ul style="list-style-type: none"> • <i>Emerging risks: topic area, implications in the workplace, number of Focal Point responses</i> • <i>Teleworking: European data, number of workers carrying out, Focal Points area of attention</i> • <i>Employment status: particular concerns raised by the Focal Points</i>

Case Example 6 → Where to find information about how the project was conducted and who the participants were

FOR FULL DETAILS

CHAPTER 2 “Data Sources and Methodology” APPENDIX 14 “Project Participants”
Chapter 2 <ul style="list-style-type: none"> • <i>Details are given behind the concept of the manual</i> • <i>Data sources used in the project are described</i> • <i>Describes with the use of an example how the national data was consolidated to produce this report</i>
Appendix 14 <ul style="list-style-type: none"> • <i>Lists the individuals and the various organisations participating in the project</i>

Case Example 7 → Where to find a specific national report

FOR FULL DETAILS

CHAPTER 2 “Data Sources and Methodology”, 2.2.3 “National Process for Collating OSH Information”
National Process for Collating OSH Information, footnote <ul style="list-style-type: none"> • <i>Addresses and links are provided for those national reports available on the Internet</i>
CD ROM <ul style="list-style-type: none"> • <i>CD ROM issued with the report contains a copy of all fifteen national reports</i>

2.



DATA SOURCES AND METHODOLOGY

2.1 CONCEPT OF THE MANUAL

2.2 DESCRIPTION OF DATA SOURCES USED IN THE PROJECT

2.3 CONSOLIDATION PROCESS

2.4 REVIEW OF THE CONSOLIDATION PROCESS

2.1

CONCEPT OF THE MANUAL

A group of experts nominated by the Member States as well as from the European Commission, Eurostat and European Foundation for the Improvement of Living and Working Conditions assisted the European Agency in developing a manual for the data collection on the state of occupational safety and health in the Member States. In co-operation with this expert group and the Focal Points, a number of specific indicators that are best suited to describe the exposure situation at work, the context of work, the outcomes and the preventive capacity in the Member States were selected. The following indicators were chosen to provide a comprehensive picture of the working environment in the Member States:

- **Physical exposures:** noise, vibration, high temperature, low temperature;
- **Posture and movement exposures:** lifting/ moving heavy loads, repetitive movements, strenuous working postures;
- **Chemical exposures:** handling chemicals, carcinogenic substances, neurotoxic substances, reproductive hazards;
- **Exposures to biological factors;** and
- **Psycho-social working conditions:** high speed work, workplace dictated by social demand, machine dictated workplace, physical violence, bullying and victimising, sexual harassment, monotonous work.

For most of the above indicators the following data gathering procedure applied:

1. A question was presented asking for national data. In most cases the question stemmed from the Second European Survey on Working Conditions (2nd ESWC, European Foundation for the Improvement of Living and Working Conditions, Dublin, 1996). In this step existing national quantitative data from e.g. national surveys with larger sample sizes or specific studies were asked to be presented. These data had to be based on a similar question as used in the 2nd ESWC. The Focal Points presented the exact question used in their national data collections. Tables were provided to present the collected information of the national data in a common way.
2. If the Focal Points presented additional national data, they were asked to compare their national data with the existing European data by means of two key questions such as *“Are there differences between the national data and the Data from the European source?”* and *“Does the additional national information highlight sectors or occupations that are not evident from EU-data?”*. In addition, the Focal Points could give other comments. The objective was to see whether the European data reflects the state of occupational safety and health in the Member States in an appropriate way.
3. The Focal Points were then requested to determine which 5 sectors and 5 occupations are at highest risk to the exposure indicator. They should also state in the tables the qualitative considerations, which they have taken into account to do this selection. As a basis for the selections the Focal Points could use quantitative information and relevant qualitative considerations, such as expert opinions, inspection reports, national priorities, research studies, emission data, etc.
4. The Focal Points were asked for an opinion about the trends on the numbers of workers exposed over the last 3-5 years. Further, they indicated if there were any particular risk categories in sectors, occupations, company size, gender, age or employment status that are expected to deviate from this development.
5. Finally, the Focal Points were requested to give an evaluation of the present state regarding the exposure indicator. In case the Focal Points marked *“Development of additional preventive action is necessary”*, they should elaborate this action.

Regarding the chemical agents (carcinogens, neurotoxic substances, reproductive hazards and biological agents) questions had to be formulated in a somewhat different way because no existing European data was available. The Focal Points chose in a first step a maximum of 5 carcinogens, neurotoxic substances, reproductive hazards and biological agents that were considered to be the most important risks for the working population in their country. Of the (maximum) 5 substances chosen in a second step the Focal Points were asked to present national data on sectors and number of exposed persons. Further, they should present their opinion on trends regarding the number of exposed workers over the last 3-5 years using the categories *“decreased, remained stable or increased”* and an evaluation of the present state.

In addition to the specific exposure indicators above, a number of questions were formulated with respect to the context of work such as:

- telework (estimation of people doing telework, particular points regarding safety and health);
- particular concerns regarding working conditions of people with fixed termed contracts, temporary employment agency contracts, being on apprenticeship or another training scheme or self-employed;
- use of personal protective equipment;

- provision of information about risks at work; and
- OSH training provided by the employer.

These issues influenced to a substantial extent the actual risks at work.

Occupational safety and health outcomes such as accidents with more than 3 days absence, fatal accidents, musculoskeletal disorders, stress related health problems, were chosen because of availability of European data from Eurostat and from the European Foundation for the Improvement of Living and Working Conditions. As there were no comprehensive statistics available about occupational diseases at European level, the Focal Points were requested to provide national information. The same step-wise procedure as followed for the exposure indicators was used for most occupational safety and health outcomes.

To describe the preventive capacity of their occupational safety and health systems, the Focal Points were asked to present:

- by means of an organogram, an overview of the way the national system is organised;
- the number of Labour Inspectors occupied with occupational safety and health in the country;
- the percentage of workers that are covered by preventive occupational safety and health services; and
- the numbers of workers that received occupational safety and health training per year.

The data collection was based as much as possible on existing data available either on a European and/or on national level. The Member States received tailor-made annexes with these European data from Eurostat and the European Foundation for the Improvement of Living and Working Conditions.

This approach of the manual was chosen to bring together qualitative and quantitative data on the state of occupational safety and health in Europe to give a complete presentation of the current status.

2.2 DESCRIPTION OF DATA SOURCES USED IN THE PROJECT

2.2.1 Second European survey on working conditions¹

At the end of 1995 and beginning of 1996 the Second European Survey on Working Conditions was carried out by the European Foundation for the Improvement of Living and Working Conditions. A representative sample of the total active population, i.e. people who were, at the moment of the interview, either employed or self-employed was sought.

The basic sample design is a multi-stage random sampling. Individuals were interviewed from the age of 15 (knowing that after the age of 65 the number of active people would level off rapidly). All retired, unemployed people, as well as housewives, etc. were excluded. Non-Europeans were included on the condition that they could be interviewed in the respective national language(s) of the countries where they work.

Interviews were carried out in all Member States of the European Union. All interviews were scheduled at times of the day when employed and self-employed could be reached. The respondents were interviewed at home.

The target was 1,000 cases per country (500 in Luxembourg, 2,000 in Germany: 1,000 for former East Germany and 1,000 for former West Germany).

Response rates indicate the number of persons kept in the sample in relation to the number of contacts made with the persons selected for interviews.

When considering (and comparing) response rates one should be careful as methods of measuring response rates vary from one country to the other. The present response rates are in line with the Response Rates (RR) achieved for similar questionnaire surveys, in particular surveys carried out through Eurobarometer.

¹ The information presented in this sub-chapter is taken from the report 'Second European Survey on Working Conditions' published by the European Foundation for the Improvement of Living and Working Conditions in 1997.

	B	DK	WG	EG	GR	E	F	IRL	I	L	NL	A	P	FIN	S	UK
RR	58	35	67	70	47	77	79	70	43	60	37	81	66	55	66	58

(Values given are percentages)

The methodology used and more generally international comparisons create a number of problems which users of the data should keep in mind when analysing and interpreting the results:

1. The industrial structure differs widely between countries and so does the distribution of the workforce between sectors, therefore international comparisons should be considered with caution. The report provides where necessary the various breakdowns which can help understand (at least partly) why the results differ from one country to the other.
2. The sample size in each country is limited to 1,000 workers. This means that breakdowns may lead to subgroups with insufficient number of cases to draw conclusions, the number of cases in each group in each country may be too small to draw conclusions. Because of the sample size the breakdown between sectors had to be limited to one-digit categories.
3. On some issues, the data provided by the Survey is not, by far, as detailed and possibly as reliable as the data provided by more specialised surveys. The aim was not to provide for example on working hours a review of working time in Europe, but rather to enable a link between working time and working conditions.
4. The legal and cultural differences between countries may influence the way the questions are understood and must be taken into account when reading the report. The level of knowledge or awareness about the working environment problems and the attitudes and concern about such problems are very different from one country to another. In some countries the concept of working environment is well-known and accepted, in other countries the working environment is perceived to be part of daily life, and the problems experienced in connection with the working situations are only considered to be a “natural” part of life conditions, and as such not worth giving special consideration.
5. Some issues such as occupational accidents have not been addressed as there are already harmonised data sources (Eurostat).

The limitations described above should not on the other hand hide the positive points:

1. The present survey was designed in close connection with existing National Work Environment Surveys. Therefore, the similar methodology and the fact that some indicators are at times identical enables to compare and check the validity of the data.
2. The adoption of the NACE and ISCO code, which are currently used by Eurostat, should facilitate harmonisation of data.
3. The present survey does not aim to cover all issues in detail or to provide answers to all questions. Its aim is to help provide policy makers with a better picture of trends and existing working conditions in the EU. It points at areas or issues for further more detailed research if necessary.
4. The survey describes self-perceived working conditions. As can be seen from the questionnaire (this questionnaire is available under URL: <http://www.eurofound.ie/themes/health/hwin1.html>) people were asked, in so far as possible, to describe their working conditions, seldom to give an opinion on them. The aim of the survey is in fact to provide a picture of working conditions as they are. With regard to this objective and as indicated above the present survey certainly has limitations, but nonetheless helps provide such a picture. Obviously it could and should be complemented by other information sources (case studies, company based questionnaires, etc.) to improve the picture.

2.2.2 European statistics on accidents at work²

The European Statistics on Accidents at Work (ESAW) project carried out by Eurostat in close co-operation with the Member States of the European Union aims at collecting Union-wide comparable data on accidents at work and establishing a database.

All cases of accidents at work leading to an absence of more than three calendar days are included in the ESAW data. In practice it means that an accident at work is included in ESAW if the person is unfit for more than three days even if these days include Saturdays, Sundays or other days where the person is not usually working.

An accident at work is defined as a “discrete occurrence in the course of work, which leads to physical or mental harm”. This includes cases of acute poisoning and wilful acts of other persons but excludes deliberate self-inflicted injuries and

² The information presented in this sub-chapter is taken from the Eurostat publication ‘European Statistics on Accidents at Work-Methodology’, Eurostat Theme 3 ‘Population and social conditions’, 1999.

accidents on the way to and from the work (commuting accidents). “In course of work” means whilst engaged in an occupational activity or during the time spent at work. This includes cases of road traffic accidents in the course of work.

A fatal accident is defined as an accident, which leads to the death of a victim within one year (after the day) of the accident. In practice the majority of the Member States send the cases of fatal accidents at work counted in their national statistics.

Each case of an accident at work, which meets the above mentioned criteria, is included in the ESAW methodology and will be analysed according the following types of variables: *case number, economic activity of the employer, occupation of the victim, age of the victim, sex of the victim, type of injury, part of the body injured, geographical location (the territorial unit where the accident has occurred), date of the accident, time of the accident, size of the enterprise, nationality of the victim, employment status of the victim and days lost.*

The ESAW methodology considers two main types of indicators on accidents at work: the number of accidents and the incidence rates. The incidence rate is defined as the number of accidents at work per 100,000 persons in employment.

For the Member States where the accidents at work with more than three-days’ absence are only partly reported, reporting levels are estimated mainly by breakdowns by branches of economic activity for these Member States. On the basis of these reporting levels Eurostat corrects the submitted data on accidents and deduces from it an estimate of the number of accidents at work occurred.

The frequency of work accidents is much higher in some branches compared to others. For this reason the industrial structure of a country may influence its total frequency of work accidents depending on the share of high risk sectors. To correct for this effect, a “standardised” number of accidents of work per 100,000 persons in employment is calculated per Member State by giving each branch the same weight at national level as in the European Union total.

Depending on the reporting procedure in the Member States (insurance or non-insurance based systems) the reporting levels for accidents at work differ. In general, the reporting levels are very high in the insurance based systems and considered to be about 100 percent. The non-insurance based system has only a medium reporting level usually ranging from 30 to 50 percent on average for all branches of economic activity taken together. The data from the two sources, insurance based data or non-insurance based data corrected according the reporting level, are not strictly comparable.

2.2.3 National process for collating OSH information

A brief overview is given in this section detailing the various methodologies adopted by the Focal Points in collating their occupational safety and health information in response to the manual and in readiness for the preparation of their national report. Basic guidelines were set out in the initial report and the manual for data collection. Further details in relation to the methodologies adopted by each Focal Point have been included in Appendix 15. In Appendix 16 details are provided which outline the national OSH systems in each Member State. This is further supplemented by the data in Appendix 17, which indicates the level of OSH inspector resources in each Member State.

In general, National networks were utilised to gather the relevant information and these was frequently co-ordinated by government groups supported by the relevant technical experts and other organisations. Information sources used included national surveys, national statistical reports and expert opinion from national network organisations.

Data was gathered and utilised from a wide base of national resources in relation to the working environment, the labour market, accidents at work and occupational illnesses. Information from national surveys and surveys carried out by the European Union were used in the data analysis.

When the situation arose in which there was a lack of available information question sets were devised in order to question the relevant experts in that particular field of occupational safety and health. Experts were chosen from the authorities concerned with occupational safety and health experience. Information was obtained from a wide selection of organisations, which included the likes of Social Partners, Workers Compensation Board, employee insurance funds and medical organisations.

Regular meetings were organised by the Focal Points to discuss the national reports and the results obtained. In one Member State a particular group of experts met twelve times during the course of the project.

The production of the draft national reports were frequently presented to a select committee as part of a review process before submitting them the EU Agency and publishing them on the Internet.³ (See Appendix 16 p. 447).

³ <http://fi.osha.eu.int/publications/indexen.stm>, <http://uk.osha.eu.int/statistics/>, <http://nl.osha.eu.int/statistics/>, <http://be.osha.eu.int/systems/fr/index.stm>, <http://it.osha.eu.int/statistics/>, http://de.osha.eu.int/statistics/osh_de.zip, http://at.osha.eu.int/statistics/statosh_doc, http://dk.osha.eu.int/statistics/index_en.stm, <http://se.osha.eu.int/statistics/>, <http://es.osha.eu.int/statistics/#nacional>, <http://www.osh.gr/fp/statistics/oshstat.pdf>, <http://ie.osha.eu.int/statistics/irereport.pdf>, <http://fr.osha.eu.int/statistics/>, <http://pt.osha.eu.int/statistics/inqueen.stm>, http://www.itm.etat.lu/state_of_osh/oshlux.doc.

2.3 CONSOLIDATION PROCESS

In preparing this report the following three principal stages were developed:

- development of spreadsheet models for compiling the information;
- information review and insertion into the models; and
- production and presentation of the results.

A further explanation of each of the above points is given below.

DEVELOPMENT OF SPREADSHEET MODELS

For each exposure indicator and OSH outcome a main spreadsheet was developed. These spreadsheets would facilitate the collection of all relevant information from each national report. They would also provide clear traceability and a mechanism for identifying the base source back to each Focal Point, for quality control purposes. Each spreadsheet contained several sub-sheets for the following factors:

- sectors;
- occupations;
- company size;
- gender;
- age;
- employment status;
- evaluation; and
- trends.

In total, approximately two hundred and forty spreadsheets were developed for recording, analysing and presenting the consolidated information.

REVIEWING AND CONSOLIDATING THE SUBMITTED INFORMATION

On receipt of the national reports from the European Agency a preliminary review was conducted to become familiar with both the contents and style of data presentation. At this stage any initial uncertainties were referred back to the European Agency for further clarification.

Once this review was completed the principal task of consolidating the information from each national report commenced. So as to maintain a degree of consistency during this process each exposure indicator and OSH outcome was handled in turn and the next would not be consolidated until the prior one was completed. For example, consolidating vibration would not commence until the complete process of consolidating all fifteen national responses for noise was achieved. Thereafter it was an iterative process to consolidate all exposure indicators and OSH outcomes.

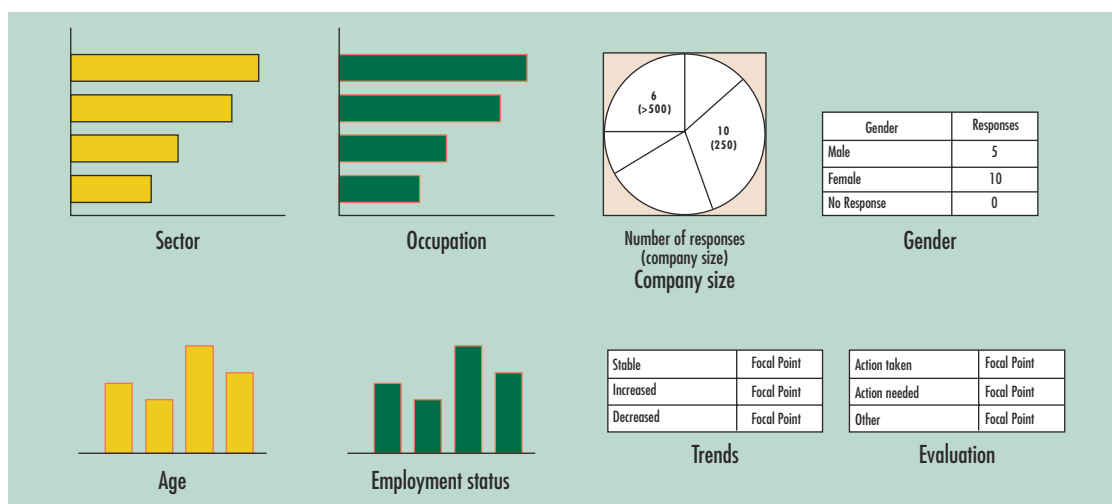
PRODUCTION AND PRESENTATION OF RESULTS

To present the data in an easy to read and interpret form, the contractor developed, in consultation with the European Agency, the Focal Points and the members of the Thematic Network Group OSH Monitoring, a number of models. These consisted of specially designed spreadsheets capable of being used to graphically represent the collected data. The graphical formats used are shown on page 23.

The presentation of the results in each chapter varies slightly to reflect the structure of the particular section, but in general, each section includes a summary of the European picture, an interpretation of the findings together with the findings from consolidating each exposure indicator and OSH outcome.

The sheer volume of all national reports prohibits the reproduction of every item of information. However, as much relevant and useful information from all of the national reports has been included in this report to substantiate the findings presented.

To collate the qualitative data, fully qualified and experienced OSH specialists were used to interpret and present the data in an agreed common style.



2.3.1 Example of the consolidation methodology

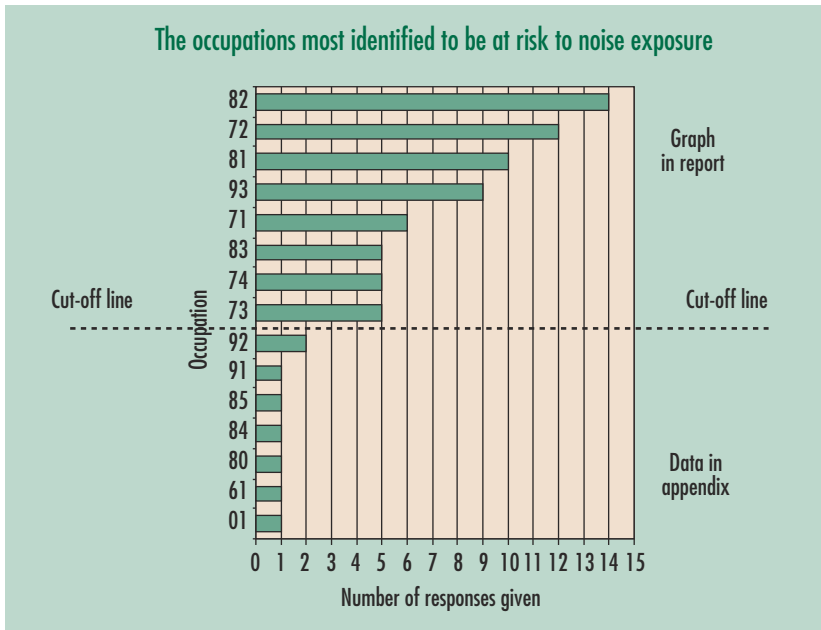
An example of the consolidation methodology is presented in this section for “Occupations considered most at risk” from noise exposure in the workplace.

From the national reports the identified occupations were inserted into the spreadsheet model, as shown below. This gives an indication of the complete range of occupations the Focal Points reported as being most at risk to noise exposure at work.

Occupation (Annex 4)	FOCAL POINT															
Total	UK	Finland	Germany	Ireland	Spain	Denmark	Belgium	Greece	Austria	Sweden	Italy	Luxembourg	France	Netherlands	Portugal	
01	1	*														
61	1	*														
80	1	*														
84	1	*														
85	1	*														
91	1	*														
92	2	*														
73	5	*		*	*			*						*		
74	5	*				*	*				*			*		
83	5	*														
71	6	*		*	*				*	*	*					
93	9	*														
81	10	*		*	*	*			*	*	*	*	*	*		
72	12	*	*		*	*	*	*	*	*	*	*		*	*	
82	14	*	*	*	*	*	*	*	*	*	*	*		*	*	

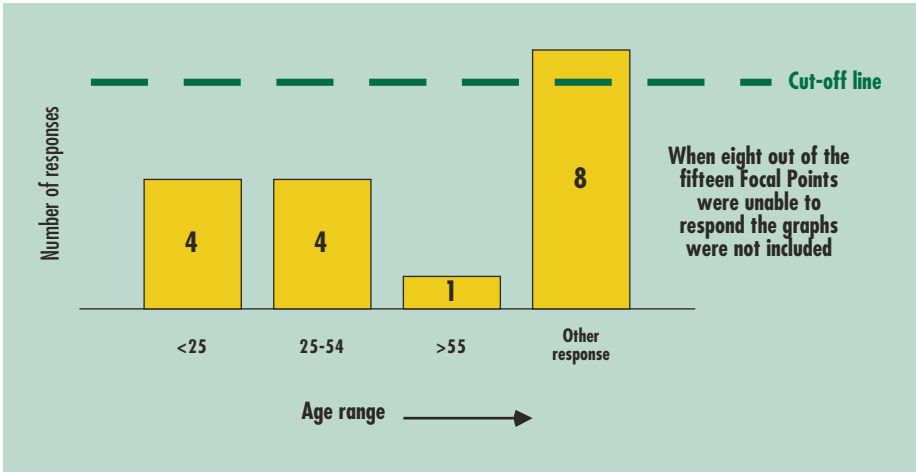
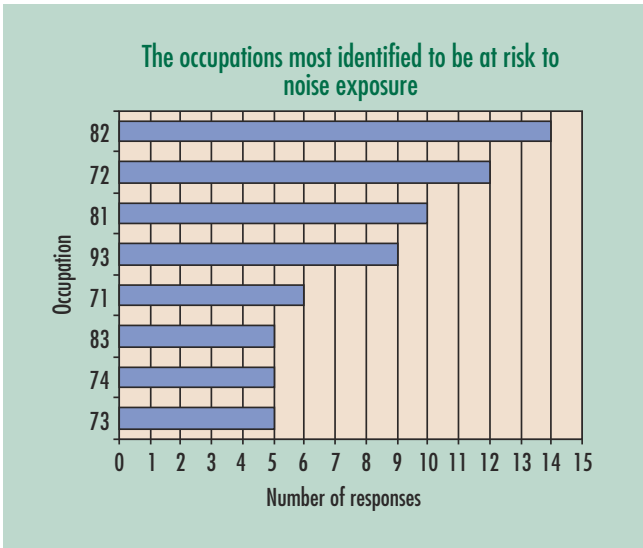
Each Focal Point was requested to identify five occupations they considered most at risk. Therefore, the maximum number of different occupations that could be identified was seventy-five (5 x 15). With this number of responses, presenting legible graphs to the reader became difficult. For this reason a cut-off value was introduced to decide which occupations to include in the graph and which to include in a table in the appendices. This cut-off value was left to the discretion of the OSH experts analysing the information.

The spreadsheet data above has been inserted into the graphical model shown below. This graph illustrates a natural cut-off at around five responses. In this case, five or more responses were included in the graph and below five the occupations were contained in an appendix.



Having applied the cut-off criteria to the data in the spreadsheet, the occupations identified in the national reports were only presented in the graph below for five or more responses. The remaining occupations are listed in Appendix 4.

In the ideal situation each graphical model developed for the project would be used in presenting the findings for all risk indicators (i.e. sector, occupation, gender, age, company size and employment status). However, in a high proportion of questions national information was not available. In these situations it was considered unsound to present the information in graphs. Therefore, graphs have only been presented where there were eight or more Focal Point responses. This is illustrated for the example on age shown below. Ultimately, this meant that few graphs are presented for: gender, age, company size and employment status because the data provided by the Focal Points did not allow the European picture to be illustrated.



2.3.2 Limitations of the consolidation process

1. Definitions and Interpretations. Each Member State may have had a different understanding and interpretation of the phrases used in the manual. For example, when Focal Points were asked “*indicate the five occupations with the highest risk*” to a particular hazard, was the highest risk interpreted as “high” because there were known fatalities, high because a large number of the people were exposed, or high because there were a large number of people who had reported suffering minor injuries?
2. The accuracy and interpretation of quantitative data. Member States used different method for collecting and collating national data. Therefore, it must be realised that the data presented by each Focal Point has been collected by different methods and, therefore, the consolidation cannot be interpreted as accurate quantitative data. Any quantitative data can only be interpreted as providing an qualitative overview of expert opinion.
3. Trends. A number of questions required the Focal Points to decide on a trend or to list what they considered to be the most frequently occurring risks. In most cases accurate quantitative data was not available. Therefore, in presenting a trend or highlighting a particular risk, it must be realised that the Focal Points made an informed professional judgement based on their knowledge and experience of the situation within their Member State. Therefore, the trends and commonly occurring risks presented in this consolidation report present the collation of the expert opinions of the Focal Points and are not based upon statistically sound quantitative data.
4. Diverse opinions. In a number of cases the contractor had to consider all responses given by the Focal Points and interpret them to present a European perspective. When this task was undertaken a fully qualified and registered safety practitioner was employed to undertake the task.
5. ‘No’ and ‘Other Response’. During the consolidation exercise a fourth category was introduced, ‘No Response’. This was introduced to quantify data supplied by the Focal Points that deviated from the required response. To distinguish between a ‘No Response’ and a situation where the Focal Point had information which could not easily be categorised in the categories provided in the manual, the ‘Other Response’ was introduced.

Types of deviation included:

- data from the Focal Points who indicated more than one possible response;
- data from Focal Points who did not indicate any of the three possible response types; and
- data from the Focal Points who provided a qualitative response which did not fit into one of the pre-determined categories.

When eight of the fifteen Focal Points, more than half, failed to provide a response it was considered to be unsound to present data. This is indicated within the text stating that “data provided by the Focal Points did not allow a European picture”.

6. Sectors and categories. In number of cases Focal Points were asked to provide data about sectors and occupations. However, the national data was not categorised as per the agreed list distributed along with the manual. Also, in some national reports Focal Points gave categories different to those listed. When this occurred, the contractor made a professional judgement as to which category to place the data.

COMMON PROBLEMS

7. Unavailability of information. In some cases, information that was required to complete the manual was unavailable. Wherever possible, this has been indicated within the consolidation report.
8. The question was not always answered. When the Focal Point gave a reason for not answering a particular question this has been given in the consolidation report. Where a reason has not been given a *no response* has been entered into the consolidation report.
9. Lack of response. In a number of cases the Focal Points failed to answer the question that was being asked. This could have been due to a number of reasons including:
 - insufficient data to form an opinion;
 - a complete lack of data; or
 - an oversight on the Focal Point in completing the manual.

Once the data had been consolidated it became apparent that there were a number of common findings about the State of OSH within the European Union. These are summarised in Chapter 3.

2.4 REVIEW OF THE CONSOLIDATION PROCESS

In this section an overview is provided in terms of the consolidation process and the resulting information.

This consolidated report is the end product of considerable effort contributed by many parties throughout the fifteen Member States. This includes the national networks and affiliated associations involved in collecting data, answering the manual and preparing the national reports in order to depict the state of occupational safety and health in the EU.

The consolidation process was a pilot study as a first step to develop the methodology of a system of monitoring occupational safety and health in the European Union. It has identified weaknesses present in collating data from such a diverse range of information sources throughout the EU. However, much useful information has been obtained in this process and this report presents a comprehensive qualitative snapshot of the state of OSH in the European Union.

The report has a number of strengths and weaknesses as highlighted below:

Strengths:

- provides a comprehensive factual qualitative snapshot of the state of occupational safety and health in the European Union;
- presents valuable information with respect to each sector at risk identified and discussed;
- presents valuable information in relation to the consolidation process itself;

Weaknesses (The limitations of this project were previously outlined in Section 2.3.2):

- obtaining quantitative data was too complex a task for this project; and
- shortage of qualitative data in some topic areas in some Member States resulted in some issues being the collation of expert opinion.

2.4.1 Discussion points

The consolidation process has highlighted the contrasting differences in the OSH systems across all fifteen Member States. This brings into play the difficulties in comparing the information collected from such systems and using it to present an overall general picture. The consolidation exercise demonstrates the importance in preparing well structured questions to collect the information with clear definitions to promote a common understanding so as to avoid ambiguity.

The information collected in the national reports presents a picture of what has happened, i.e. it is a reactive measure. Currently there is no indication of the proactive issues such as the degree to which specific legislation has been implemented and to what extent this has been effective. In a complete safety and health management system both reactive and proactive elements are essential performance indicators.

To produce a consolidated report which is statistically sound would require each Member State to use an almost identical data collection scheme with similar question sets at the national level and for there to be a common understanding of these questions.

Many of the issues raised related to the questions in the manual and did not match the question asked at the national level of which the expert group and the European Agency were aware while drafting the manual. But doing for the first time such an exercise, it was agreed upon to accept this weakness. But a greater degree of commonality of questions would be desirable for any future study. Also, for some particular questions, for some Member States, there was a lack of national data available to enable a response to be formulated.

Even though the project does not have a statistical basis, much valuable and useful information has been learned from the qualitative sources.

For some of the more historical health and safety topic areas, e.g. noise and asbestos, there appeared to be an abundance of information available. These topic areas tended to have been afforded a degree of protection through the implementation of control measures such as legislation, monitoring/surveying and awareness/information campaigns. For other exposure categories, e.g. stress, workplace dictated by social demands and machine dictated workplace, the availability of data was scarce.

Further clarification is required of some issues discussed in the report, particularly the responses to the evaluation questions. When a Focal Point indicated that further preventive action was needed it was not always evident as to what extent this would entail. Preventive action could range from the introduction of new legislation through to awareness campaigns, surveys, field inspections, published information such as guidance notes or codes of practice or general information leaflets.

Also, such preventive actions could either be applied in a focused manner to a specific industrial sector and its associated processes or they can be applied in a broad approach covering many sectors and processes.

National data was rarely available for the risk indicators: age, company size, gender and employment status. Appendix 10 presents the provision of national data that was and was not available on these indicators. Data on some exposure indicators may have been difficult to collect because of the interrelationships, i.e. stress, bullying, violence, sexual harassment, can be all have an effect on one another. Further research may be needed to determine the relative importance of these indicators from a risk based point of view.

The lack of available data and the comparability problems experienced by the Focal Points between the national data and EU data is evident from the table below. This table presents an overview with respect to each exposure indicator and OSH outcome identifying the number of Focal Points that had data and were able to make a comparison and those that could not either because of a lack of national data or dissimilarities between the data sets. In the majority of cases the Focal Points reported a lack of national data in relation to question two.

The European Agency has already launched a project to evaluate the pilot study in order to improve the process and methodology for future studies. All stakeholders involved in the pilot study will be approached to collect their experiences and opinions.

	Question 1				Question 2			
	“Are there differences between the national data and the data from European sources?”				“Does the additional national information highlight sectors or occupations that are not evident from the EU-data?”			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Physical Exposures								
Noise (10) ⁴	4	4	2	5	4	4	3	4
Vibration (9)	3	4	4	4	3	2	6	4
High temperature (7)	0	2	9	4	1	2	9	3
Low temperature (6)	1	2	8	4	0	3	9	3
Postures and movement exposures								
Lifting/moving heavy loads (9)	5	2	4	4	4	2	5	4
Repetitive movements (9)	5	2	4	4	3	2	6	4
Strenuous working postures (9)	5	2	4	4	3	3	6	3
Handling chemicals (7)	3	2	6	4	3	2	7	3
Psycho-social working conditions								
High speed work (7)	6	1	5	3	1	1	9	4
Workpace dictated by social demand (5)	3	1	8	3	2	0	9	4
Machine dictated workpace (4)	3	1	9	2	1	0	11	3
Physical violence (5)	2	2	7	4	4	0	9	2
Bullying and victimisation (3)	2	2	6	5	1	0	9	5
Sexual harassment (4)	3	3	7	2	2	2	10	1
Monotonous work (7)	4	2	6	3	2	1	9	3
Context of work								
PPE (5)	1	2	7	5	1	0	10	4
OSH outcomes								
Musculoskeletal disorders (8)	2	1	5	7	2	1	8	4
Stress (5)	3	2	6	4	1	1	8	5
Occupational sickness absence (9)	5	1	8	1	5	0	10	0
Information about risks (3)	1	2	8	4	0	0	10	5
Training provided by the employer (5)	1	2	11	1	1	2	10	2

⁴ Number of Focal Points providing national data

3.



MAJOR FINDINGS

- 3.1 OVERVIEW OF MAJOR FINDINGS FOR ALL EXPOSURE INDICATORS AND OSH OUTCOMES
- 3.2 SUMMARY FINDINGS FOR EACH EXPOSURE INDICATOR AND OSH OUTCOME
- 3.3 THE NEED FOR THE DEVELOPMENT OF ADDITIONAL PREVENTIVE MEASURES
- 3.4 OVERALL EUROPEAN PICTURE FOR INDIVIDUAL RISK CATEGORIES
- 3.5 CHEMICAL/BIOLOGICAL RISKS
- 3.6 EMERGING RISKS

MAJOR FINDINGS

This section summarises the major findings on the State of Occupational Safety and Health in the European Union. Subsequent chapters provide further details of the specific questions presented to the Focal Points together with their responses. No summarised descriptions are given with regard to the issues telework, employment status, information about risks at work, training and preventive capacity of the OSH system in the Member States'. Details regarding these issues are presented in the individual chapters of the report or in the appendices, e.g. Appendix 16 regarding the OSH systems in the Member States.

The section begins with a table showing the most frequently identified sector and occupation categories, a European picture from the ESWC-data and the number of Focal Points reporting a need for the development of additional preventive actions. This table is then followed by a series of summary pages for each exposure indicator and OSH outcome.

Further tables are then presented in relation to the following issues:

- the need for the development of additional preventive measures for the exposure indicator/OSH outcome;
- sectors and occupations and other risk categories most exposed to each exposure indicator/OSH outcome;
- exposure to chemical/biological risks; and
- emerging risks.

3.1

OVERVIEW OF MAJOR FINDINGS FOR ALL EXPOSURE INDICATORS AND OSH OUTCOMES

The Focal Points were asked to identify the sectors and occupations:

- most at risk from specific risks;
- that most frequently used PPE; and
- experienced the highest accident and fatality rates.

For each exposure category and OSH outcome a summary of the findings from collating the information from all fifteen national reports is presented in this section. The information summarised includes:

- a European picture from the ESWC-data;
- number of Member States identifying the need for additional preventive measures; and
- sectors and occupations most at risk identified in the national reports.

Caution must be exercised in interpreting the table as no indication is given to the closeness of the second most frequently identified sector or occupation. Also, at the time of preparing their national reports some Member States had already planned additional preventive actions at the national level, which may not have included in this report.

Exposure indicator/OSH outcome	European picture workers exposed/ number of accidents (%)	Number of Focal Points identifying development of additional preventive action is necessary	Most identified sector(s) ⁵	Most identified occupation(s) ⁶
Physical Exposures				
Noise	28%	7	Manufacture of fabricated metal products, except machinery and equipment; and manufacture of wood, wood products and cork, except furniture and straw articles and plaiting materials.	Machine operators and assemblers.
Vibration	24%	9	Construction.	Labourers in mining, construction, manufacturing and transport; extraction and building trades workers; and drivers and mobile plant operators;
High temperature	20%	6	Manufacture of basic metals.	Labourers in mining, construction, manufacturing and transport.
Low temperature	23%	7	Manufacture of food products and beverages; and construction.	Labourers in mining, construction, manufacturing and transport; and extraction and building trades workers.
Postures and movement exposures				
Lifting/moving heavy loads	34%	9	Construction.	Labourers in mining, construction, manufacturing and transport.
Repetitive movements	57%	8	Manufacture of food products and beverages.	Machine operators and assemblers.
Strenuous working postures	45%	6	Construction.	Labourers in mining, construction, manufacturing and transport.
Handling chemicals				
Handling chemicals	14%	8	Manufacture of chemicals and chemical products.	Labourers in mining, construction, manufacturing and transport; and stationary-plant and related operators.
Carcinogenic substances	Not applicable	5	Construction.	Not applicable
Neurotoxic substances	Not applicable	4	Manufacture of chemicals and chemical products.	Not applicable
Reproductive hazards	Not applicable	5	Manufacture of chemicals and chemical products.	Not applicable
Infectious biological factors	Not applicable	6	Health and social work.	Not applicable
Non-infectious biological factors	Not applicable	5	Agriculture, hunting and related service activities.	Not applicable
Psycho-social working conditions				
High speed work	54%	6	Hotels and restaurants.	Corporate managers; and customer services clerks.
Workpace dictated by social demand	67%	2	Hotels and restaurants.	Customer services clerks.
Machine dictated workplace	22%	4	Manufacture of textiles.	Machine operators and assemblers.

⁵ Only the sector with the highest number of responses is indicated. If there are more than one sector with equal numbers of indications, all these sectors are mentioned.

⁶ Only the occupation with the highest number of responses is indicated. If there are more than one occupation with equal numbers of indications, all these occupations are mentioned.

Exposure indicator/OSH outcome	European picture workers exposed/ number of accidents (%)	Number of Focal Points identifying development of additional preventive action is necessary	Most identified sector(s) ⁵	Most identified occupation(s) ⁶
Physical violence	4%	7	Health and social work.	Personal and protective services workers; and Life science and health associate professionals.
Bullying and victimisation	8%	7	Health and social work.	Sales and services elementary occupations; Personal and protective services workers; and customer services clerks.
Sexual harassment	2%	2	Hotels and restaurants; and health and social work.	Personal and protective services workers.
Monotonous work	45%	6	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear; manufacture of textiles; and manufacture of food products and beverages.	Machine operators and assemblers; and sales and services elementary occupations.
Context of work				
PPE ⁷	25%	6	Construction.	Extraction and building trades workers.
OSH outcomes				
Accidents with more than three days absence	4,757,611 in 1996 Eurostat data	7	Construction.	Machine operators and assemblers.
Fatal accidents	5,549 in 1996 Eurostat data	6	Construction.	Labourers in mining, construction, manufacturing and transport; drivers and mobile plant operators; and extraction and building trades workers.
Occupational diseases	No European data	6	Construction.	Metal, machinery and related trades workers.
Musculoskeletal disorders	30%	8	Construction.	Labourers in mining, construction, manufacturing and transport.
Stress	28%	10	Health and social work; and education.	Life science and health professionals.
Occupational sickness absence	25%	5	Health and social work; and public administration; defence and compulsory social security.	Labourers in mining, construction, manufacturing and transport.

⁷ Personal Protective Equipment

3.2

SUMMARY FINDINGS FOR EACH EXPOSURE INDICATOR AND OSH OUTCOME

For each exposure indicator and OSH outcome assessed in the course of this pilot study summary details are presented in this section, which are based on the findings of the information collated from all of the national reports. The information summarised includes:

- description of potential health effects caused by the exposure indicator;
- a European picture from the ESWC-data;
- sector categories most at risk as reported in the national reports and the number of Focal Point responses;
- occupation categories most at risk as reported in the national reports and number of Focal Point responses;
- information on the other risk categories company size, gender, age, employment status;
- trends;
- Focal Points identifying the need for additional preventive actions;
- description of indicated action; and
- summary of comments received.

The purpose of the summary pages is to present an overview of the exposure indicators/OSH outcomes with reference to common issues raised from all fifteen national reports. For this reason no individual Focal Point comments have been included. Where common issues could not be identified these are signified by the statement 'no common description could be given'.

Exposure indicator: noise

Potential health effects	Noise induced hearing loss, tinnitus (permanent ringing can be heard in the ears), threshold shift (initially temporary but becoming permanent with prolonged exposure), loss of high frequency sounds resulting in communication problems, loss of interaction at social functions. Noise exposure can also have secondary effects such as stress and interference with communication in the workplace causing accidents.
European picture⁸	28% of all workers interviewed were exposed to noise.
Sector categories most at risk from the national reports using NACE code⁹ Figures in brackets represent the number of Focal Point responses	28 Manufacture of fabricated metal products except machinery and equipment (10); 20 Manufacture of wood, wood products and cork, except furniture and manufacture of straw articles and plaiting materials (10); 27 Manufacture of basic metals (9); 21 Manufacture of paper and paper products (7); 45 Construction (7); 17 Manufacture of textiles (6).
Occupation categories most at risk from the national reports using ISCO code¹⁰ Figures in brackets represent the number of Focal Point responses	82 Machine operators and assemblers (14); 72 Metal, machinery and related trades workers (12); 81 Stationary plant and related operators (10); 93 Labourers in mining, construction, manufacturing and transport (9); 71 Extraction and building trades workers (6); 83 Drivers and mobile plant operators (5); 74 Other craft and related trades workers (5); 73 Precision, handicraft, craft printing and related trades workers (5).
Other risk categories	<u>Company size</u> : In their comments the Focal Points considered that smaller businesses were at a greater risk from noise for a number of possible reasons. These reasons included the use of older machinery, fewer resources available, less knowledge and expertise of the risks and of the control measures available to tackle noise problems in the workplace. <u>Gender</u> : Eleven Focal Points identified males, particularly “blue collar” workers, as being most at risk from noise exposure; <u>Age</u> : The younger person was considered by the Focal Points to be most vulnerable to noise exposure and potential hearing loss and that their risk was aggravated by social factors. <u>Employment status</u> : The Focal Points mentioned temporary workers, self-employed workers, fixed term contract workers, those on apprenticeships and casual labour to be the status of worker at risk from noise exposure in the workplace. These groups often have less information available relating to health and safety issues, less training and less formal supervision and control in the workplace.
Trends	With regard to the trend of noise exposure in the workplace over the past 3-5 years the Focal Points were almost evenly balanced between a reduced trend and a stable trend. Six Focal Points reported that exposure had reduced, whereas six also reported that the exposure trend has remained stable. Only two had identified an increase in the exposure trend and one further Focal Point could not establish a particular trend pattern.
Focal Points identifying the need for additional preventive action	Belgium, Finland, Ireland, Italy, Portugal, Spain and United Kingdom.
Description of indicated action¹¹	Two Member States have launched national programmes to combat noise at work e.g to reduce exposure to harmful noise levels for particular identified sectors by about 50% within five years.
Other relevant information	Where exposure to noise levels was reported to have been reduced this was achieved through a number of factors such as the introduction of low noise machinery, automation of work processes and remote operation of equipment to isolate the worker from the noise source. These methods have been effective in industries such as mining, steel, paper and chemical production. The increased use of casual labour can also have the affect of reducing risk by reducing individual exposure thereby spreading the overall risk amongst a greater number. Although, groups such as casual labour maybe more vulnerable to noise exposure because of the lack of information, supervision and control in the workplace.

FURTHER DETAILS GO TO PAGE 73

⁸ ESWC-data, 2nd Survey Dublin 1996.

⁹ The most frequently identified sectors which the Focal Points considered to be most at risk.

¹⁰ The most frequently identified occupations which the Focal Points considered to be most at risk.

¹¹ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: vibration

Potential health effects	Sympathetic vibration of organs at low frequencies leads to nausea. Whole body vibration leading to low back pain and spinal damage. Hand-arm vibration syndrome affecting blood circulation, nerves muscles and bones in the hands and arms leading to loss of sensation and grip and severe pain in the hands. This includes such conditions as vibration white finger. Psychological effects include loss of concentration, which can cause secondary accidents.
European picture¹²	24% of all workers interviewed were exposed to vibration
Sector categories most at risk from the national reports using NACE code¹³ Figures in brackets represent the number of Focal Point responses	45 Construction (11); 28 Manufacture of fabricated metal products, except machinery and equipment (9); 14 Other mining and quarrying (6); 60 Land transport; transport via pipelines (6); 01 Agriculture, Hunting and related service activities (6); 02 Forestry, logging and related service activities (5).
Occupation categories most at risk from the national reports using ISCO code¹⁴ Figures in brackets represent the number of Focal Point responses	93 Labourers in mining, construction, manufacturing and transport (10); 71 Extraction and building trades workers (10); 83 Drivers and mobile plant operators (10); 72 Metal, machinery and related trades workers (9); 92 Agricultural, fishery and related labourers (6); 82 Machine operators and assemblers (6).
Other risk categories	<u>Gender</u> : For the identified sector and occupation categories male workers were identified by eleven Focal Points to be more at risk from the health effects of vibration in the workplace. <u>Employment status</u> : The self-employed and contractors were considered to be at risk which is supported by the findings from the ESWC survey in which the self-employed were identified as being most at risk.
Trends	The responses in the national reports indicated a variety of observations in relation to the trend of exposure to vibration in the work place. Six Focal Points commented that they had identified a stable trend, four said it had decreased, three reported a decreasing trend and the remaining two were unable to identify any particular trend.
Focal Points identifying the need for additional preventive action	Austria, Belgium, Denmark, Finland, Ireland, Italy, Portugal, Spain and United Kingdom.
Description of indicated action ¹⁵	Several Focal Points commented on the need for reducing vibrations at source by preventing the emission of work induced vibrations from hand tools through technical improvements at the design stage.
Other relevant information	Like noise, vibration was considered to be a classical risk in the working environment. A common issue mentioned by the Focal Points was the general lack of awareness in relation to both the health problems posed by vibrating equipment and machinery, particularly that causing whole body vibration, and their of the controls measures available to eliminate or reduce exposure at source. Exposure to cold weather might be a contributory factor for the increasing severity of the vibration induced injury.

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¹² ESWC-data, 2nd Survey Dublin 1996.¹³ The most frequently identified sectors which the Focal Points considered to be most at risk.¹⁴ The most frequently identified occupations which the Focal Points considered to be most at risk.¹⁵ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: high temperature

Potential health effects	Body reactions to overheating are increased pulse rate, muscle cramps due to insufficient salt followed by exhaustion, dehydration and loss of mental awareness; fainting and dizziness and most seriously heat stroke.
European picture¹⁶	20% of all workers interviewed were exposed to high temperature.
Sector categories most at risk from the national reports using NACE code¹⁷ Figures in brackets represent the number of Focal Point responses	27 Manufacture of basic metals (10); 15 Manufacture of food products and beverages (9); 26 Manufacture of other non-metallic mineral products (8); 28 Manufacture of fabricated metal products, except machinery and equipment (5).
Occupation categories most at risk from the national reports using ISCO code¹⁸ Figures in brackets represent the number of Focal Point responses	93 Labourers in mining, construction, manufacturing and transport (10); 72 Metal, machinery and related trades workers (8); 81 Stationary-plant and related operators (6); 82 Machine operators and assemblers (5); 74 Other craft and related trades workers (5); 71 Extraction and building trades workers (4).
Other risk categories	<u>Gender</u> : Ten Focal Points identified male workers most at risk. <u>Age</u> : Several Focal Points clearly identified the younger worker, less than 25 years old, as being most exposed to high temperatures.
Trends	Nine Focal Points reported a stable trend to the exposure of high temperature in the workplace whereas two reported a decreased trend. Only one Focal Point reported an increase in exposure to high temperature. Three Focal Points were unable to establish the trend.
Focal Points identifying the need for additional preventive action	Belgium, Finland, Greece, Italy, Portugal and Spain.
Description of indicated action¹⁹	No common description could be given.
Other relevant information	In their identification of additional preventive the following measures were recorded by the Focal Points as measures that could be adopted and further developed to reduce exposure to high temperatures in the workplace: <ul style="list-style-type: none"> • appropriate air ventilation systems; • isolation of heat sources; • improvement in the design of personal protective equipment (better comfortable); • provision of worker training and information; • implementation of work organisation procedures (task rotation, scheduled breaks).

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¹⁶ ESWC-data, 2nd Survey Dublin 1996.

¹⁷ The most frequently identified sectors which the Focal Points considered to be most at risk.

¹⁸ The most frequently identified occupations which the Focal Points considered to be most at risk.

¹⁹ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: low temperature

Potential health effects	Exposure to extreme cold can lead to frostbite and hypothermia. Frostbite causes pins and needles followed by complete numbness in the affected areas. If blood vessels are affected, gangrene can occur. Hypothermia causes drowsiness, lowers breathing and heart rates and can lead to unconsciousness.
European picture²⁰	23% of all workers interviewed were exposed to low temperature.
Sector categories most at risk from the national reports using NACE code²¹ Figures in brackets represent the number of Focal Point responses	15 Manufacture of food products and beverages (9); 45 Construction (9); 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing (6); 01 Agriculture, hunting and related service activities (5); 02 Forestry, logging and related service activities (4); 90 Sewage and refuse disposal, sanitation and similar activities (3); 40 Electricity, gas, steam and hot water supply (3).
Occupation categories most at risk from the national reports using ISCO code²² Figures in brackets represent the number of Focal Point responses	93 Labourers in mining, construction, manufacturing and transport (8); 71 Extraction and building trades workers (8); 92 Agricultural, fishery and related labourers (7); 61 Skilled agricultural and fishery workers (6); 74 Other craft and related trades workers (6).
Other risk categories	<u>Gender</u> : In their national reports eight Focal Points identified males to be most exposed to low temperature in the workplace. <u>Age</u> : The older individual was considered to be more susceptible to ill effects of cold conditions and therefore it was the younger worker most frequently exposed to the risk.
Trends	Although a limited response, seven Focal Points reported a stable trend to low temperature exposure whilst three reported a decrease and only one reported an increase in exposure to low temperature in the workplace.
Focal Points identifying the need for additional preventive action	Austria, Belgium, Finland, Italy, Portugal, Spain and Sweden.
Description of indicated action²³	In discussing the preventive actions required, suggestion were aimed at targeting future campaigns for raising awareness of low temperature working at the high risk groups namely contractors and temporary workers.
Other relevant information	Exposure to low temperature conditions can originate from two principal sources. Firstly, low temperatures can be associated with a particular work process, and secondly, it can be a factor of the local weather conditions. Some Member States experience extremely cold conditions during winter months. Therefore exposure to low temperatures is prevalent in these countries for outdoor work activities (forestry, farming, fishing, reindeer herding, construction, shipping, stevedoring, safety sector etc.). All year round exposure to low temperature is generally associated with a particular industrial process such as chilling and freezing in the food industry (slaughtering, cold storage etc.). Some occupations are required to carry out their work activities in low temperature conditions for the duration of a shift (e.g. preparation of food and cold storage workers).

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²⁰ ESWC-data, 2nd Survey Dublin 1996.²¹ The most frequently identified sectors which the Focal Points considered to be most at risk.²² The most frequently identified occupations which the Focal Points considered to be most at risk.²³ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome

Exposure indicator: lifting/moving heavy loads

Potential health effects	Musculoskeletal disorders can occur as described below, in particular damage to the muscles and ligaments of the back and arms/hands.
European picture²⁴	34% of all workers interviewed were exposed to lifting/moving heavy loads.
Sector categories most at risk from the national reports using NACE code²⁵ Figures in brackets represent the number of Focal Point responses	45 Construction (14); 01 Agriculture, hunting and related service activities (9); 85 Health and social work (8); 28 Manufacture of fabricated metal products, except machinery and equipment (6); 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials (4); 14 Other mining and quarrying (3).
Occupation categories most at risk from the national reports using ISCO code²⁶ Figures in brackets represent the number of Focal Point responses	93 Labourers in mining, construction, manufacturing and transport (11); 72 Metal, machinery and related trades workers (7); 32 Life science and health associate professionals (6); 71 Extraction and building trades workers (5); 91 Sales and services elementary occupations (5); 82 Machine operators and assemblers (5).
Other risk categories	<u>Gender</u> : Several Focal Points in their national reports commented on the high risk exposure to lifting/moving heavy in the “Health and Social work” sector, particularly to female workers. <u>Age</u> : Comments made in the national reports identify the younger individuals as being more exposed to carrying out lifting of heavy loads. However, older individuals may be at a greater risk from injury because of the interaction between frequency of exposure and degenerative conditions in the musculoskeletal system.
Trends	Although a limited response, four Focal Points reported a stable trend in the exposure of lifting/moving heavy loads in the workplace. Six Focal Points reported a decreased trend and two Focal Points reported an increased exposure to the risk from lifting/moving heavy loads in the workplace.
Focal Points identifying the need for additional preventive action	Austria, Belgium, Denmark, Finland, Italy, Portugal, Spain, Sweden and United Kingdom.
Description of indicated action²⁷	No common description could be given.
Other relevant information	Exposure to lifting or moving of heavy loads continues to be a severe health and safety problem at work. Number of workers exposed is considerable and heavy lifts are an important factor contributing to the risk of musculoskeletal disorders. Increased demands on production throughput can result in increasing the speed at which individuals work. In cases where there is a high demand for variety and flexibility concerning the manipulation of goods (e.g. with packing/wrapping) the work remains mainly manual. In general, it was commented that the manufacturing sector has experienced a decline of handling heavy loads through the implementation of automation, which has included the use of automated equipment. Automation of work activities is expected to decrease the burden caused by lifting heavy loads in many jobs. However, in many female occupations this trend is not likely, because some lifting and moving tasks in the Health and Social work sector are not easily mechanised.

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²⁴ ESWC-data, 2nd Survey Dublin 1996.

²⁵ The most frequently identified sectors which the Focal Points considered to be most at risk.

²⁶ The most frequently identified occupations which the Focal Points considered to be most at risk.

²⁷ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: repetitive movements

Potential health effects	Repetitive arm movements can lead to work related upper limb disorders such as tenosynovitis and carpal tunnel syndrome. Tenosynovitis is an inflammation of the thin synovial lining of a tendon sheath usually caused by a mechanical irritation. Carpal tunnel syndrome is a numbness and tingling in the area of distribution of the median nerve in the hand.
European picture²⁸	58% of all workers interviewed were exposed to repetitive movements.
Sector categories most at risk from the national reports using NACE code²⁹ Figures in brackets represent the number of Focal Point responses	15 Manufacture of food products and beverages (9); 18 Manufacture of wearing apparel; dressing and dyeing of fur (5); 17 Manufacture of textiles (5); 60 Land transport; transport via pipelines (5); 28 Manufacture of fabricated metal products, except machinery and equipment (3); 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear (3).
Occupation categories most at risk from the national reports using ISCO code³⁰ Figures in brackets represent the number of Focal Point responses	82 Machine operators and assemblers (11); 93 Labourers in mining, construction, manufacturing and transport (8); 42 Customer services clerks (7); 91 Sales and services elementary occupations (7); 74 Other craft and related trades workers (5).
Other risk categories	<u>Gender</u> : From their national reports seven Focal Points identified females and one Focal Point identified males as being most exposed to repetitive movements at work. Typical female risk activities include assembly of electronic equipment, cashiers in super markets, textile and sewing workers and typists and computer operators. <u>Age</u> : It was reported in several national reports that the younger worker (less than 30 years old) was frequently more exposed to repetitive tasks, particularly young female employees.
Trends	There was no clear indication with respect to the trend in the exposure of repetitive movements in the workplace over the last 3 – 5 years. Three Focal Points reported a stable trend whereas two reported a decreased trend and five reported an increased exposure to repetitive movements in the workplace. Five Focal Points could not establish a particular trend.
Focal Points identifying the need for additional preventive action	Austria, Belgium, Finland, Italy, Portugal, Spain and Sweden.
Description of indicated action³¹	No common description could be given.
Other relevant information	Repetitive movements are carried out in many sectors such as agriculture in industry using work equipment, in the service sector and financial sector. Repetitive Strain Injuries (RSI) has attracted a great deal of media attention. Repetitive movements combined with a rapid workplace are viewed as important risk factors in RSI. Several Focal Points commented on the rising category of computer related work (key board/mouse operations) requiring special attention.

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²⁸ ESWC-data, 2nd Survey Dublin 1996.²⁹ The most frequently identified sectors which the Focal Points considered to be most at risk.³⁰ The most frequently identified occupations which the Focal Points considered to be most at risk.³¹ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: strenuous working postures

Potential health effects	Potentially can result in many health disorders affecting the bones, muscles and ligaments particularly vulnerable is the back. Potential for increased stress levels during work activities involving strenuous postures.
European picture³²	45% of all workers interviewed were exposed to strenuous working postures.
Sector categories most at risk from the national reports using NACE code³³ Figures in brackets represent the number of Focal Point responses	45 Construction (12); 01 Agriculture, hunting and related service activities (7); 85 Health and social work (5); 93 Other service activities (4); 17 Manufacture of textiles (4); 15 Manufacture of food products and beverages (4).
Occupation categories most at risk from the national reports using ISCO code³⁴ Figures in brackets represent the number of Focal Point responses	93 Labourers in mining, construction, manufacturing and transport (9); 71 Renting of machinery and equipment without operator and of personal and household goods (6); 72 Metal, machinery and related trades workers (6); 92 Agricultural, fishery and related labourers (4); 74 Other craft and related trades workers (4); 61 Water transport (4).
Other risk categories	No common description could be given.
Trends	Although a limited response, five Focal Points reported a decreased trend in exposure to strenuous working postures. Two Focal Points reported a stable trend and a further two reported an increased trend in exposure to strenuous working postures in the workplace. Six Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Austria, Belgium, Finland, Italy, Spain and Sweden.
Description of indicated action³⁵	No common description could be given.
Other relevant information	<p>Strenuous working postures are of significant importance, especially when combined with lifting of heavy loads and repetitious work tasks. Inadequate working posture is a well-known aggravating factor causing disorders of the lower spine. Difficult working positions contribute to the potential risk of work induced musculoskeletal disorders. Musculoskeletal disorders are a common cause of early retirement.</p> <p>Difficult working positions are important factors contributing to the potential risk of musculoskeletal disorders in the workplace. Musculoskeletal disorders are a common cause of early retirement.</p> <p>The prevention of strenuous postures in the working environment is related to an appropriate ergonomic design of the workplace, workstation, machinery and work organisation. Assessment of tasks and job rotation is fundamental to reducing the exposure to the risk. The implementation of new provisions on ergonomics for the protection against musculoskeletal disorders calls for more distinct supervisory activities. There is a need for improvement of the technical and organisational measures and of information and training.</p>

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³² ESWC-data, 2nd Survey Dublin 1996.

³³ The most frequently identified sectors which the Focal Points considered to be most at risk.

³⁴ The most frequently identified occupations which the Focal Points considered to be most at risk.

³⁵ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: handling chemicals

Potential health effects	Chemical burns and skin damage caused by contact with corrosive substances. Extended exposure to certain substances can cause damage to lungs, liver or other organs. Sensitisation can occur causing an allergic response (e.g. asthma or dermatitis) at very low exposure levels.
European picture³⁶	14% of all workers interviewed were exposed to handling chemicals.
Sector categories most at risk from the national reports using NACE code³⁷ Figures in brackets represent the number of Focal Point responses	24 Manufacture of chemicals and chemical products (8); 01 Agriculture, hunting and related service activities (7); 45 Construction (5); 93 Other service activities (4); 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (4).
Occupation categories most at risk from the national reports using ISCO code³⁸ Figures in brackets represent the number of Focal Point responses	93 Labourers in mining, construction, manufacturing and transport (7); 81 Stationary-plant and related operators (7); 92 Agricultural, fishery and related labourers (6); 72 Metal, machinery and related trades workers (5); 71 Extraction and building trades workers (5).
Other risk categories	No common description could be given.
Trends	Seven Focal Points reported a stable trend to handling chemicals in the workplace. One Focal Point reported a decrease in the exposure and three reported an increase to handling chemicals in the workplace. Four Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Belgium, Finland, Ireland, Italy, Luxembourg, Portugal, Spain and United Kingdom.
Description of indicated action³⁹	The dissemination of information on possible substitutes for hazardous chemical agents should be increased.
Other relevant information	<p>Many different occupation categories handle a variety of chemicals as part of their work activities, for example agriculture workers use pesticides, detergents and microbiological dusts and construction workers commonly use solvents and paints.</p> <p>A combination of legislation and occupational safety efforts had decreased exposures to some chemicals effectively, reported one Focal Point. The occurrence of tobacco smoke at work has decreased significantly as well as exposure to asbestos. However, the majority of chemical exposures have not changed much in the 1990s.</p> <p>The dissemination of information on substitutes for hazardous chemical agents should be increased and information and training to workers increased.</p> <p>Also reported, Volatile Organic Compounds (VOC's) is a subject area with unanswered questions.</p> <p>It was reported that there is a need to continuously identify high occupational exposures through health surveillance methods and industrial hygienic measurements. Examples of new chemicals include enzymes used in production of animal feed and acrylates used in dentistry. Effective preventive measures are needed to decrease exposure (e.g. to allergenic and carcinogenic agents).</p> <p>There is a need for monitoring compliance with legislation.</p>

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³⁶ ESWC-data, 2nd Survey Dublin 1996.³⁷ The most frequently identified sectors which the Focal Points considered to be most at risk.³⁸ The most frequently identified occupations which the Focal Points considered to be most at risk.³⁹ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: high speed work

Potential health effects	This can lead to stress related illnesses and ultimately burnout of the individual. High speed can also induce a high margin for human error leading to workplace accidents.
European picture⁴⁰	54% of all workers interviewed were exposed to high speed work activities.
Sector categories most at risk from the national reports using NACE code⁴¹ Figures in brackets represent the number of Focal Point responses	55 Hotels and restaurants (4); 64 Post and telecommunications (3); 60 Land transport; transport via pipelines (3); 45 Construction (3); 65 Financial Intermediation, except insurance and pension funding (3); 18 Manufacture of wearing apparel; dressing and dyeing of fur (3); 15 Manufacture of food products and beverages (3); 34 Manufacture of motor vehicles, trailers and semi-trailers (3); 30 Manufacture of office, accounting and computing machinery (3); 22 Publishing, printing and reproduction of recorded media (3).
Occupation categories most at risk from the national reports using ISCO code⁴² Figures in brackets represent the number of Focal Point responses	12 Corporate managers (5); 42 Customer services clerks (5); 83 Drivers and mobile plant operators (4); 72 Metal, machinery and related trades workers (4).
Other risk categories	No common description could be given.
Trends	With regard to the trend of exposure in the workplace to high speed work over the past 3-5 years eight Focal Points reported an increased trend. No Focal Point reported a decreased trend and only one identified a stable trend. Six Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Belgium, Denmark, Finland, Netherlands, Italy and Spain.
Description of indicated action⁴³	Assembly workers, unskilled metalworkers, manual intensive labour activities (slaughter and fish workers) are frequently exposed to both repetitive and monotonous work conducted at high speed. Consequently, as reported in the national studies there is a need for a programme to reduce the risk of ill health from such work activities. It was considered that further research was required, into how pressures at work arise in order to implement effective preventive measures.
Other relevant information	There are many situations in the working environment that can lead to high speed work both as a result of the nature of the work activity (loading and unloading of materials under time pressure) and because of time pressures demanded by production delivery schedules ("Just In Time" management). High-speed work is frequently related to repetitive monotonous piece-paid work. Several national reports commented that time pressure and its outcomes should not be seen as an individual problem with individual solutions, but as an outcome of work organisation. Lack of personnel, increased demands for effectiveness, productivity and flexibility should be evaluated as key contributors to the increasing risk level.

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⁴⁰ ESWC-data, 2nd Survey Dublin 1996.

⁴¹ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁴² The most frequently identified occupations which the Focal Points considered to be most at risk.

⁴³ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: workplace dictated by social demand

Potential health effects	This can lead to stress related illnesses.
European picture⁴⁴	67% of all workers interviewed were exposed to workplace dictated by social demand.
Sector categories most at risk from the national reports using NACE code⁴⁵ Figures in brackets represent the number of Focal Point responses	55 Hotels and restaurants (6); 85 Health and social work (5); 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods (4); 75 Public administration and defence; compulsory social security (3); 93 Other service activities (3).
Occupation categories most at risk from the national reports using ISCO code⁴⁶ Figures in brackets represent the number of Focal Point responses	42 Customer services clerks (5); 51 Personal and protective services workers (4); 32 Life science and health associate professionals (4); 22 Life science and health professionals (4); 52 Models, salespersons and demonstrators (3).
Other risk categories	No common description could be given.
Trends	No clear conclusions can be drawn regarding the trend over the last 3-5 years. Three Focal Points reported a stable trend and three reported an increased exposure trend. In general, because of the lack of available national information nine Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Denmark, Spain and Sweden.
Description of indicated action⁴⁷	No common description could be given.
Other relevant information	As commented in a number of national reports there a number of measures that can be adopted and further developed to reduce the risk from workplace dictated by social demands, these measures included: <ul style="list-style-type: none"> • improved work planning and organisation; • implementation of improved work organisation including job/task rotation, regular scheduled breaks; • provision and information for training.

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⁴⁴ ESWC-data, 2nd Survey Dublin 1996.

⁴⁵ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁴⁶ The most frequently identified occupations which the Focal Points considered to be most at risk.

⁴⁷ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: machine dictated workplace

Potential health effects	This can lead to stress related illnesses, possible boredom and injuries associated with lack of concentration.
European picture⁴⁸	22% of all workers interviewed were exposed to machine dictated workplace.
Sector categories most at risk from the national reports using NACE code⁴⁹ Figures in brackets represent the number of Focal Point responses	17 Manufacture of textiles (6); 15 Manufacture of food products and beverages (4); 28 Manufacture of fabricated metal products, except machinery and equipment (3); 27 Manufacture of basic metals (3); 25 Manufacture of rubber and plastic products (3); 18 Manufacture of wearing apparel; dressing and dyeing of fur (3).
Occupation categories most at risk from the national reports using ISCO code⁵⁰ Figures in brackets represent the number of Focal Point responses	82 Machine operators and assemblers (7); 93 Labourers in mining, construction, manufacturing and transport (6); 83 Drivers and mobile plant operators (5); 81 Stationary-plant and related operators (4).
Other risk categories	No common description could be given.
Trends	With regard to the trend of exposure to machine dictated workplace over the past 3-5 years four Focal Points reported an increased trend, one reported a stable trend and two reported a decreased trend. A total of eight Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Belgium, Denmark, Italy and Spain.
Description of indicated action⁵¹	No common description could be given.
Other relevant information	<p>There are many work-related tasks that are characterised by repetitive and monotonous activities, which are governed by the relationship between the machine/production requirements and the worker. Such relationships are typically amongst unskilled labour such as metal workers, assemblers/packers and workers in the food industry.</p> <p>As discussed in several national reports there are a number of measures that can be implemented and improved upon to reduce the risk from exposure to machine dictated workplace, these measures include:</p> <ul style="list-style-type: none"> • improvement in technical and organisational measures; • regular workplace inspections • implementation of regular breaks; • routine job/task rotation; • provision of information and training.

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⁴⁸ ESWC-data, 2nd Survey Dublin 1996.

⁴⁹ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁵⁰ The most frequently identified occupations which the Focal Points considered to be most at risk.

⁵¹ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: physical violence

Potential health effects	Physical violence can lead to a wide range of physical injuries from the superficial to the life threatening. Anxiety resulting from either a threat of violence or as a direct result of actual violence can lead to stress related illnesses.
European picture⁵²	4% of all workers interviewed were exposed to physical violence at work.
Sector categories most at risk from the national reports using NACE code⁵³ Figures in brackets represent the number of Focal Point responses	85 Health and social work (11); 75 Public administration and defence; compulsory social security (7); 60 Land transport; transport via pipelines (6); 55 Hotels and restaurants (6); 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods (5); 93 Other service activities (4).
Occupation categories most at risk from the national reports using ISCO code⁵⁴ Figures in brackets represent the number of Focal Point responses	51 Personal and protective services workers (7); 32 Life science and health associate professionals (7); 91 Sales and services elementary occupations (6); 22 Life science and health professionals (5); 42 Customer services clerks (5); 52 Models, sales persons and demonstrators (4).
Other risk categories	<u>Gender</u> : It was reported in several national reports that they considered female employees to be more exposed to both physical violence and threats of violence in the workplace.
Trends	Although a limited response, two Focal Points reported a stable trend to physical violence whilst one Focal Point reported a decrease and four reported an increase in physical violence. Eight Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Belgium, Denmark, Finland, Netherlands, Ireland, Spain and Sweden.
Description of indicated action⁵⁵	No common description could be given.
Other relevant information	<p>The sectors and occupations most at exposed to the risk of physical violence in the workplace appear to be those in which there is an interface with the public. These include banking, public transportation, health care and social work.</p> <p>People working in psychiatric wards, local social administrations, public transportation (including air), shopping centres, petrol stations, restaurants, kiosks, discotheques, and first-aid are vulnerable to physical violence during the course of their work.</p> <p>Violence is increasing in many workplaces and occupations, which have not been well prepared for violent situations. It is important to provide reliable data on the full extent of workplace violence and to develop violence prevention strategies for the high-risk industries as well as to conduct evaluation research to determine the effectiveness of these strategies. Collaboration is needed between different organisations. Workplaces should be supported with practical tools, which can be used for developing and improving the violence prevention program.</p> <p>In a number of collective labour agreements, employer and employee organisations have agreed upon ways and means to prevent violence at work. However, there is little information on the implementation and the success of such measures.</p> <p>It was believed that there is a degree of under-reporting of incidents at work particularly where only a threat occurs. Over the last few years there has been much public and media debate about violence at work. This has led to increased attention to this emerging risk at work. General public impression is that there is an increase in incidences.</p>

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⁵² ESWC-data, 2nd Survey Dublin 1996.⁵³ The most frequently identified sectors which the Focal Points considered to be most at risk.⁵⁴ The most frequently identified occupations which the Focal Points considered to be most at risk.⁵⁵ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: bullying and victimisation

Potential health effects	Often leads to stress related illnesses.
European picture⁵⁶	8% of all workers interviewed were exposed to bullying and victimisation at work.
Sector categories most at risk from the national reports using NACE code⁵⁷ Figures in brackets represent the number of Focal Point responses	85 Health and social work (5); 55 Hotels and restaurants (3); 80 Education (3); 75 Public administration and defence; compulsory social security (2); 65 Financial intermediation, except insurance and pension funding (2); 24 Manufacture of chemicals and chemical products (2).
Occupation categories most at risk from the national reports using ISCO code⁵⁸ Figures in brackets represent the number of Focal Point responses	91 Sales and services elementary occupations (4); 51 Personal and protective services workers (4); 42 Customer services clerks (4); 93 Labourers in mining, construction, manufacturing and transport (2); 74 Other craft and related trades workers (2); 52 Models, sales persons and demonstrators (2); 23 Teaching professionals (2); 22 Life science and health professionals (2).
Other risk categories	No common description could be given.
Trends	Although a limited response, no Focal Points reported a stable trend to bullying and victimisation whilst one Focal Point reported a decrease and six an increase in exposure to bullying and victimisation. Eight Focal Points were unable to establish any particular trend.
Focal Points identifying the need for additional preventive action	Belgium, Denmark, Finland, Netherlands, Ireland, Spain and Sweden.
Description of indicated action⁵⁹	No common description could be given.
Other relevant information	<p>Bullying and victimisation was considered to be a growing phenomenon particularly in schools with young pupils. Educational staff are reported to be subjected to varying degrees of harassment and in some cases actual violence.</p> <p>Several national reports commented on the lack of available data on this potential risk factor, particularly how to train, prepare and deal with the consequence should situations arise.</p> <p>Commented in several national reports were a number of measures that can be adopted and further developed to reduce the risk from bullying and victimisation in the workplace, some of these measures included:</p> <ul style="list-style-type: none"> • provision of training and preparation of methods for dealing with the consequences; • the need to educate occupational health professionals, labour inspectors, social partners and also personnel at the workplaces on identifying workplace bullying and its victims; • there is a need for developing knowledge concerning the connection between work environment factors and the searching for scapegoats; • planning and designing the social relationships in the workplace; • increase the authorities protection and surveillance actions; and provision of information and training for the workforce.

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⁵⁶ ESWC-data, 2nd Survey Dublin 1996.

⁵⁷ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁵⁸ The most frequently identified occupations which the Focal Points considered to be most at risk.

⁵⁹ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: sexual harassment

Potential health effects	This can be another factor leading to stress related illnesses.
European picture⁶⁰	2% of all workers interviewed were exposed to sexual harassment.
Sector categories most at risk from the national reports using NACE code⁶¹ Figures in brackets represent the number of Focal Point responses	55 Hotels and restaurants (4); 85 Health and social work (4); 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods (2); 80 Education (2); 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles (2).
Occupation categories most at risk from the national reports using ISCO code⁶² Figures in brackets represent the number of Focal Point responses	51 Personal and protective services workers (6); 52 Models, sales persons and demonstrators (3); 42 Customer services clerks (3); 41 Office clerks (3); 91 Sales and services elementary occupations (2); 32 Life science and health associate professionals (2).
Other risk categories	<u>Gender</u> : In total, eight Focal Points identified the female gender as being most at risk from sexual harassment in the workplace.
Trends	With regard to the trend of sexual harassment in the workplace over the past 3-5 years no firm conclusions can be drawn. Four Focal Points reported a stable trend, two said the trend had increased and one said the trend had decreased. Eight Focal Points could not establish a particular trend pattern.
Focal Points identifying the need for additional preventive action	Denmark and Spain.
Description of indicated action⁶³	No common description could be given.
Other relevant information	Commented in a number of national reports were a number of measures that can be adopted to reduce the risk from sexual harassment in the workplace. <ul style="list-style-type: none"> • there is a need for training and information of workers; • there is a need to improve the social defence and to encourage denunciations; • inspection activities should involve assessing an organisation's policy to control and (if applicable) reduce sexual harassment.

FURTHER DETAILS GO TO PAGE 212

⁶⁰ ESWC-data, 2nd Survey Dublin 1996.⁶¹ The most frequently identified sectors which the Focal Points considered to be most at risk.⁶² The most frequently identified occupations which the Focal Points considered to be most at risk.⁶³ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: monotonous work

Potential health effects	Monotonous work can be a major contributor to stress related illnesses. It can also lead to attention lapses resulting in accidents. It can also promote individuals in taking risks in order to relieve the boredom.
European picture⁶⁴	45% of all workers interviewed were exposed to monotonous work.
Sector categories most at risk from the national reports using NACE code⁶⁵ Figures in brackets represent the number of Focal Point responses	19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear (4); 17 Manufacture of textiles (4); 15 Manufacture of food products and beverages (4); 28 Manufacture of fabricated metal products, except machinery and equipment (3); 16 Manufacture of tobacco products (3); 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials (3).
Occupation categories most at risk from the national reports using ISCO code⁶⁶ Figures in brackets represent the number of Focal Point responses	82 Machine operators and assemblers (7); 91 Sales and services elementary occupations (7); 42 Customer services clerks (6); 81 Stationary-plant and related operators (6); 83 Drivers and mobile plant operators (4); 93 Labourers in mining, construction, manufacturing and transport (4).
Other risk categories	<u>Gender</u> : In general terms females were frequently considered exposed to monotonous work.
Trends	With regard to the trend of monotonous work in the workplace over the past 3-5 years no firm conclusions can be drawn. Three Focal Points reported the trend had remained stable, two said it had decreased and two said it had increased. Eight further Focal Points could not establish a particular trend pattern.
Focal Points identifying the need for additional preventive action	Austria, Belgium, Denmark, Finland, Spain and Sweden.
Description of indicated action ⁶⁷	No common description could be given.
Other relevant information	Commented in several national reports were a number of measures that can be adopted and further developed to reduce the risk from monotonous in the workplace, these included: <ul style="list-style-type: none"> • need for task enrichment and job rotation within the workplace; • introduction of new ways of work organisation which include participation of workers; • provision of training and information for the workforce.

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⁶⁴ ESWC-data, 2nd Survey Dublin 1996.

⁶⁵ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁶⁶ The most frequently identified occupations which the Focal Points considered to be most at risk.

⁶⁷ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Exposure indicator: personal protective equipment (PPE)

Potential health effects	Incorrect assessment of PPE requirements and of its use can be a contributory factor in the whole range of occupational accidents and illnesses. This will be dependent upon the purposes for initiating the need for PPE in the first instance e.g. PPE issued for hearing protection can lead noise induced hearing loss if not correctly selected or correctly worn.
European picture⁶⁸	25% of all workers interviewed used personal protective equipment.
Sector categories most at risk from the national reports using NACE code⁶⁹ Figures in brackets represent the number of Focal Point responses	45 Construction (11); 28 Manufacture of fabricated metal products, except machinery and equipment (5); 24 Manufacture of chemicals and chemical products (4); 01 Agriculture, hunting and related service activities (4); 27 Manufacture of basic metals (4).
Occupation categories most at risk from the national reports using ISCO code⁷⁰ Figures in brackets represent the number of Focal Point responses	71 Extraction and building trades workers (7); 72 Metal, machinery and related trades workers (5); 93 Labourers in mining, construction, manufacturing and transport (4); 61 Skilled agricultural and fishery workers (3); 82 Machine operators and assemblers (3); 81 Stationary-plant and related operators (3).
Other risk categories	No common description could be given.
Trends	With regard to the trend of the use of PPE in the workplace over the past 3-5 years five Focal Points reported a stable trend, one reported a decrease and two a increase. Seven further Focal Point could not establish a particular trend pattern.
Focal Points identifying the need for additional preventive action	Belgium, Finland, Italy, Luxembourg, Portugal and Spain.
Description of indicated action ⁷¹	No common description could be given.
Other relevant information	<p>The use of PPE should be a last form of protection after organisational and technical measures have been exhausted. Several national reports commented that the provision of personal protective equipment is at the bottom of the hierarchy of safety and prevention measures used to reduce risks in the workplace. Such hierarchy systems typically achieve risk reduction by: elimination, substitution, separation and protection. This means that only when all organisational and technical measures have been implemented should the issue of personal protective equipment be considered.</p> <p>Several national reports commented the need for continued training and the provision of information to workers in relation to the use of personal protective equipment. They considered this to be a particular problem for temporary workers as different organisations have different policies with regard to the wearing and the enforcement of wearing PPE. Also, the comment was made that young workers were not keen to wear PPE.</p> <p>Agriculture and construction sectors had higher than average proportion of workers reporting PPE either missing or not used on a regular basis in one report. Also, the use of multiple PPE may be causing problems. In the Health and Social work sector, latex gloves which may pose a particular health issue to the wearer.</p>

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⁶⁸ ESWC-data, 2nd Survey Dublin 1996.⁶⁹ The most frequently identified sectors which the Focal Points considered to be most at risk.⁷⁰ The most frequently identified occupations which the Focal Points considered to be most at risk.⁷¹ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

OSH outcome: accidents with more than three days absence

European picture⁷²	<p>4, 757 611 accidents with more than 3 days absence from work in total in 1996;</p> <p>In the two-year period 1994 and 1996, the risk of accidents with more than three days absence from work fell by 3.3% in the EU.</p> <p><u>Sectors</u>: 1, 357 022 accidents recorded in the Manufacturing and 831,000 accidents recorded in the Construction;</p> <p><u>Company size</u>: the majority of accidents occurred in companies with less than 49 employees;</p> <p><u>Gender</u>: 3, 668 266 males and 920,000 females experienced accidents with more than 3-days absence;</p> <p><u>Age</u>: The incident rate for accidents at work was highest for the 18 – 24 age group;</p> <p><u>Length of absence from work</u>: of all accidents reported 47% resulted in less than two weeks absence and 48% resulted in from two weeks to less than three months absence from work.</p>
Sector categories most at risk from the national reports using NACE code⁷³ Figures in brackets represent the number of Focal Point responses	<p>45 Construction (11);</p> <p>28 Manufacture of fabricated metal products, except machinery and equipment (8);</p> <p>20 Manufacture of wood and of products of wood and cork, except furniture manufacture of articles of straw and plaiting materials (6);</p> <p>15 Manufacture of food products and beverages (5);</p> <p>01 Agriculture, hunting and related service activities (4).</p>
Occupation categories most at risk from the national reports using ISCO code⁷⁴ Figures in brackets represent the number of Focal Point responses	<p>82 Machine operators and assemblers (9);</p> <p>72 Metal, machinery and related trades workers (8);</p> <p>71 Extraction and building trades workers (6);</p> <p>93 Labourers in mining, construction, manufacturing and transport (6);</p> <p>81 Stationary-plant and related operators (4).</p>
Other risk categories	<p><u>Company size</u>: Companies with less than forty nine employees were considered to be at risk, although this was not the case across all sectors.</p> <p><u>Gender</u>: Thirteen Focal Points reported the male gender to be most at risk from accidents involving three days or more absence from work.</p> <p><u>Age</u>: Six Focal Points identified the age category “less than 25” years old to be most at risk from three days or more accidents at work.</p> <p><u>Employment status</u>: Out sourcing of labour was said to increase the risk of accidents for two reasons. Firstly, subcontractors are not always under their employer’s direct supervision. Secondly, subcontractors often service several contracts at the same time. These jobs are often of a short duration leaving little time for an individual to become familiar with the work surroundings. Such unfamiliarity can increase the chance of mistakes as well as increasing the level of mental stress.</p>
Trends	Nine Focal Points reported a decreased trend for workplace accidents with more than 3-days absence.
Focal Points identifying the need for additional preventive action	Belgium, Finland, Ireland, Italy, Luxembourg, Portugal and Spain.
Description of indicated action⁷⁵	Prevention of accidents in the workplace was one of the key areas for some Member States.
Other relevant information	<ul style="list-style-type: none"> Slips, trips and falls were identified in the national reports as the main causes of accidents which resulted in three days or more absences from work. The full list of identified causes of accidents is presented below; A number of Focal Points raised the general issue that they recognised that reporting of accidents at work is subject to a degree of under reporting. However, it is primarily accidents with a less serious consequence, which tend not to be reported.

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⁷² Extracted from the Eurostat publication “Accidents at work in the EU in 1996” – Theme 3 – 4/2000.

⁷³ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁷⁴ The most frequently identified occupations which the Focal Points considered to be most at risk.

⁷⁵ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Full list of causes of accidents resulting in 3-days
or more absence from work.

Causes of accidents	Number of responses
• Slips, trips and falls.	7
• Manual handling.	5
• Struck by moving objects.	5
• Solid objects and articles.	4
• Tools.	4
• Transportation within the company.	4
• Struck by falling objects.	4
• Work environment and structure.	3
• Machinery.	3

OSH outcome: fatal accidents

European picture⁷⁶	<p>5,549 in 1996</p> <p>In the two-year period 1994 and 1996, the risk of fatal accidents in the workplace fell by more than 13% in the EU.</p> <p><u>Sectors</u>: 1,349 fatal accidents recorded in Construction and 1,128 fatal accidents were recorded in manufacturing.</p> <p><u>Company size</u>: the majority of fatal accidents occurred in companies with less than 49 employees.</p> <p><u>Gender</u>: 5,124 males and 315 females experienced fatal accidents.</p> <p><u>Age</u>: The incidence of fatal accidents in the EU showed a continuous rising trend with age. Over 50% of the fatal accidents were related to transport.</p>
Sector categories most at risk from the national reports using NACE code⁷⁷ Figures in brackets represent the number of Focal Point responses	<p>45 Construction (11);</p> <p>01 Agriculture, hunting and related service activities (5);</p> <p>60 Land transport; transport via pipelines (5);</p> <p>05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing (5);</p> <p>14 Other mining and quarrying (4);</p> <p>28 Manufacture of fabricated metal products, except machinery and equipment (3);</p> <p>02 Forestry, logging and related service activities (3).</p>
Occupation categories most at risk from the national reports using ISCO code⁷⁸ Figures in brackets represent the number of Focal Point responses	<p>93 Labourers in mining, construction, manufacturing and transport (6);</p> <p>83 Drivers and mobile plant operators (6);</p> <p>71 Extraction and building trades workers (6);</p> <p>92 Agricultural, fishery and related labourers (4);</p> <p>72 Metal, machinery and related trades workers (4).</p>
Other risk categories	<u>Gender</u> : Twelve Focal Points identified male workers to be most at risk from fatal accidents at work.
Trends	A total of six Focal Points reported a stable trend to fatal accidents at work whilst seven Focal Points reported a decrease and the remaining two reported an increase.
Focal Points identifying the need for additional preventive action	Belgium, Finland, Ireland, Italy, Portugal and Spain.
Description of indicated action⁷⁹	No common description could be given.
Other relevant information	Falling from height has for some time been a major hazard at work for certain sectors and occupations as indicated in the table below. This cause of fatal accidents had the same number of responses as accidents associated with vehicles.

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⁷⁶ Extracted from the Eurostat publication "Accidents at work in the EU in 1996" – Theme 3 – 4/2000.

⁷⁷ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁷⁸ The most frequently identified occupations which the Focal Points considered to be most at risk.

⁷⁹ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

Full list of causes of fatal accidents

Causes of fatal accidents at work	Number of responses
• Accidents with vehicles.	5
• Falling/leaping from platform.	5
• Falling/collapsing objects.	4
• Slips, trips and falls.	3
• Traffic routes.	3
• Dangerous machinery.	2
• Entanglement/entrapment.	2
• Contact with Electricity.	2

OSH outcome: occupational diseases

European picture⁸⁰	No European data.
Sector categories most at risk from the national reports using NACE code⁸¹ Figures in brackets represent the number of Focal Point responses	45 Construction (11); 85 Health and social work (5); 28 Manufacture of fabricated metal products, except machinery and equipment (5); 27 Manufacture of basic metals (5); 15 Manufacture of food products and beverages (5); 01 Agriculture, hunting and related service activities (5).
Occupation categories most at risk from the national reports using ISCO code⁸² Figures in brackets represent the number of Focal Point responses	72 Metal, machinery and related trades workers (7); 93 Labourers in mining, construction, manufacturing and transport (7); 82 Machine operators and assemblers (6); 71 Extraction and building trades workers (5); 83 Drivers and mobile plant operators (3); 51 Personal and protective services workers (2); 74 Other craft and related trades workers (2).
Other risk categories	<p><u>Company size</u>: Small companies were commented as being more at risk because they have less resources available for both monitoring and implementing suitable control measures to combat occupational diseases at work.</p> <p><u>Gender</u>: Nine Focal Points identified the male gender to be most at risk to occupational diseases at work.</p> <p><u>Age</u>: Although a limited response, five Focal Points identified the age category greater than 55 years as being most at risk from occupational diseases at work.</p>
Trends	With regard to the trend of the number of workers suffering from occupational diseases, two Focal Points reported a stable trend, seven reported a decrease and three Focal Points reported an increase. Only two Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Belgium, Denmark, Finland, Ireland, Italy, Portugal and Spain.
Description of indicated action⁸³	No common description could be given.
Other relevant information	<p>Commented in several national reports were a number of measures that can be adopted and further improved upon to reduce the risk of occupational diseases in the workplace, these include:</p> <ul style="list-style-type: none"> • Provision for informing and training health practitioners about occupational diseases; • a need to implement specific medical protocols; • the importance of increasing information about emerging risk and toxicological products; • requirement to include more occupational diseases in national registers; • provide the health service sector with guidelines for diagnosis and treatment of a number of work related health problems as well as information on prevention, job retention and return to work.

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⁸⁰ Harmonised data from Eurostat is not yet available.

⁸¹ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁸² The most frequently identified occupations which the Focal Points considered to be most at risk.

⁸³ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

OSH outcome: musculoskeletal disorders

Potential health effects	Injury to the muscular and skeletal systems of the body. Significant work induced musculoskeletal disorders commonly affect the lower back and the hands (tenosynovitis).
European picture⁸⁴	30% of all workers interviewed were exposed to musculoskeletal disorders
Sector categories most at risk from the national reports using NACE code⁸⁵ Figures in brackets represent the number of Focal Point responses	45 Construction (7); 01 Agriculture, hunting and related service activities (6); 55 Hotels and restaurants (4); 85 Health and social work (3); 28 Manufacture of fabricated metal products, except machinery and equipment (3); 27 Manufacture of basic metals (3).
Occupation categories most at risk from the national reports using ISCO code⁸⁶ Figures in brackets represent the number of Focal Point responses	93 Labourers in mining, construction, manufacturing and transport (9); 71 Extraction and building trades workers (6); 91 Sales and services elementary occupations (5); 72 Metal, machinery and related trades workers (5); 92 Agricultural, fishery and related labourers (4); 61 Skilled agricultural and fishery workers (4).
Other risk categories	No common description could be given
Trends	Six Focal Points reported a stable trend in the exposure to musculoskeletal disorders whereas, five reported an increase and one a decrease. Only three Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Austria, Belgium, Denmark, Finland, Luxembourg, Portugal, Spain and Sweden.
Description of indicated action ⁸⁷	Two Focal Points reported a lack of national data and the need to conduct surveys to collect such information.
Other relevant information	<p>Musculoskeletal disorders are a major source of occupational injuries in the working environment.</p> <p>Occupational exposure to musculoskeletal disorders is one potential source that can result in an injury. Current lifestyles including healthy living, recreational and sporting activities also have a much more important causal connection, thereby contributing to the difficulty in establishing those that are solely attributable to workplace conditions. Repetition and monotony combined with working conditions such as low individual control of the work and high workplace can also lead to an increase in the risk of musculoskeletal disorders.</p> <p>It is expected that still more and better mechanical lifting aids will be developed in the future.</p> <p>The prevalence of musculoskeletal disorders among the active and younger age categories does not reflect the impact of work related symptoms in the oldest age group.</p>

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⁸⁴ ESWC-data, 2nd Survey Dublin 1996.⁸⁵ The most frequently identified sectors which the Focal Points considered to be most at risk.⁸⁶ The most frequently identified occupations which the Focal Points considered to be most at risk.⁸⁷ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

OSH outcome: stress

Potential health effects	Excessive stress causes fatigue, anxiety, sweating panic attacks and tremors. Leads to difficulty in relaxing, loss of concentration, impaired appetite and disrupted sleep patterns. Some people become depressed or aggressive and stress increases susceptibility to ulcers, mental ill health, heart disease and some skin disorders.
European picture⁸⁸	28% of all workers interviewed were exposed to stress.
Sector categories most at risk from the national reports using NACE code⁸⁹ Figures in brackets represent the number of Focal Point responses	85 Health and social work (7); 80 Education (7); 60 Land transport; transport via pipelines (5); 75 Public administration and defence; compulsory social security (4); 01 Agriculture, hunting and related service activities (4).
Occupation categories most at risk from the national reports using ISCO code⁹⁰ Figures in brackets represent the number of Focal Point responses	22 Life science and health professionals (7); 23 Teaching professionals (6); 12 Corporate managers (5); 93 Labourers in mining, construction, manufacturing and transport (4); 13 Managers of small enterprises (4).
Other risk categories	No common description could be given.
Trends	A total of nine Focal Points reported that exposure to stress in the workplace over the last 3-5 years had increased. One Focal Point reported a stable trend to stress exposure. Five Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Belgium, Denmark, Finland, Greece, Ireland, Italy, Portugal, Spain, Sweden and United Kingdom.
Description of indicated action⁹¹	No common description could be given.
Other relevant information	Stress at work is often considered to be a white-collar phenomenon. However, causes of stress can be found in purely physical working conditions brought on by the environmental conditions such as noise, toxic vapours, heat, or even difficult working postures. It has long been known that shift work is particularly vulnerable to stress. Job insecurity can also add to stress problems. Commented in several national reports were a number of measures that can be adopted and further developed to reduce the risk from stress at work, these measures include: <ul style="list-style-type: none"> • implement work organisation procedures; • promote worker participation; • introduce job rotation work regular breaks; • provision of training and information to workers about relaxation techniques to reduce stress.

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⁸⁸ ESWC-data, 2nd Survey Dublin 1996.

⁸⁹ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁹⁰ The most frequently identified occupations which the Focal Points considered to be most at risk.

⁹¹ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

OSH outcome: occupational sickness absence

European picture⁹²	23% of all workers interviewed reported being absent from work.
Sector categories most at risk from the national reports using NACE code⁹³ Figures in brackets represent the number of Focal Point responses	85 Health and social work (4); 75 Public administration and defence; compulsory social security (4); 80 Education (3); 64 Post and telecommunications (3); 60 Land transport; transport via pipelines (3).
Occupation categories most at risk from the national reports using ISCO code⁹⁴ Figures in brackets represent the number of Focal Point responses	93 Labourers in mining, construction, manufacturing and transport (3); 92 Agricultural, fishery and related labourers (2); 83 Drivers and mobile plant operators (2); 73 Precision, handcraft, craft printing and related trades workers (2); 71 Extraction and building trades workers (2); 51 Personal and protective services workers (2); 23 Teaching professionals (2); 22 Life science and health professionals (2).
Other risk categories	<p><u>Company size</u>: Small companies were commented as being more at risk because they have less resources available for both monitoring and implementing suitable control measures to combat occupational diseases at work.</p> <p><u>Gender</u>: Nine Focal Points identified the male gender to be most at risk to occupational diseases at work.</p> <p><u>Age</u>: Although a limited response, five Focal Points identified the age category ">55" to be most at risk from occupational diseases at work.</p>
Trends	Although a limited response, two Focal Points reported a stable trend to occupational sickness absence in the workplace a further two reported a decrease in the trend and three Focal Points reported an increase in exposure. The other eight Focal Points were unable to establish a particular trend.
Focal Points identifying the need for additional preventive action	Belgium, Ireland, Luxembourg, Portugal and Spain.
Description of indicated action⁹⁵	No common description could be given.
Other relevant information	<p>Absenteeism is a complex and multi-conditional phenomenon. Various factors can affect absenteeism including, task variation, physical working conditions, management factors, remuneration, flexibility, time schedules, control measures, demographic and individual variations such as terms and conditions of employment.</p> <p>Commented in several national reports were a number of measures that can be adopted to and further developed to reduce the risk of absenteeism in the workplace, these are indicated below:</p> <ul style="list-style-type: none"> • further research on societal characteristics; • requirement to train and inform health practitioners about occupational sickness absence; • organisation of worker participation; • organisation of work control; • implementation of prevention plans using specific medical protocol; • further information about emerging risk, particularly about new toxic products; • include additional occupational diseases on national registers.

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⁹² ESWC-data, 2nd Survey Dublin 1996.

⁹³ The most frequently identified sectors which the Focal Points considered to be most at risk.

⁹⁴ The most frequently identified occupations which the Focal Points considered to be most at risk.

⁹⁵ The descriptions of further actions can be found in the individual chapters dealing with the exposure or OSH outcome.

3.3

THE NEED FOR THE DEVELOPMENT OF ADDITIONAL PREVENTIVE MEASURES

For each exposure category and OSH outcome detailed in the manual the Focal Points were asked to evaluate its present state in relation to health and safety effects and the adequacy of the current measures. The table below ranks the exposure indicators and OSH outcomes by the number of Focal Points reporting additional preventive action are required.

Exposure indicator/OSH outcome		Number of Focal Points reporting the development of additional preventive action is necessary
Stress	10	Belgium, Denmark, Finland, Greece, Ireland, Italy, Portugal, Spain, Sweden and United Kingdom.
Vibration	9	Austria, Belgium, Denmark, Finland, Ireland, Italy, Portugal, Spain and United Kingdom.
Lifting/moving heavy loads	9	Austria, Belgium, Denmark, Finland, Italy, Portugal, Spain, Sweden and United Kingdom.
Handling chemicals	8	Belgium, Finland, Ireland, Italy, Luxembourg, Portugal, Spain and United Kingdom.
Musculoskeletal disorders	8	Austria, Belgium, Denmark, Finland, Luxembourg, Portugal, Spain and Sweden.
Repetitive movements	7	Austria, Belgium, Finland, Italy, Portugal, Spain and Sweden.
Noise	7	Belgium, Finland, Ireland Italy, Portugal, Spain and United Kingdom.
Low temperature	7	Austria, Belgium, Finland, Italy, Portugal, Spain and Sweden.
Physical violence	7	Belgium, Denmark, Finland, Netherlands, Ireland, Spain and Sweden.
Bullying and victimisation	7	Belgium, Denmark, Finland, Netherlands, Ireland, Spain and Sweden.
Accidents with more than three days absence	7	Belgium, Finland, Ireland, Italy, Luxembourg, Portugal and Spain.
Occupational diseases	7	Belgium, Denmark, Finland, Ireland, Italy, Portugal and Spain.
High temperature	6	Belgium, Finland, Greece, Italy, Portugal and Spain.
Strenuous working postures	6	Austria, Belgium, Finland, Italy, Spain and Sweden.
Infectious biological factors	6	Finland, Ireland, Italy, Portugal, Spain and United Kingdom.
High speed work	6	Belgium, Denmark, Finland, Netherlands, Italy and Spain.
Monotonous work	6	Austria, Belgium, Denmark, Finland, Spain and Sweden.
Personal protective equipment	6	Belgium, Finland, Italy, Luxembourg, Portugal and Spain.
Fatal accidents	6	Belgium, Finland, Ireland, Italy, Portugal and Spain
Carcinogenic substances	6	Belgium, Germany, Ireland, Luxembourg, Portugal, Spain and Sweden.
Reproductive hazards	5	Belgium, Finland, Ireland, Portugal and Spain.
Non-infectious biological factors	5	Finland, France, Ireland, Portugal and Spain.
Occupational sickness absence	5	Belgium, Ireland, Luxembourg, Portugal and Spain.
Neurotoxic substances	4	Finland, Ireland, Portugal and Spain.
Machine dictated workspace	4	Belgium, Denmark, Italy and Spain.
Workspace dictated by social demand	3	Denmark, Spain and Sweden.
Sexual harassment	2	Denmark and Spain.

The above table indicates that a number of traditional occupational hazards were reported by the Focal Points as still requiring the development of additional preventive further actions, these include vibration, manual handling, handling chemicals and musculoskeletal disorder. Stress was identified in ten national reports as a topic requiring the development of further preventive actions. Vibration and lifting/moving heavy loads follow with nine indications.

There is no information in the above table as to the degree of such preventive actions between each Member State. It is likely that such actions would vary considerable from each Member State.

3.4 OVERALL EUROPEAN PICTURE FOR INDIVIDUAL RISK CATEGORIES

Each of the Focal Points was asked to provide extensive information about risks within their Member State. All the summary tables and charts, containing the consolidated data, within the various chapters were analysed to identify sectors, occupations, company size, gender, age categories, and employment status most at risk to all the occupational safety and health exposures. This section provides a summary of the results found within the consolidated report.

3.4.1 Risk category – sector and occupations

For each exposure indicator and OSH outcome the most frequently recorded sector and occupation categories are presented in the following two tables.

Sector category code	Sector description	Total number of times identified
45	Construction	112
28	Manufacture of fabricated metal products, except machinery and equipment	63
01	Agriculture, hunting and related service activities	62
85	Health and social work	57
15	Manufacture of food products and beverages	52
27	Manufacture of basic metals	34
60	Land transport; transport via pipelines	33
55	Hotels and restaurants	27
17	Manufacture of textiles	25
20	Manufacture of wood and of products of wood and cork, except furniture	23
75	Public administration and defence; compulsory social security	20
93	Other services activities	15
80	Education	15
24	Manufacture of chemicals and chemical products	14
14	Other mining and quarrying	13
02	Forestry, logging and related service activities	12
05	Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing	11
18	Manufacture of wearing apparel; dressing and dyeing of fur	11
52	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods	11
26	Manufacture of other non-metallic mineral products	8
21	Manufacture of paper and paper products	7
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	7
64	Post and telecommunications	6
65	Financial intermediation, except insurance and pension funding	5
50	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel	4
90	Sewage and refuse disposal, sanitation and similar activities	3
40	Electricity, gas, steam and hot water supply	3
34	Manufacture of motor vehicles, trailers and semi-trailers	3
30	Manufacture of office, accounting and computing machinery	3
22	Publishing, printing and reproduction of recorded media	3
25	Manufacture of rubber and plastic products	3
16	Manufacture of tobacco products	3
51	Wholesale trade and commission trade, except of motor vehicles and motor-cycles	2

The most frequently recorded sector was “Construction”, which was identified by the Focal Points 112 times. Ranked 2nd to 5th were “Manufacture of Fabricated Metal Products, except Machinery and Equipment”, “Agriculture, Hunting and related service activities”, “Health and Social Work” and “Manufacture of Food Products and Beverage” with less than half of the number of indications compared to “Construction”. “Health and Social Work”, as one of the service sectors, is ranked number four in the above list.

Occupation category code	Occupation description	Total number of times identified
93	Labourers in mining, construction, manufacturing and transport	123
72	Metal, machinery and related trades workers	80
71	Extraction and building trades workers	76
82	Machine operators and assemblers	73
81	Stationary-plant and related operators	40
83	Drivers and mobile plant operators	39
91	Sales and services elementary occupations	36
42	Customer services clerks	35
92	Agricultural, fishery and related labourers	33
74	Other craft and related trades workers	29
51	Personal and protective services workers	25
22	Life science and health professionals	20
32	Life science and health associate professionals	19
61	Skilled agricultural and fishery workers	17
52	Models, salespersons and demonstrators	13
12	Corporate managers	10
23	Teaching professionals	10
73	Precision, handicraft, craft printing and related trades workers	7
13	Managers of small enterprises	4
41	Office clerks	3

“Labourers in mining, construction, manufacturing and transport” is the occupation category mostly mentioned by the Focal Points (123 times).

From the above tables two of the most frequently reported sector and occupation categories are highlighted below on the basis that they appear in several of the twenty exposure indicator and OSH outcome categories, as indicated below.

Sector Categories

Construction was the most frequently reported sector in the following nine of the twenty exposure indicator and OSH outcome categories:

- Vibration;
- Low temperature;
- Lifting/moving heavy loads;
- Strenuous working postures;
- Use of PPE;
- Accidents with more than three-day absences;
- Fatal accidents;
- Occupational diseases; and
- Musculoskeletal disorders.

Health and Social Work was the most frequently reported sector in the following five of the twenty exposure indicator and OSH outcomes categories:

- workplace dictated by social demand;
- Bullying and victimisation;
- Sexual harassment,
- Stress; and
- Occupational sickness absence.

Occupation Categories

Labourers in mining, construction, manufacturing and transport were the most frequently reported occupations in the following ten of the twenty exposure indicator and OSH outcome categories:

- Vibration,
- Low temperature;
- High temperature;
- Lifting/moving heavy loads;
- Handling chemicals;
- Fatal accidents;
- Strenuous postures;
- Musculoskeletal disorders;
- Occupational sickness absence; and
- Occupational diseases.

Machine operators and assemblers was the most frequently reported occupation in the following five of the twenty exposure indicator and OSH outcome categories:

- Vibration;
- Low temperature;
- Use of PPE;
- Workplace dictated by social demand; and
- Fatal accidents.

3.4.2. Risk category – company size, gender, age and employment status

Due to the unavailability of information at national level, a low response rate was obtained in relation to risk categories company size, gender, age range or employment status and therefore it was not possible to identify which were considered to be most at risk. However, common comments reported by the Focal Points are highlighted in this section. For individual exposures, e.g. noise, the results are presented in the individual chapters of the report. Also presented is the European data about these risk categories taken from the 2nd Survey Dublin Foundation carried out in 1996 and/or from the Eurostat publication “Accidents at work in the European Union in 1996” -Theme 3-4/2000.

COMPANY SIZE

The smaller enterprise was often identified by the Focal Points as being at a greater risk because of their restricted resources (time, financial and expertise) to understand about specific workplace hazards and the current best practice techniques available to reduce the risk posed by them. Data from the European Foundation also indicates the smaller sized company as being more vulnerable to particular risks in the workplace, as shown by the percentage values in the table below.

Exposure	Working alone (%)	Size of company				
		1-9	10-49	50-91	100-499	> 500
Noise	22	25	29	37	32	28
Vibration	24	25	24	33	27	19
High temperature	15	20	19	21	21	21
Low temperature	22	26	24	25	23	22
Handling dangerous substances	14	15	11	20	15	15
Wearing PPE	14	22	23	30	28	29
Working in painful positions	54	51	42	43	42	41
Moving heavy loads	38	40	34	33	31	27
Monotonous tasks	41	42	45	45	45	49
Repetitive hand/arm movements	63	60	56	57	57	54
Physical violence	3	2	3	9	3	5
Sexual harassment	2	2	2	4	2	3
Stress	27	26	26	25	29	31

Source European Foundation: <http://www.eurofound.ie/themes/health/hwin1.html>

Employment group	Accidents with more than 3-days absence		Fatal accidents (excluding Norway)	
	(%) of total	Incidence rate*	(%) of total	Incidence rate
Self-employed**	7.6	3.557	12.0	6.3
Employers and employees according to the number of employees of the local unit				
Between 1 and 9	24.7	4 241	33.1	6.8
Between 10 and 49	27.4	5 195	27.0	6.3
Between 50 and 249	22.5	4 043	15.4	3.4
250 or more	17.8	2 943	12.5	2.7
Of which between 250 and 499	6.8		4.1	
500 or more	11.1		8.3	
Total	100.0	4 229	100.0	5.3

Source Eurostat Publication "Accidents at work in the European Union in 1996" -Theme 3-4/2000, Table 3

The breakdown and incidence of accidents at work according to the size of the local unit for the EU and Norway are estimated from available data for 10 Member States plus Norway (no information for Germany, the Netherlands, Portugal, Finland and the United Kingdom).

* Number per 100,000 persons in employment in the nine common branches

** Includes family workers except for paid employees of a family business

GENDER

The data collected from the national reports clearly indicates that the male worker was considered to be most at risk from the particular exposure indicators and OSH outcomes considered in this study. The number of Focal Points recording a gender for the exposure indicators/OSH outcomes are presented in the table below.

Exposure/ OSH outcome	Male ⁹⁶	Female
Noise	11	0
Vibration	11	0
High temperature	10	0
Low temperature	8	0
Lifting/ moving heavy loads	5	3
Repetitive movements	1	7
Sexual harassment	0	8
Accidents > 3 days absence from work	13	0
Fatal accidents	12	0
Occupational diseases	9	1

European data in relation to similar risk categories from the 2nd Survey Dublin Foundation and Eurostat also indicates that males in general reported being at a greater risk from particular workplace hazards, as indicated below.

Exposure (%)	Male (%)	Female
Noise	34	20
Vibration	32	13
High temperature	23	15
Low temperature	30	16
Handling dangerous substances	18	10
Wearing PPE	32	14
Working in painful positions	45	46
Moving heavy loads	38	26
Monotonous tasks	45	46
Repetitive hand/arm movements	56	58
Physical violence	3	4
Sexual harassment	1	4
Stress	28	27

Source European Foundation:
<http://www.eurofound.ie/themes/health/hwin1.html>

The Eurostat data show that 3,668,266 males and 920,000 females experienced accidents with more than 3 days absence. Regarding fatal accidents it is given that 5,124 males and 315 females experienced fatal accidents.

⁹⁶ Number of Focal Points' indications

AGE

Young workers were frequently discussed as being particularly vulnerable to hazardous situations in the workplace for a number of reasons. In some cases it was reported that young workers were more willing to take risks, and because of their age, were considered potentially at a greater risk through their lack of experience and understanding of the working environment. Also, they can have an eagerness to impress fellow workers, which can be a contributing factor in an accident scenario.

Risk perception may also be a weakness with the younger worker because many occupational injuries (noise, manual handling, exposure to hazardous substances) may take considerable time to materialise from the initial exposure. Therefore,

Exposure	Age category (years)				
	15-24	25-34	35-44	45-54	55+
Noise	31	28	27	27	26
Vibration	25	24	23	23	25
High temperature	21	20	19	20	19
Low temperature	27	25	22	23	22
Handling dangerous substances	18	16	13	13	13
Wearing PPE	28	26	24	23	23
Working in painful positions	46	45	45	45	46
Moving heavy loads	39	35	31	31	33
Monotonous tasks	49	46	44	42	45
Repetitive hand/arm movements	64	56	55	57	56
Physical violence	6	4	3	3	3
Sexual harassment	5	2	2	1	1
Stress	20	28	30	30	25

Source: European Foundation: <http://www.eurofound.ie/themes/health/hwin1.html>

the risk may not be fully appreciated and adherence to any control measure may subsequently suffer. This could be one explanation why some young workers were reported as being reluctant to wear PPE.

From the European data collected in the 2nd Survey Dublin Foundation also indicates that the younger aged worker was most exposed to the particular exposure indicators assessed, as shown by the percentage values in the table below.

EMPLOYMENT STATUS

The self employed, temporary workers and those on short term contracts were frequently discussed and commented upon by the Focal Points as being more at risk because of their restricted resource in particular limited access to health and safety training and information. It was not clear how these groups are organised for safety and health or what the management responsibilities were. Currently it cannot be mentioned how these groups are provided with adequate safety and health information or even what mechanism there is for ensuring this is achieved. How these groups access safety and health information and training is an important point to establish.

The European data collected in the 2nd Survey Dublin Foundation indicates a mixed response in relation to the most exposed category with regard to employment status, as indicated by the percentage values in the table below.

Exposure	Self employed	Total	Employed		
			On a permanent basis	On a fixed contract	On a temporary agency contract
Noise	23	29	29	37	32
Vibration	26	23	25	27	29
High temperature	20	20	19	21	26
Low temperature	25	24	23	28	29
Handling dangerous substances	14	15	14	18	18
Wearing PPE	18	26	26	29	25
Working in painful positions	53	43	41	51	57
Moving heavy loads	39	32	30	42	44
Monotonous tasks	39	46	45	50	60
Repetitive hand/arm movements	59	57	55	64	66
Physical violence	2	4	4	4	4
Sexual harassment	2	2	2	3	3
Stress	33	27	28	22	24

Source European Foundation: <http://www.eurofound.ie/themes/health/hwin1.html>

Further information with regard to risk categories, company size, age and employment status and others can be found under: <http://www.eurofound.ie/themes/health/hwin1.html>

The status regarding the availability of national data for the risk categories: company size, gender, age and employment status is outlined in Appendix 10.

3.5 CHEMICAL/BIOLOGICAL RISKS

The table below summarises the total number of responses given by the Focal Points when asked to identify a maximum of five hazardous chemical/biological substances/factors within each hazardous exposure category that are to be considered to be the most important risks for the working population in the Member States.

Exposure category	Most identified	Number of responses
Carcinogenic substances	<ul style="list-style-type: none"> Asbestos. Chromium (VI) compounds. Crystalline silica. Benzene. 	13 9 8 8
Neurotoxic substances	<ul style="list-style-type: none"> Organic solvents. Organophosphates / pesticides. Lead and its compounds. Toluene/xylene, aromatic/chlorinated solvents. 	8 7 7 4
Reproductive hazards	<ul style="list-style-type: none"> Lead and its compounds. Mercury and its compounds. Acrylamide, methoxy ethanol, ethoxy ethanol, ethylene oxide, organic solvents, halothane. 	11 3 2
Infectious biological factors	<ul style="list-style-type: none"> Hepatitis Virus B/C. Tuberculosis. HIV. Leptospirosis. Borrelia burgdorferi. 	14 11 6 5 4
Non-infectious biological factors	<ul style="list-style-type: none"> Endotoxins. Moulds. Thermophilic actinomyces fungi. Organic dust. Animal epithelium. 	4 4 3 2 2

The above table indicates that asbestos was most frequently identified by the Focal Points as a major source of carcinogenic substances in the workplace. For neurotoxic substances there was no single substance that was frequently identified, this fell between organic solvents, organophosphates/pesticides and lead and its compounds. Lead and its compounds was the most frequently reported reproductive hazard at work. Out of all chemical and biological hazards listed hepatitis B/C was the most frequently reported with fourteen of the fifteen national reports recording it. There was no clear non-infectious biological hazard reported, those that were reported, e.g. endotoxins, were only noted in four national reports.

3.6 EMERGING RISKS

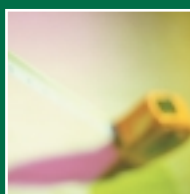
The Focal Points were asked to indicate what they considered were their emerging risks in particular areas of concern. No standard criteria was given to benchmark what constituted an emerging risk as this was left to the discretion of each Focal Point to decide upon based on their information sources and national expertise. The following table presents the most frequently mentioned topic for each of these areas of concern and the commented considerations. The complete table is presented in Chapter 6. The less frequently identified emerging risks are listed in Appendix 6.

Additional explanation about the possible implications for the most frequently identified emerging risks within each specific area of concern is also given based on the Contractor's OSH expertise.

Area of concern	Topic identified and its considerations
Changing working patterns	<ul style="list-style-type: none"> • Changed work organisation (B, F, D, EL, NL, L, P, E); (8 Focal Points) <p>More boredom; lack of job control and more job demand; more stress and increased accident possibility.</p>
	<p>Changed work organisation was identified as a significant concern. That is the way in which the work is organised or structured has changed significantly. This may include changes to shift patterns or the order in which work tasks are completed, or alternatively, changes to the organisation of the management/company structure all of which can increase the risks to workers.</p>
Changes in labour force	<ul style="list-style-type: none"> • Increase in number of temporary workers (D, EL, NL, IRL, P); (5 Focal Points) <p>Need for training; keeping skills up to date; lack of management control over health and safety; changes in workers expectations; work force is ageing and physical & mental abilities to adopt new skills and technologies are increasingly important.</p>
Particularly sensitive risk groups	<ul style="list-style-type: none"> • Young workers (A, DK, FIN, F, EL, IRL, L, P); (8 Focal Points) <p>Preventive systems needed to tackle special needs; intervening methods to prevent health effect among the young work force and the need for training.</p> <p>Young workers were identified as being of significant concern. Young workers are defined as people under the age of 18 years. They are considered to be an “at risk” group as they are deemed to be unfamiliar with the hazards present in the workplace. They often lack the experience of workplaces to safely deal with risks in comparison to adults. Their perception of risk can also vary from that of a more mature worker.</p> <ul style="list-style-type: none"> • Older workers (FIN, F, EL, NL, IRL, P); (6 Focal Points) <p>Older workers were also identified as a significant concern as a particular sensitive risk group. Older workers may have inherent muscular problems which can reduce their ability to lift or move objects. Also, they may have an increased sensitivity to extremes of temperature and slower reflexes.</p>
Clean and safe production and products	<ul style="list-style-type: none"> • Cleaner technology may introduce new risks (A, NL); (2 Focal Points) • Manufacturing workers (IRL, P); (2 Focal Points) <p>Lack of information consultancy services; completing the implementation of CEN Standards; substitution of dangerous substances for others measuring performance by level of spoilage.</p>
Safety and health management	<ul style="list-style-type: none"> • Implementation of safety and health management (DK, FIN, NL); (3 Focal Points) • All work sectors (EL, IRL, P); (3 Focal Points) <p>Risk assessment; access to instruments and implementation of results needs support and benchmarking and guidelines on good practices to improve effectiveness of occupational health services.</p>
Psycho-social aspects	<ul style="list-style-type: none"> • Stress (A, B, F, D, EL, NL, IRL, P); (8 Focal Points) <p>Occupational safety and health personnel need methods to survey and handle psychosocial risks; “burnout” needs to be addressed and prevented and research, legislation and preventive measures required.</p> <p>Stress was identified as being of significant concern. When an individual perceives that the task at hand is unachievable in a particular time frame or is outside of his or her capabilities this can lead to stress. Stress can also be brought on by environmental conditions such as extremes of noise, temperature, humidity and light. Too little time to relax can also lead to stress. Anxiety about being unable to meet commitments outside of work can also generate a serious problem. The stress can lead to poor performance at work and an increase in mistakes made, thereby increasing the likelihood of accidents.</p> <ul style="list-style-type: none"> • Violence (A, B, DK, F, NL, IRL); (6 Focal Points) <p>Violence was identified as being of significant concern. Violence may take the form of bullying at work or the threat of violence from working in high risk areas such as violence from clients in an accident and emergency unit of a public hospital, from pupils for teachers or from members of the public when working on a construction site in a high crime area.</p>

Area of concern	Topic identified and its considerations
Ergonomics	<ul style="list-style-type: none"> Manual handling (A, DK, FIN, D, EL, IRL, I, P); (8 Focal Points) <p>More monitoring and publicity campaigns required; manual handling and musculoskeletal disorders still a problem; need to reduce overload, better ergonomics and more studies and research required.</p> <p>Manual handling was identified as being of significant concern.</p> <p><i>Moving of heavy or awkward loads in the workplace poses a serious risk to employees and should be automated where possible or work practices changed to reduce the need to move and handle loads, for example good workplace layout. People's backs are often most at risk from moving and handling. An example of this in the workplace is unloading of a truck by hand when it may be done using a fork lift truck.</i></p>
Safety risks	<ul style="list-style-type: none"> New technology (D, NL, P); (3 Focal Points) <p>More monitoring and publicity campaigns required; ensuring CEN standard machinery by surveillance; violence at workplace is increasing; increasing complexity of work and the need for further training.</p>
Chemical risk factors	<ul style="list-style-type: none"> New chemicals being used (A, D, EL, NL, IRL, P, E); (7 Focal Points) <p>Health risks unknown in many cases; safety data sheets need to be kept up to date; further asbestos control required; new bio-monitoring and other assessment methods needed to be developed.</p> <p>New chemicals being used was identified as being of significant concern. <i>New chemicals such as pesticides or cold disinfectants for medical uses may have insufficient data on the physiological effects to ensure safe usage The employer is unlikely to be familiar with the product which increases the risks in using the chemical without adequate control measures or understanding of the associated risks.</i></p>
Physical risk factors	<ul style="list-style-type: none"> Noise (D, EL, IRL, L, P); (5 Focal Points) Electromagnetic radiation (A, D, EL, IRL, P); (5 Focal Points) <p>More monitoring and publicity campaigns required; noise induced hearing loss still common; evaluation of risk factors provide means of early well targeted control measures and need to address manual handling issues.</p>
Biological risk factors	<ul style="list-style-type: none"> New biological and genetic engineering procedures (A, D, EL, L, P); (5 Focal Points) <p>Greater awareness and safety courses required and biological waste procedures required.</p>
Sector research.	<ul style="list-style-type: none"> Health and Social work (B, DK, FIN, EL, IRL, P); (6 Focal Points) <p>Continue enforcement and awareness campaigns; occupational health studies for high- tech equipment is incomplete; increase in the number of inspections required.</p> <p>Health and Social work was identified as a significant concern. <i>The main concerns within this area of work are lone working, temporary workers and manual handling.</i></p>
Other topics.	<ul style="list-style-type: none"> Occupational health in small and medium sized companies (FIN) Mould (DK) Humidity (DK) Globalisation of work (B) Cost benefit analysis (B) Brain and work: vigilance and cognitive performance in computerised work and shift work (FIN) Health effects of information society (FIN) Enterprise competitiveness increase (E) Best practices and bench marking (B) Public services (P) Mis-information (L) Synergies of chemical and physical risks (FIN) <p>Training; improvements in indoor air quality in the workplace; awareness campaigns.</p>

4.



THE WORKING ENVIRONMENT

4.1 OCCUPATIONAL SAFETY AND HEALTH ISSUES ASSESSED

PHYSICAL EXPOSURES

4.2 NOISE

4.3 VIBRATION

4.4 HIGH TEMPERATURE

4.5 LOW TEMPERATURE

POSTURE AND MOVEMENT EXPOSURES

4.6 LIFTING/MOVING HEAVY LOADS

4.7 REPETITIVE MOVEMENTS

4.8 STRENUOUS WORKING POSTURES

HANDLING CHEMICALS

4.9 HANDLING CHEMICALS

CHEMICAL/BIOLOGICAL RISKS

4.10 CHEMICAL/BIOLOGICAL HAZARDS: CARCINOGENS, NEUROTOXICS, REPRODUCTIVE HAZARDS, INFECTIOUS BIOLOGICAL FACTORS, AND NON-INFECTIOUS BIOLOGICAL FACTORS

PSYCHO-SOCIAL WORKING CONDITIONS

4.11 HIGH SPEED WORK

4.12 WORKPACE DICTATED BY SOCIAL DEMAND

4.13 MACHINE DICTATED WORKPACE

4.14 PHYSICAL VIOLENCE

4.15 BULLYING AND VICTIMISATION

4.16 SEXUAL HARASSMENT

4.17 MONOTONOUS WORK

4.18 USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

4.19 INFORMATION GIVEN ABOUT RISKS AT WORK

4.20 TRAINING PROVIDED BY EMPLOYERS

THE WORKING ENVIRONMENT

This section contains qualitative and quantitative information on the working environment in the Member States.

In collating and presenting the following information, it must be appreciated that the method by which each Focal Point derived responses to particular questions was different. In many cases statistical data was not available. The information provided by individual Focal Points merely represents their expert opinion after relevant consultation with identified experts.

The consolidation data, therefore, can only be interpreted as a collation of expert opinion.

4.1

OCCUPATIONAL SAFETY AND HEALTH ISSUES ASSESSED

The key Occupational Safety and Health (OSH) issues that the Focal Points were asked to consider were:

- Physical exposures: noise, vibration, high temperature, low temperature;
- Posture and movement exposures: lifting/moving heavy loads, repetitive movements, strenuous working postures;
- Handling chemicals;
- Exposure to carcinogenic and neurotoxic substances;
- Reproductive hazards;
- Exposure to biological factors; and
- Psycho-social working conditions: high speed work, workplace dictated by social demand, machine dictated workplace, physical violence, bullying and victimisation, sexual harassment, monotonous work in the workplace.

4.1.1 Risk categories

For each of the above occupational safety and health issues, the Focal Points were asked to identify trends, the highest incidences of exposure and comments concerning exposure and trends within each of the following risk categories:

- 5 Sectors;
- 5 Occupations;
- Company size;
- Gender;
- Age; and
- Employment status.

A list of all sectors and occupations are provided in Appendices 1 and 2, respectively.

4.1.2 Format of each section

The information presented in the following sections of this chapter is in a predefined format, as agreed by the Focal Points, which consists of:

- a summary of the information contained within the particular section;
- tables providing a synopsis of relevant data from the 2nd European Survey on Working Conditions (ESWC-data) (Reference 19) which was used by the Focal Points as the source of ESWC-data when making comparisons with national data;
- consolidation of the collective responses to the questions for each of the key issues and risk categories provided by the Focal Points; and
- information on trends and evaluation which includes comments given by the Focal Points on their national report.

PHYSICAL EXPOSURES

4.2

NOISE

4.2.1 Noise – Summary

OVERVIEW

From a European picture, the ESWC-data shows that 28% of all workers interviewed during the survey reported exposure to noise in their workplace.

The information collected in this project highlighted seven Focal Points who reported a need for the development of additional preventive actions to combat noise in the workplace. One in particular identified the need to understand the effects of impulse noise on hearing loss. Two Member States have launched national programmes to combat noise at work e.g. to reduce exposure to harmful noise levels for particular identified sectors by about 50% within five years.

With regard to the trend of noise exposure in the workplace over the past 3-5 years the Focal Points were almost evenly balanced between a reduced trend and a stable trend. Six Focal Points reported that exposure had reduced, whereas six also reported that the exposure trend has remained stable. Only two had identified an increase in the exposure trend and one further Focal Point could not establish a particular trend pattern.

In total, ten Focal Points delivered national data regarding exposure to noise. The comparison of ESWC-data and national data showed that four Focal Points identified differences and a further four reported that there were no differences between their national data and the data from European sources. A total of seven Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

One Focal Point reported that their government had taken the initiative to tackle noise in the workplace and introduced a piece of legislation on noise. Within this was a limiting noise value of 85 dB(A). The full impact of this piece of legislation had not been assessed but it was expected to significantly reduce noise exposure in the working environment.

One Focal Point in their national report identified that approximately 580,000 workers are regularly exposed to noise so loud that they have to raise their voice to talk to people, 60% of these do not wear personal protective equipment. Consequently 300,000 workers were considered as being inadequately protected from noise in the workplace.

SECTORS AT RISK

The ESWC-data identifies the “Construction” sector as the category with the highest percentage of workers reporting exposure to noise. From their national reports, ten Focal Points indicated the following two sectors were most exposed to noise: “Manufacture of fabricated Metal Products except Machinery and Equipment” and “Manufacture of Wood, Wood Products and Cork, except Furniture and Manufacture of Straw Articles and Plaiting Materials”. Within the ESWC-data the manufacturing sector has the second highest percentage of workers reporting exposed to noise.

OCCUPATIONS AT RISK

From the ESWC-data “Craft and related Trades Workers” is the occupation category with the highest percentage of workers reporting exposure to noise in the workplace. The second highest exposed occupation category is “Plant and machine operators and assemblers”. Within this study a total of fourteen Focal Points identified “Machine operators and assemblers” as the occupation most at risk from noise exposure.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

In their comments, the Focal Points considered that smaller businesses were at a greater risk from noise for a number of possible reasons. These reasons included the use of older machinery, fewer resources available, less knowledge and expertise of the risks and of the control measures available to tackle noise problems in the workplace.

The younger person was considered by the Focal Points to be most vulnerable to noise exposure and potential hearing loss and that their risk was aggravated by social factors (music concerts, discos, wearing of headphones to listen to music and environmental noise such as that caused by traffic). Prolonged exposure to noise without adequate controls will increase the risk of noise induced hearing loss.

In this project eleven Focal Points identified males, particularly “blue collar” workers, as being most at risk from noise exposure.

In addition, the Focal Points mentioned temporary workers, self-employed workers, fixed term contract workers, those on apprenticeships and casual labour to be the status of worker at risk from noise exposure in the workplace. These groups often have less information available relating to health and safety issues, less training and less formal supervision and control in the workplace.

PREVENTING EXPOSURE

Where exposure to noise levels was reported to have been reduced this was achieved through a number of factors such as the introduction of low noise machinery, automation of work processes and remote operation of equipment to isolate the worker from the noise source. These methods have been effective in industries such as mining, steel, paper and chemical production.

The increased use of casual labour can also have the affect of reducing risk by reducing individual exposure thereby spreading the overall risk amongst a greater number. Although, groups such as casual labour may be more vulnerable to noise exposure because of the lack of information, supervision and control in the workplace.

The introduction of new tools and work equipment was identified as contributing towards increased noise levels in construction.

4.2.2 Noise – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
29	24	28

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

The percentage of workers exposed to noise so loud that they would have to raise their voice to hold a conversation are:

Time period	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
① All or almost all the time	10	9	7	8	11	12	9	18	9	10	9	12	15	16	10	10
② Around ¾ or ½ the time	8	9	8	8	11	8	8	9	5	8	6	6	7	7	9	8
③ Around ¼ of the time	10	9	7	13	16	10	10	11	9	12	6	10	6	6	13	12
Total ①+②+③	28	27	21	29	38	30	27	38	22	30	21	28	28	29	32	30

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria
EL – Greece
E – Spain

B – Belgium
NL – Netherlands
S – Sweden

DK – Denmark
IRL – Ireland
UK – United Kingdom

FIN – Finland
I – Italy

F – France
L – Luxembourg

D - Germany
P - Portugal

The percentage of workers exposed to noise so loud that they would have to raise their voice to talk to people, as classified by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M
① All or almost all the time	10	15	20	10	17	6	7	10	1	3	5	6
② Around $\frac{3}{4}$ or $\frac{1}{2}$ the time	8	11	10	8	14	7	9	9	1	5	6	5
③ Around $\frac{1}{4}$ of the time	10	14	11	14	16	8	13	11	4	6	9	7
Total ①+②+③	28	40	41	32	47	21	29	30	6	14	20	18

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing

E: Electricity, Gas and Water Supply

G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods

H: Hotels and Restaurants

J: Financial Intermediation

L: Public Administration and Defence; Compulsory Social Security

C-D: Mining, Quarrying and Manufacturing

F: Construction

I: Transport, Storage and Communications

K: Real Estate, Renting and Business Activities

M-Q: Other Services

The percentage of workers exposed to noise so loud they would have to raise their voice to talk to people, as classified by occupation are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	10	4	5	6	3	4	12	20	27	14	16
② Around ¾ or ½ the time	8	4	4	5	3	6	14	16	10	9	11
③ Around ¼ of the time	10	9	9	7	6	7	18	15	11	10	11
Total ①+②+③	28	17	18	18	12	17	44	51	48	33	38

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

3: Technicians and associate professionals

5: Service workers and shop and market sales workers

7: Craft and related trades workers

9: Elementary occupations

2: Professionals

4: Clerks

6: Skilled agricultural and fishery workers

8: Plant and machine operators and assemblers

0: Armed forces

4.2.3 Noise – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to noise risks in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1				Question 2			
	“Are there differences between the national data and the data from European sources?”				“Does the additional national information highlight sectors or occupations that are not evident from the EU-data?”			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				<input type="radio"/>				<input type="radio"/>
Belgium			<input type="radio"/>				<input type="radio"/>	
Denmark*		<input type="radio"/>				<input type="radio"/>		
Finland*				<input type="radio"/>	<input type="radio"/>			
France*				<input type="radio"/>				<input type="radio"/>
Germany*	<input type="radio"/>				<input type="radio"/>			
Greece*	<input type="radio"/>					<input type="radio"/>		
Netherlands*	<input type="radio"/>				<input type="radio"/>			
Ireland		<input type="radio"/>						<input type="radio"/>
Italy				<input type="radio"/>		<input type="radio"/>		
Luxembourg*	<input type="radio"/>				<input type="radio"/>			
Portugal			<input type="radio"/>				<input type="radio"/>	
Spain*		<input type="radio"/>					<input type="radio"/>	
Sweden*				<input type="radio"/>		<input type="radio"/>		
United Kingdom*		<input type="radio"/>						<input type="radio"/>

* Focal Points who presented additional quantitative national data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Belgium: No data is available for sex, age, sector, company size, occupation and employment status. It relates to medical examination data, as it is a legal requirement for employees who are exposed to these risks undergo a medical examination.

Each percentage given is based on the number of employees on 30 June 1997, i.e. 2,972,218. This figure is for all employees except those from the public sector and education. This concerns around 756,000 employees.

No specification is given on the time during which workers are exposed. The average exposure time in the ESWC-data, is 6.8% while the medical examination data for noise are 7.22% and for ultra and infrasound 0.07%.

Denmark: No valid dose data on noise exposure available. Hence it is neither possible to calculate any sector related risk nor any occupation related risk.

Finland: Sector and occupation are classified more specifically in national data than ESWC data.

France: The differences between the basic elements of the two surveys render any attempt at comparison meaningless.

Germany: On average the national study identifies a 5% greater exposure.

Greece: There are some minor differences, which do not change the general image, since the order of the percentages for every factor remains the same.

Netherlands: Exposure in the national survey is lower than the ESWC-data. There are differences between the LFS (Labour Force Survey) and the ESWC-data:

- the average number of exposed workers to noise is 3.8% higher,
- both gender categories are about 4% higher;
- the less than 25 years age category is 6.6% higher;
- Sector averages of the exposed numbers are higher according to the ESWC-data in five sectors and lower in one; and
- workers on fixed contracts show less exposure, 21.8%, compared to the ESWC data of 34.6%.

It was also noted that the ESWC -data for the sectors exposed to noise is higher than the national exposure data.

Luxembourg: National data was higher than the ESWC-data.

Sweden: The *Swedish Working Environment Survey* (Reference 2) is based on more than 10,000 respondents and it was felt that the ESWC-data was too small to provide reliable information on several of the specified sub-groups.

United Kingdom: The proportion of cases that were exposed to noise for at least a 25% of working time (28.4%) was similar to the ESWC-data (30.7%).

Austria, Ireland, Italy, Portugal and **Spain** did not provide more information than summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 2:

Denmark: No valid dose data on noise exposure available. Hence it is neither possible to calculate any sector related risk nor any occupation related risk.

Finland: None of the risk sectors or occupations are evident in the ESWC-data which are provided at a cruder level of classifications than the national data. In addition, the national data includes information of the number of exposed workers, duration of exposure and exposure levels.

France: The differences between the basic elements of the two surveys render any attempt at comparison meaningless.

Germany: The national study highlights Elementary Occupations.

Netherlands: On average there are high number of workers exposed to noise in mining, quarrying; and manufacturing.

Ireland: The national data is more focused in relation to categories affected than the ESWC-data.

Sweden: The ESWC-data is so small, it cannot produce an acceptable confidence limit as the statistical population is too small. The ESWC-data highlights the Hotels and Restaurants sector category. For occupations both national and ESWC-data are roughly comparable.

United Kingdom: The self-reported working conditions (Reference 3) were carried out in 1995 whereas, the ESWC-data is based on a survey carried out in 1996.

Austria, Belgium, Greece, Italy, Luxembourg, Portugal and **Spain** did not provide more information than summarised in the table above.

Other comments received:

Finland: The questions in the ESWC survey and national interview survey are rather similar.

4.2.4 Noise – sectors at risk

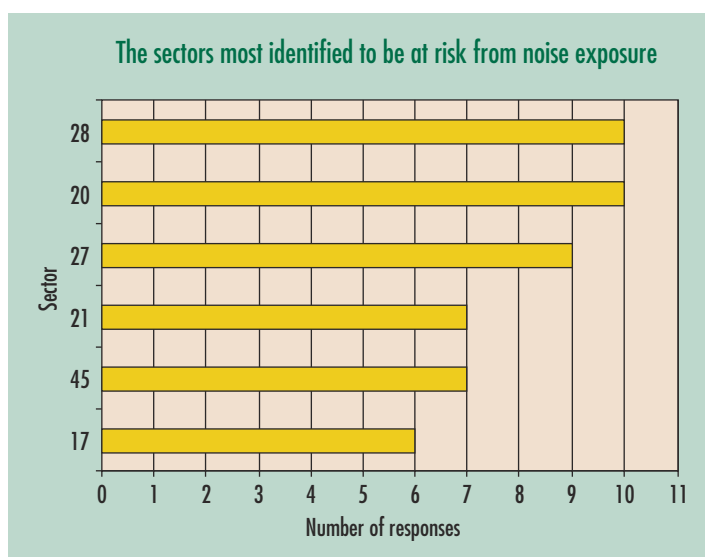
The six most frequently identified sectors which the Focal Points* considered to be most at risk from noise exposure are listed below:

- 28 Manufacture of fabricated Metal Products except Machinery and Equipment;
- 20 Manufacture of Wood, Wood Products and Cork, except Furniture and Manufacture of Straw Articles and Plaiting Materials;
- 27 Manufacture of Basic Metals;
- 21 Manufacture of Paper and Paper Products;
- 45 Construction; and
- 17 Manufacture of Textiles.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.

The six most frequently identified sectors are depicted below:

* The Focal Points used different approaches to identify the occupations to be considered most at risk to noise exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.



Total Number of Responses⁹⁷ = 84

From the information submitted in their national reports, the two sector categories most frequently identified by the Focal Points as being at risk from noise were:

28 - Manufacture of fabricated Metal Products except Machinery and Equipment; and

20 - Manufacture of Wood, Wood Products and Cork, except Furniture and Manufacture of Straw Articles and Plaiting Materials.

Both of the above sectors were identified by 10 Focal Points. These sectors typically use a wide range of processes and machinery for forming, shaping and removing material. Such processes have the potential to create substantial and prolonged high noise levels in the workplace. If these sources are not adequately controlled they can result in hearing damage.

The ESWC-data identified the construction industry, with 47% of workers interviewed, being most exposed to noise. This was closely followed by the manufacturing (including mining and quarrying) sector with 41% and by the agriculture, hunting, forestry and fishing sector with 40% of workers reporting exposure to noise.

The sectors identified by the Focal Points and those in the ESWC-data are traditional base industries where the potential for noise damage from exposure to the work processes is generally well understood.

Focal Points commented on two key measures being implemented for reducing noise in the workplace. The first involved the introduction of modern automated machinery, often incorporating remote operating facilities, which removes the need for an operator to be present in the noisy area. The second involved the implementation of new, less noisy work equipment, which reduced noise levels through better design and operational performance of the equipment. Such measures were reported to have been adopted in paper, metal and chemical production sectors and the mining sector for reducing noise.

However, not all sectors benefited from the introduction of less noisy equipment. One Focal Point identified construction and industrial work and repair workshops were experiencing an increase in the use of noisy power tools (such as chain saws and nail guns).

Away from the traditional industries, one Focal Point reported an increase in the number of reported hearing injuries in the Day Institutions and Residential Homes for Children and Education and Research establishments. It was reported that of these cases nearly 50% of the workers suffered from tinnitus.

⁹⁷ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

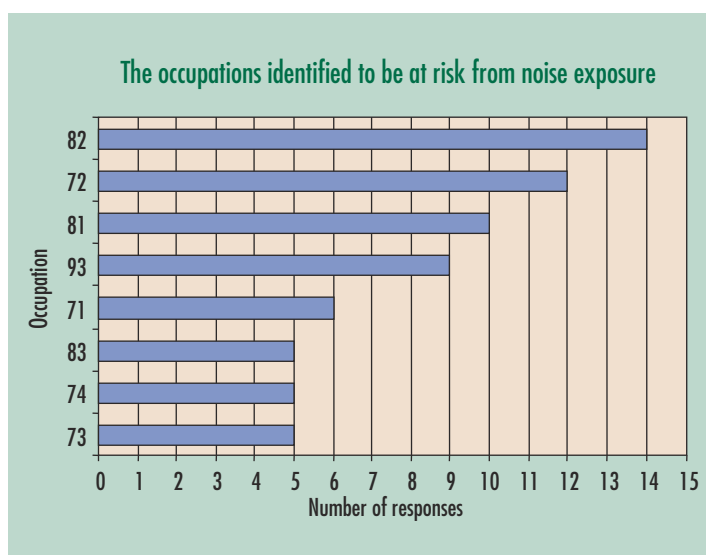
4.2.5 Noise – occupations at risk

The eight most frequently identified occupations which the Focal Points* considered to be most at risk from noise exposure are listed below:

- 82 Machine operators and assemblers;
- 72 Metal, machinery and related trades workers;
- 81 Stationary plant and related operators;
- 93 Labourers in mining, construction, manufacturing and transport;
- 71 Extraction and building trades workers;
- 83 Drivers and mobile plant operators;
- 74 Other craft and related trades workers; and
- 73 Precision, handicraft, craft printing and related trades workers.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.

The eight most frequently identified occupation categories are depicted below:



Total Number of Responses⁹⁸ = 77

From the information in their national reports, fourteen Focal Points identified the occupation category 'Machine operators and assemblers' to be most at risk from noise exposure. Comparing this with the categories in the ESWC-data shows a slight difference. In the ESWC-data the occupation category "Craft and related trade workers" was reported to be most exposed to noise (51% of interviewees), closely followed by "Plant and machine operators and assemblers" with 48% of interviewees reporting exposure to noise at work.

Individuals directly operating processes and machinery i.e. "Blue collar" workers, as well as those working in the nearby vicinity were considered to be most at risk from noise.

The occupation categories identified by the Focal Points: "machine operators and assemblers", "metal, machinery and related trade workers" and "stationary plant and related trade workers" are exposed to noise through their direct working association with the various processes/machinery involved.

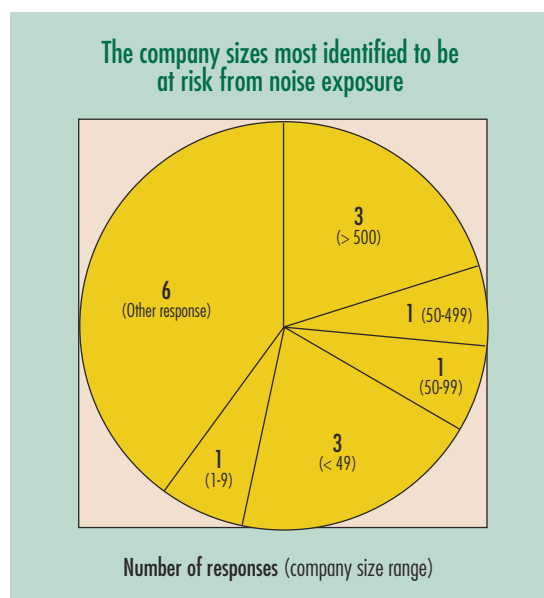
* The Focal Points used different approaches to identify the occupations to be considered most at risk to noise exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

⁹⁸ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

4.2.6 Noise – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to noise exposure in the workplace.”

The following information was received:



The above graph illustrates a fairly wide distribution of company size identified by the Focal Points as being most at risk from noise exposure. The smaller organisation, employing less <49, appears to be particularly vulnerable as identified in several national reports.

From the national reports, the Focal Points commented that workers in small businesses were considered to be at a greater risk from noise. Several possible reasons were identified as to why this may be the case including: less available resources in terms of finance, workers and technical knowledge to enable the organisation to identify and tackle noise problems in the workplace.

With limited financial resources smaller businesses may be more likely to operate with older machinery. Older machinery not only lacks modern noise reduction techniques but is susceptible to increasing noise levels in the workplace as the machine ages and wears.

4.2.7 Noise – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk to noise exposure.”

The following information was received:

Gender category most at risk	Number of Focal Point responses
Female	0
Male	11
No Response	4

From their national reports a total of eleven Focal Points reported the male worker was most exposed to noise risk in the workplace. Only four Focal Points reported a “No response”. Male workers have traditionally been employed in the sector and occupational categories identified to be at the highest risk from noise exposure.

4.2.8 Noise – age category at risk

Each Focal Point was asked to: “State which age category has a particular high risk exposure to noise in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to noise and age categories to be given (see Appendix 5c for the number of responses).

4.2.9 Noise – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to noise and employment status to be given (see Appendix 5d for the number of responses).

4.2.10 Noise – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to noise over the last 3 – 5 years has decreased, remained stable or increased”.*

The following responses of the Focal Points were received:

Decreased Trend (6 Focal Points): **Austria, Belgium, Finland, Luxembourg, Portugal and Spain**

Stable Trend (6 Focal Points): **Denmark, Greece, Netherlands, Ireland, Italy and Sweden***

Increased Trend (2 Focal Points): **France and Germany**

Category “Other” (1 Focal Point): **United Kingdom****

“Other Response” includes no response/unable to respond due to unavailability of national data/incompatibility of national data.

* This trend refers to male workers. The number of female workers being exposed to noise increased (1991 12.4%, 1997 14.4%)

** The trend regarding the number of workers exposed to noise over the last 3-5 years is unknown.

Furthermore, the Focal Points were asked to identify if *“there are any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: There is a trend throughout all sectors to employ casual workers in noisy workplaces. In areas where noise is caused by machinery, a decrease in the number of exposed workers is assumed as the use of low noise machinery has increased.

Belgium: The decrease of the exposure is mainly a result of the automation of processes. Few improvements in the construction sector, especially in road work.

Particular attention should be addressed to the temporary workers and to contractors, since they are both high risk groups. Information and training do not always reach these risk groups due to the organisation of work.

Denmark: The study of different working conditions (2nd ESWC) from 1996 is not comparable with earlier studies in Denmark due to different classifications of sector and occupation incompatible with NACE and ISCO-88. A new survey will be carried out in Denmark in 2000 and is expected to make an estimation of the trends possible.

Looking at the number of reported cases of work-related hearing damage, a slight trend of decreasing numbers over the last 3 years is seen, but no firm conclusions should be drawn from this. In some sectors an increasing number of cases has been reported during the later years. The sectors in question are Day Institutions and Residential Homes for Children and Education and Research. Nearly 50% of these cases include tinnitus.

In 1995 new legislation on noise with a limit value at 85 dB(A) came into force. The full impact of this legislation has not yet been seen but is expected significantly to reduce the noise exposure at Danish workplaces.

Finland: The high noise levels have decreased which is seen as a decrease of incidence of noise-induced hearing loss in occupational disease statistics. Automation has significantly decreased noise levels in “heavy” industries (basic metals, pulp and paper, chemicals etc.). Remote control of machines has drastically decreased exposure in some mine occupations. However, in many sectors and occupations exposure has remained stable in the 1990’s. There are even indications that low and moderate noise exposure has become more frequent and extended to new sectors along with increasing “noisiness” of society (e.g. traffic noise, restaurants and discos).

Germany: New technologies are increasingly being introduced to many areas, particularly those dealing with production. For example, computer-monitored control and supervision of machines in production processes change the hitherto usual job profile. There is a shift in emphasis to greater intellectual demands and concentration capabilities. There is also a greater encumbrance from work noise with a correspondingly higher risk of health impairment.

In connection with noise, a deficit in safety and health is to be found particularly in small and medium-sized companies.

Netherlands: The exposure to a number of “classical” exposure-factors in the working environment is considered as still being of a too high level. Noise is one of these exposure factors. In the Netherlands approximately 580,000 workers are “regularly” exposed to noise so loud..... 60% of those exposed at this level do not use personal protective equipment. Over 300,000 workers are not adequately protected.

A new campaign has been launched by the Dutch Government, the Ministry of Social Affairs and Employment.

With a number of sectors covenants are to be concluded; wherever possible targets for an actual reduction of the number of exposed workers within certain periods of time are established. Funding is available to support the sectors in the implementation process (research, information, pilot projects, monitoring and evaluation).

Sectors in focus for noise exposure reduction are (first of all): manufacture of wood, manufacture of furniture, paper and cardboard industry and products, construction of building foundation. The target set for the reduction of the exposure to harmful noise is 50% over the period 1998 - 2003 (of the 300,000 workers indicated above).

Ireland: Insufficient information to draw conclusions.

Italy: Insufficient information.

Luxembourg: identified sectors: 15 – manufacturing of food and beverages and 55 – Hotels and restaurants.

Portugal: Higher warnings of employers and employees for the use of protective facilities (hearing protection) and an improvement of work equipment as well as increased automation of work processes. At this stage there is not enough data to establish if there are any particular categories in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development.

France, Greece, Spain, Sweden and **United Kingdom** did not provide more information than that summarised in the table above.

4.2.11 Noise – evaluation of preventive actions

The Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by six Focal Points: **Austria, Denmark, Greece, Netherlands, Luxembourg** and **Sweden**

Development of additional preventive action was indicated by seven Focal Points: **Belgium, Finland, Ireland, Italy, Portugal, Spain** and **United Kingdom**

The category “Other” was indicated by one Focal Point: **France**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the possible answer can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Risk evaluation is a costly and time-consuming activity in small and medium sized enterprises. In order to undertake concrete and immediate action preventive actions are recommended in a participatory approach with the help of the employees. Employees are best aware of the risks and the possible preventive measures to be taken.

Information, training and instruction are the best preventive actions for the risks that are related to work. Promotion campaigns for training and awareness should in the first place be addressed to the high-risk groups (i.e. contractors and temporary workers).

Finland: In Finland noise exposure is still one of the most important causes of occupational diseases (noise-induced hearing loss). Almost one fourth of all workers are still exposed to noise levels exceeding 80 dB(A), and almost 300,000 workers (15%) to a level of 85 dB(A) or more. At some sectors and occupations noise levels may exceed even 100 dB(A). The use of noisy power tools (e.g. chain saws and nail guns) is increasing in construction and industrial work, repair shops etc. Low and moderate noise exposure is also increasing due to increasing use of machines in many economic sectors and increase of e.g. traffic noise.

Young workers are becoming an important risk group because they often work in noisy environments and may have high exposure to noise also during leisure time (headphones, discos, rock concerts etc.).

The introduction of new less noisy work procedures and tools are required. Also the introduction of automation and the isolation of workers from noisy work environment would decrease noise exposure. More attention should be paid to effective reduction of impulse noise (e.g. in military work and metal works) whose effect in the production of noise-induced

hearing loss is often underestimated. There is a need to develop a system to help work places to control noise exposure themselves.

A databank including descriptions of tested control measures would facilitate noise reduction efforts especially in “old” work places. The noise declaration duty of the machinery manufacturers (obligatory in EU) is probably one of the most effective methods to reduce noise exposure at work places. The new outdoor equipment directive (under preparation) is likely to decrease further noise levels.

Ireland: The authority is at present reviewing possible initiatives with regard to noise.

Italy: Constant preventive action is necessary to plan, both in workplaces (concerning the use of personal protective equipment, plant maintenance and training) and in living environments (in order to decrease the total exposure time).

Portugal: The actions that have been taken so far need to be continued in order to improve the preventive actions of noise exposure.

Spain: Development of systems and procedure to reduce the noise in its origin source (isolation) should be done as well as information, standardisation and fostering about the use of personal protective equipment. The workers have to be trained and informed.

United Kingdom: Developing a long-term Field Operations Division (FOD) strategy to reduce the prevalence of noise induced hearing loss. This is at very early stage of development.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Denmark: Reduction of noise at the workplace is included in a current programme for a clean working environment by year 2005. In a recently published sector-specific guide on working environment issues, noise has been selected as a principle problem for the following thirty-four sectors (this list is not in order of priority and classification not completely compatible with NACE-93):

Metal Production, Steel Rolling Mills and Foundries	Manufacture of Means of Transport
Shipyards	Supply of Electricity and Hot Water for Heating
Manufacture of Iron and Metal Articles	Manufacture of Machinery
Maintenance and Repair of Motor Vehicles, Electrical Household Goods, Bicycles, Office and Computing Machinery	Contractors of Soil, Concrete and Coverings
Bricklaying, Joinery and Carpentry	Building Completion
Insulation and Installation	Printing and Publishing
Manufacture of Paper and Cartons for Packing and Binding	Transport of Goods
Transport of Passengers	Textiles, Clothing and Leather Goods
Manufacture of Wood Goods and Furniture	Manufacture of Products Made of Plastic, Rubber, Asphalt and Mineral Oil
Manufacture of Products Made of Stone, Clay and Glass	Manufacture of Chemical Products
Mining and Quarrying and Semi-manufactured Products	Manufacture of Basic Pharmaceutical Products
Water Supply, Sewerage Services etc.	Cleaning Activities
Investigation and Security Activities, Military Service etc.	Amusements, Culture and Sport
Processing of Pork and Beef	Processing of Poultry Meat
Processing and Preserving of Food Products, Breweries etc.	Manufacture of Diary Products etc.
Agriculture	Market Gardening, Forestry etc.
Day Institutions and Residential Homes for Children	Education and Research

Netherlands: A new campaign has been launched by the Dutch Government, the Ministry of Social Affairs and Employment. With a number of sectors covenants are to be concluded; wherever possible targets for an actual reduction of the number of exposed workers within certain periods of time are established. Funding is available to support the sectors in the implementation process (research, information, pilot projects, monitoring and evaluation). Sectors in focus for noise exposure reduction are (first of all): manufacture of wood, manufacture of furniture, paper and cardboard industry and -products, construction of building foundation. The target set for the reduction of the exposure to harmful noise is 50% over the period 1998 - 2003 (of the 300.000 workers indicated above).

Luxembourg: For sector 23 “Manufacture of Coke, Refined Petroleum Products and Nuclear Fuel” and 25 “Manufacture of Rubber and Plastic Products” the risk level is evaluated once per year by a global survey. The procedures are documented and filed. Document’s title, reference, date of issue and date of updating, actors and numbers of pages are clearly mentioned. The results of the investigations are communicated in a comprehensive way to the exposed workers. The risk

sectors are identified as such by panels. Personal protective equipment is ready for use. From a noise level of 90 dB (A) upward, protective equipment must be used.

Sweden: Action against harmful noise is included in the prioritised supervision areas in the plan of activities for the Swedish Occupational Safety and Health administration for the period 1997-1999.

4.3

VIBRATION

4.3.1 Summary – vibration

OVERVIEW

From a European picture, the ESWC-data shows that 24% of all workers interviewed during the survey reported being exposed to vibrations in the workplace.

In this project nine Focal Points commented that the current level of preventive actions to deal with exposure to vibrations were insufficient and that additional preventive actions were necessary to reduce further the risk of injury in the workplace. One of Focal Point expected that their own government initiative to commence during year 2000 and another reported that a guidance document on whole-body vibration had been prepared and issued during 1998. Only three Focal Points reported their taken/planned preventive actions were sufficient.

The responses in the national reports indicated a variety of observations in relation to the trend of exposure to vibration in the work place. Six Focal Points commented that they had identified a stable trend, four said it had decreased, three reported a decreasing trend and the remaining two were unable to identify any particular trend.

The comparison of ESWC-data and national data showed that three Focal Points identified differences and a further four reported that there were no differences between their national data and the data from European sources. A total of eight Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data. A total of ten Focal Points were unable to report a comparison.

Like noise, vibration was considered to be a classical risk in the working environment. Comments from one Focal Point said that where companies had experienced health problems from exposure to hand-arm vibration many had not taken preventive measures and furthermore, some had taken no precautions whatsoever.

A common issue mentioned by the Focal Points was the general lack of awareness in relation to both the health problems posed by vibrating equipment and machinery, particularly that causing whole body vibration, and their of the controls measures available to eliminate or reduce exposure at source.

One Focal Point commented that exposure to cold weather might be a contributory factor for the increasing severity of the vibration induced injury.

SECTORS AT RISK

Both the ESWC-data and the information submitted by the Focal Points in this project identified the construction sector as being most at risk from vibration in the workplace. There were clearly two forms of vibration identified and assessed by the Focal Points, hand-arm vibration from the use of hand tools and whole-body vibration from the associated motion of vehicles and machinery.

OCCUPATIONS AT RISK

The ESWC-data identified workers from the occupation category 'Craft and Related Trade Workers' as the occupation with the highest exposure to vibration. Whereas, the information in the national reports suggests labourers in "Mining, Construction, Manufacturing" and "Transport" as the occupation categories most exposed to vibration. These workers can potentially be exposed to vibration either through the operation and use of hand tools or by motion experienced by driving a particular type of vehicle.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

For the identified sector and occupation categories male workers were identified to be more at risk from the health effects of vibration in the workplace.

No firm conclusions could be drawn on company size, age or employment status though comments received by the Focal Points indicated that small businesses were most at risk because of the use of older machine, lack of awareness and resource to address the problem. The self-employed and contractors were considered to be at risk which is supported by the findings from the ESWC survey in which the self-employed were identified as being most at risk.

PREVENTING EXPOSURE

Exposure to vibration can be prevented and controlled by various techniques as reported in the national reports. Such techniques include removing the risk completely by introducing automation, reducing vibrations at source by better design and maintenance of the equipment and by the introduction of vibration dampers/absorbers to the equipment in question.

One Focal Point commented on the reduction of hand-arm vibration through the implementation of automated equipment and new equipment such as forest harvesters.

It was expected by one Focal Point that a new EU directive on vibration will focus on the topic and introduce limiting values to ensure a safe working environment. Another Focal Point commented that an effective factor in the reduction of harmful vibration was the EU Machinery Directive because it requires vibration values of power tools and mobile machinery to be declared in product documentation.

Several Focal Points commented on the need for reducing vibrations at source by preventing the emission of work induced vibrations from hand tools through technical improvements at the design stage.

One Focal Point commented that the source of vibration was two fold. Firstly, vibrations emanated from the actual work equipment (action of the tool, use of the tool, out of balance forces) and secondly as a result of inadequate fixing of machines to their foundations.

4.3.2 Vibration – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
23	27	24

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

The percentage of workers exposed to vibrations from hand tools or machinery etc. are:

Time period	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
① All or almost all the time	11	14	6	5	8	12	17	18	7	8	8	13	18	19	5	8
② Around ¾ or ½ the time	6	6	6	4	7	5	9	10	3	7	7	4	6	6	3	4
③ Around ¼ of the time	7	7	6	6	11	6	10	8	3	9	6	7	6	5	7	6
Total ①+②+③	24	27	18	15	26	23	36	36	13	24	21	24	30	30	15	18

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria
EL – Greece
E – Spain

B – Belgium
NL – Netherlands
S – Sweden

DK – Denmark
IRL – Ireland
UK – United Kingdom

FIN – Finland
I – Italy

F – France
L – Luxembourg

D – Germany
P – Portugal

Percentage of workers exposed to vibration from hand tools or machinery by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M
① All or almost all the time	11	18	20	13	23	6	3	14	2	4	4	5
② Around $\frac{3}{4}$ or $\frac{1}{2}$ the time	6	14	8	8	12	5	6	4	1	1	2	3
③ Around $\frac{1}{4}$ of the time	7	13	9	18	14	6	4	6	2	4	4	3
Total ①+②+③	24	45	37	39	49	17	13	24	5	9	10	11

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing

E: Electricity, Gas and Water Supply

G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods

H: Hotels and Restaurants

J: Financial Intermediation

L: Public Administration and Defence; Compulsory Social Security

C-D: Mining, Quarrying and Manufacturing

F: Construction

I: Transport, Storage and Communications

K: Real Estate, Renting and Business Activities

M-Q: Other Services

Percentage of workers exposed to vibration from hand tools or machinery by occupation are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	11	4	3	4	2	3	18	24	32	12	17
② Around ¾ or ½ the time	6	2	1	3	2	2	16	15	9	6	8
③ Around ¼ of the time	7	5	4	4	2	3	17	15	8	8	11
Total ①+②+③	24	11	8	11	6	8	51	54	49	26	36

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

3: Technicians and associate professionals

5: Service workers and shop and market sales workers

7: Craft and related trades workers

9: Elementary occupations

2: Professionals

4: Clerks

6: Skilled agricultural and fishery workers

8: Plant and machine operators and assemblers

0: Armed forces

4.3.3 Vibration – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to vibration risks in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1 "Are there differences between the national data and the data from European sources?"				Question 2 "Does the additional national information highlight sectors or occupations that are not evident from the EU-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				○				○
Belgium			○				○	
Denmark*		○				○		
Finland*				○				○
France*			○				○	
Germany*		○						○
Greece*		○				○		
Netherlands*	○				○			
Ireland		○						○
Italy			○				○	
Luxembourg	○						○	
Portugal			○				○	
Spain*	○				○			
Sweden*				○	○			
United Kingdom*				○			○	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Belgium: No data is available for sex, age, sector, company size, occupation and employment status. It is a legal requirement for employees who are exposed to these risks undergo a medical examination.

The percentages given are based on the number of employees on 30 June 1997, i.e. 2,972,218. This figure is for all employees except those from the public sector and education who are subject only to insurance for medical care. They are not subject to the compulsory insurance for industrial accidents and occupational diseases. This concerns around 756,000 employees.

The industrial medical departments have to produce an annual report stating how many people are exposed to each risk that have been examined. The breakdown and the data that the annual report has to contain are set out in the *General Regulation for Worker Protection* (art 121 appendix XI). The data can then be processed according to the categories contained within it.

No specification is given on the time during which workers are exposed. The average exposure time in the ESWC-data was 5.4% while the medical examination data for mechanical vibrations was 7.36%.

Denmark: The national data did not differ significantly from the ESWC-data with respect to age, gender and company size.

Finland: Sector and occupation categories are classified more specifically in national data than in ESWC data which hampers making a comparison.

Greece: There are some minor differences which do not change the general image, since the order of the percentages for every factor remains the same.

Netherlands:

- the overall average differs by less than 0.4%;
- exposure rates are a little higher in the LFS for the age category <25 years (3.5%) and lower for >55 years (4.7%);
- for sectors A-B and F the LFS shows 6% and 9% more exposed workers in both sectors, respectively;
- other sectors vary less than 2% in both data-sources;
- more fixed-term contract workers seem to report "any exposure" in the ESWC-data (6.6%).

The overall evaluation seems to indicate few differences between national data and European sources, with the exception of the sectors Agriculture and Construction. The majority of the other differences are relatively small.

Ireland: Qualitative data supports the ESWC findings.

Luxembourg: The EU-data highlights an exposure “All of the time” in the following:

Sector:

C-D:	Mining, quarrying and manufacturing	40.4 %
E:	Electricity, gas and water supply	28.6 %
F:	Construction	29.4 %

Occupation:

6:	Skilled agricultural and fishery workers	38.5 %
7:	Craft and related trades workers	33.8 %
8:	Plant and machine operators, assemblers	38.1 %

Spain: In general, the data is lower than the ESWC-data in all categories of gender, age, company size and employment status, sectors and occupations. The difference is more important in the following sectors: Mining, Quarrying, Construction and Public Administration.

Sweden: The ESWC question and the corresponding Swedish question are similar. The answering scales are similar but not identical. The Swedish Working Environment Survey is based on more than 10,000 respondents.

Austria, France, Germany, Italy, Portugal and **United Kingdom** did not provide more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: Many of the risk sectors or risk occupations are not evident in the ESWC data which are provided at cruder level of classifications than the national data. In addition, national data includes information of numbers of exposed workers and perceived harmfulness of exposure.

Examples:

Sector 28 Manufacture of fabricated metal products;

Sector 29 Manufacture of machinery; and

Occupation 83 Drivers

Netherlands: The national data particularly highlights agriculture and construction more so than the ESWC-data.

Ireland: The national data is more focused in relation to categories that are not evident from EU-data.

Spain: Transport and storage are the highest sectors in the national data, unlike the ESWC-data.

Sweden: The EU-data shows the sector Electricity, gas and water supply to be a high risk sector. This is not the case in the Swedish data. The EU data is, however, based on a very small sample therefore this finding may be a statistical artifact. Apart from this the sectors highlighted in the EU-data and the Swedish data roughly correspond.

Data for plant and machine operators shows a lower risk to vibration than the ESWC-data and both the national data and the ESWC-data for skilled agricultural and fishery workers and craft related trade workers show them to be the highest risk groups.

Austria, Belgium, Denmark, France, Germany, Greece, Italy, Luxembourg, Portugal and **United Kingdom** did not provide more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Finland: The questions in the ESWC survey and national interview survey are both unspecific as to the type of vibration (covering both hand-arm vibration and whole-body vibration). However, the health outcomes and risks groups of these two basic types of vibration are different and would benefit if asked separately.

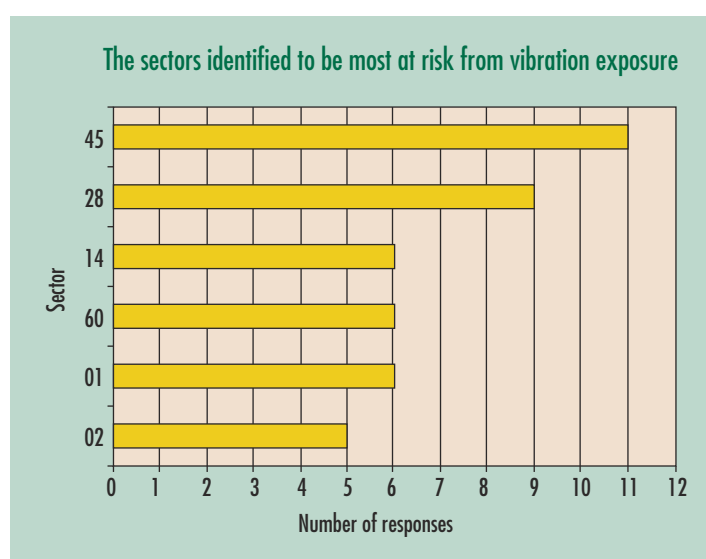
Portugal: Despite the fact that at national level there are no data regarding the exposure to vibrations, there have been several scientific studies carried out at universities exploring this matter (e.g. in agriculture - tractor drivers and facilities; comfort of bus passengers, etc.).

4.3.4 Vibration – sectors at risk

The six most frequently identified sectors which the Focal Points* considered to be most at risk from vibration exposure are listed below:

- 45 Construction;
- 28 Manufacture of fabricated Metal Products, except Machinery and Equipment;
- 14 Other Mining and Quarrying;
- 60 Land Transport; Transport via Pipelines;
- 01 Agriculture, Hunting and related service activities; and
- 02 Forestry, Logging and related service activities.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses⁹⁹ = 78

The above graph illustrates that exposure to vibration in the workplace occurs in a wide variety of sector categories. Both the ESWC-data and the information provided by the Focal Points identified the 'Construction' industry as being most at risk from the health effects from vibrating tools and machinery in the workplace.

The ESWC-data identified the construction industry, with 49% of workers interviewed, being most exposed to vibration in the course of their work. This was followed by the agriculture, hunting, forestry and fishing sector with 45% of workers reporting exposure to vibration whilst at work.

The second most frequently identified sector according to nine Focal Points was the 'Manufacture of Fabricated Metal Products, except Machinery and Equipment'. Workers in this sector frequently use various different types of hand tools for cutting and dressing in the manufacture of their products. Such hand tools can contribute to the possibility of white finger vibration (WFV) being contracted.

The introduction of automated equipment and new machinery such as forest harvesters has reduced exposure to vibrating equipment. Though other sectors such as agriculture (farmers), car repair shops and construction were reported to have an increased use of vibrating hand tools in their work activities.

One Focal Point commented that exposure to cold weather might be a contributory factor for the increasing severity of the vibration induced injury.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

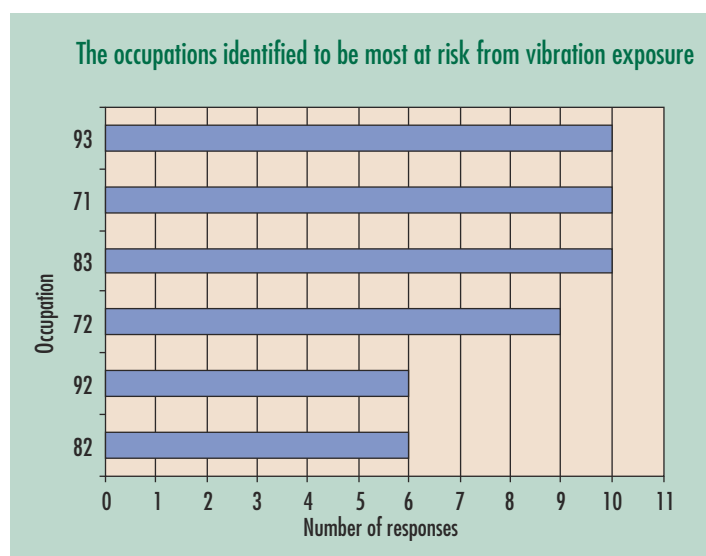
⁹⁹ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

4.3.5 Vibration – occupations at risk

The six most frequently identified occupations which the Focal Points* considered to be most at risk from vibration exposure are listed below:

- 93 Labourers in mining, construction, manufacturing and transport;
- 71 Extraction and building trades workers;
- 83 Drivers and mobile plant operators;
- 72 Metal, machinery and related trades workers;
- 92 Agricultural, fishery and related labourers; and
- 82 Machine operators and assemblers.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹⁰⁰ = 65

From the information contained in their national reports, ten Focal Points identified the following three occupation categories as being most at risk from vibrations in the workplace:

- 93 Labourers in mining, construction, manufacturing and transport;
- 71 Extraction and building trades workers; and
- 83 Drivers and mobile plant operators.

In the ESWC-data the occupation category “Craft and related trade workers” was reported to be most exposed to vibration (54% of interviewees), closely followed by “Skilled agriculture and fishery workers” with 51% of the interviewees reporting exposure to vibration at work.

Workers associated with the construction sector could be affiliated to any one of these occupations. The identification of the above occupations introduces the distinction between the different types of work activities and their corresponding potential health effects from vibration. Workers in the construction, manufacturing, mining frequently use hand tools that induce vibrations into the hand-arm areas and therefore they are more likely to suffer ill effects in this region.

Whereas, workers of mobile plant, road vehicles and earth moving equipment are exposed to whole-body vibrations from the motion of both the vehicle and its associated engine and mechanism.

One Focal Point commented that the source of vibration was two fold. Firstly, vibrations emanated from the actual work equipment (action of the tool, out of balance forces) and secondly as a result of inadequate fixing of machines to their foundations.

4.3.6 Vibration – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to vibration exposure in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to vibration and company size to be given (see Appendix 5a for the number of responses).

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹⁰⁰ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

4.3.7 Vibration – gender at risk

Each Focal Point was asked to: *“State which gender category has a particular high risk to vibration exposure.”*

The following results were received:

Gender category most at risk	Number of Focal Point responses
Female	0
Male	11
No response	4

From the information submitted in their national reports a total of eleven Focal Points identified males as being more at risk from vibrations within the workplace. Traditionally males have been employed in the sectors and occupations identified as those at the highest risk.

4.3.8 Vibration – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk exposure to vibration in the workplace.”*

Data provided by the Focal Points did not allow a European picture with regard to vibration and age categories to be given (see Appendix 5c for the number of responses).

4.3.9 Vibration – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to vibration and employment status to be given (see Appendix 5d for the number of responses).

4.3.10 Vibration – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to vibration over the last 3 – 5 years has decreased, remained stable or increased”.*

The following responses were received:

Decreased Trend (4 Focal Points): **Belgium, Finland, Germany and Greece**

Stable Trend (6 Focal Points): **Austria, Denmark, Netherlands, Portugal, Spain and Sweden***

Increased Trend (3 Focal Points): **France, Ireland and Italy**

Category “Other” (2 Focal Points): **Luxembourg and United Kingdom****

“Other Response” includes no response/unable to respond due to unavailability of national data/incompatibility of national data.

* This trend is based male (1991 – 12.8%; 1997 – 11.4%) and female (1991 – 1.5%; 1997 1.7%)

** Trend regarding the number of workers exposed to vibrations over the last 3 – 5 years is unknown.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: The number of exposed workers has not changed over the past five years. An improvement of the situation is likely as an increasing use is made of modern equipment. Therefore, the total number of workers exposed will decrease.

Belgium: The decrease in exposure is mainly as a result of the introduction of automated processes.

Particular attention should be addressed to the temporary workers and to contractors, since they are both high risk groups. Information and training do not always reach these risk groups, due to the organisation of work.

Denmark:

Hand-arm vibration

It is estimated that the number of workers exposed to hand-arm vibration has remained stable over the past five years, but no surveys including exposure measurements have been carried out to support this estimation.

The study of different working conditions (2nd ESWC) from 1996 is not comparable with earlier studies in Denmark due to different classifications of sector and occupation incompatible with NACE and ISCO-88. A new survey will be carried out in 2000 and it is expected that an estimation of the trends will then be possible.

The majority of cases reported due to hand-arm vibration suffers from the cardiovascular syndrome known as Vibration White Fingers (Raynaud's Disease).

Whole body vibration

It is estimated that the number of workers exposed to whole body vibration has remained stable over the past five years, but neither surveys nor exposure measurements have been carried out to support this estimation.

Based on the number of reported cases of occupational diseases related to exposure to whole body vibration no particular trends can be seen over the years by sector. The most exposed sectors are:

- Transportation of passengers
- Transportation of goods
- Contractors of Soil, Concrete and Coverings
- Wholesale

In the future it is expected that a new directive on vibration will put focus on the area, and that the limit values in the directive will ensure a safe working environment. A guidance on whole body vibration was issued last year.

Finland: The decrease in the number of lumberjacks due to introduction of forest harvesters is the main reason for the overall decrease of hand-arm vibration. The use of chain saws is still general among farmers working in forestry during winter and there are other occupations where the use of vibrating tools is even increasing.

Netherlands: The exposure to a number of "classical" exposure-factors in the working environment is considered as still being of a too high level. Hand/arm vibrations is one of these exposure factors; whole body vibrations are considered here as well. Sectors in focus for whole body vibrations are e.g. road cargo transport, agriculture. In total, the exposure to whole body vibrations and hand/arm vibrations is almost 14% (approximately 800,000 workers); the exposure has remained stable in the period.

Data from the Labour Inspectorate show that in 10% of the companies hand/arm vibrations do occur and that one third of these companies has not yet taken any preventive actions; whole body vibrations do occur in 8% of the companies and one out of five takes no precautions. Companies, occupational health services and social partners are encouraged to take appropriate actions.

Currently a European Directive on the prevention of mechanical vibrations is being prepared; the Netherlands will not enact national specific regulations.

The view of the trade unions here is that specific regulations should be issued (all scientific information that is needed as a basis for such regulation is available).

Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden and **United Kingdom** did not provide more information than that summarised in the table above.

4.3.11 Vibration – evaluation of preventive actions

The Focal Points were asked to indicate if:

"Preventive actions taken or planned are sufficient to deal with the existing related problems;"

"The development of additional preventive action is necessary;" or

"Other."

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by three Focal Points: **Greece, Netherlands** and **Sweden**

Development of additional preventive action was indicated by nine Focal Points: **Austria, Belgium, Denmark, Finland, Ireland, Italy, Portugal, Spain** and **United Kingdom**

The category "Other" was indicated by two Focal Points: **France** and **Luxembourg**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Information, training and instructions are the best preventive actions for the risks that are related to work. Promotion campaigns for training and awareness should in the first place be addressed to the high risk groups (i.e. contractors and temporary workers). Expected government action will entail legislation, research and implementation.

Denmark: The preventive actions taken or planned are not considered sufficient to deal with the existing exposure related problems. The Commission of the European Union has initiated a series of meetings with the aim to produce a Directive on exposure to physical agents, including vibration. The recently published sector-specific guides on working environment issues, vibration has been selected as a principal problem for the following sectors (not in order of priority and classification not completely compatible with NACE-93):

Metal Production, Steel Rolling Mills and Foundries	Shipyards
Maintenance and Repair of Motor Vehicles, Electrical Household Goods, Bicycles, Office and Computing Machinery	Contractors of Soil, Concrete and Coverings
Bricklaying, Joinery and Carpentry	Building Completion
Insulation and Installation	Wholesale
Transport of Goods	Transport of Passengers
Manufacture of Wood Goods and Furniture	Manufacture of Products Made of Stone, Clay and Glass
Mining and Quarrying and Semi-manufactured Products	Market Gardening, Forestry etc.

Finland: Hand-arm vibration is still a prevalent exposure although the number of occupational diseases is presently low (about 20 cases/year). However, the low number of occupational diseases may underestimate the magnitude of less serious health problems caused by hand-arm vibration.

Although the use of chain saws has decreased in forestry work, occupational diseases are still notified among forest workers. There are also sectors where the number of machine tools causing hand-arm vibration is slightly increasing, e.g. in car repair shops and construction sites. A specific problem may be the combined effect of hand-arm vibration and exposure to cold. Surveillance of the exposed is still needed and specific preventive measures in situations where the risk of occupational disease is high. Whole-body vibration is also a common factor in many works, such as driving of vehicles. The effects of whole-body vibration are not sufficiently known to assess accurately their impact on workers' health. An effective factor in the reduction of harmful vibration is the machinery directive of EU which requires that the vibration values of power tools and mobile machinery are declared in the instructions of the products.

Ireland: The authority is at present reviewing possible initiatives with regard to this exposure.

Italy: Technical improvement of machines, planned maintenance and use of appropriate PPE.

Portugal: Further studies and awareness campaigns should be devoted to this topic.

Spain: Installation and equipment technical control, development of absorption and muffing mechanisms, training and information for workers.

United Kingdom: Scope for reduction of exposure through better design of work equipment to reduction vibration emission.

Austria provided no additional information in relation to the development of additional preventive action is necessary.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Netherlands: Currently a European Directive on the prevention of mechanical vibrations is being prepared; the Netherlands will not enact national specific regulations.

The view of the trade unions here is that specific regulations should be issued (all scientific information that is needed as a basis for such regulation is available).

Sweden: In this case preventive actions taken/planned are stated to be sufficient. The interpretation should not be that there are no problems related to this exposure and that preventive measurements are complete. However, this exposure and its related problems is not included in a category which receive special attention presently.

4.4

HIGH TEMPERATURE

4.1 Summary – high temperature

OVERVIEW

From a European picture, the ESWC data indicates 20% of all workers interviewed reported exposure to high temperature in the workplace.

Six Focal Points reported the need for the development of additional actions to tackle high temperature in the workplace. Five reported that their taken/planned actions were sufficient and four were unable to evaluate the question.

Nine Focal Points reported a stable trend to the exposure of high temperature in the workplace whereas two reported a decreased trend. Only one Focal Point reported an increase in exposure to high temperature. Three Focal Points were unable to establish the trend.

The comparison of ESWC-data and national data showed that only two Focal Points were able to compare the data and establish that there no differences between their national data and the data from European sources. The remaining thirteen Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

One Focal Point, who reported the need for additional preventive control measures, stated that during the ten-year period 1986-1996 a government initiative provided information on temperatures in the workplace.

High-risk groups identified by one Focal Point were small companies particularly those with temporary and contracting workers. It was commented that, because of the way these groups are organised, safety and health information and training does not always reach them.

One Focal Point commented that exposure to high temperature through environmental climate conditions affecting buildings such as schools and offices has been included on a national programme for clean working environment by the year 2005.

In one national report it was identified that exposure to high temperatures and heat stress is a problem in basic metal industries (i.e. foundries) and work which require use of tight clothing (e.g. fire fighting).

In attempting to establish a trend, one Focal Point commented that the related information stemmed from questions into the possibility of workers' self control of temperature and ventilation in the workplace. They identified that approximately 40% of the workers had the facility to control temperature and approximately 45% had the facility to control ventilation. Over the period the Focal Point commented that the data remained more or less unchanged (1994-1997) giving an indication that the exposure to non-comfortable work temperatures has not changed over that period.

One Focal Point commented that data from their Labour Inspectorate showed that working in potentially harmful climate conditions is an infrequent occurrence (with the exception of working outdoors, more than two hours per day in 31% of all companies). In almost all cases actions to protect workers have been taken. Working in and outside freezing chambers with e.g. lift trucks is an example of a situation where improvements still are feasible.

One Focal Point indicated that further preventive action was necessary to control exposure to high temperatures in the workplace by better organisation of work, planned maintenance of equipment and the use of appropriate personal protective equipment.

Where a reduced trend to exposure to high temperature was reported in one national report this was attributed to better acclimatisation of the workplaces, namely through air circulation, roof materials, air conditioning and automation of work processes.

SECTORS AT RISK

From the information in the national reports four sectors were identified as being most exposed to high temperature conditions, these included:

- Manufacture of Basic Metals;
- Manufacture of Food Products and Beverages;
- Manufacture of Other Non-metallic Mineral Products; and
- Manufacture of fabricated Metal Products, except Machinery and Equipment.

Manufacture of Basic Metals was identified by ten Focal Points as the sector category most exposed. All of the above sectors are likely to use process/equipment that produces radiated heat.

The ESWC-data highlights the sector category “Agriculture, Hunting, Forestry and Fishing” with the highest percentage of workers exposed to high temperature with 37% of the interviewees reporting a high temperature working environment.

One Focal Point reported that in the sector ‘Manufacturing of metal’ the number of exposed employees is expected to decrease as automation of the equipment and processes increases.

Exposure to high temperatures in the working environment was identified by one Focal Point as a principal problem for six particular sectors within their country.

Data submitted by one Focal Point presented for exposure to high temperatures was separated into two distinct areas. Firstly there was exposure caused by hot and/or humid indoor work climates. Secondly, there was exposure caused by the intense heat radiation from process and equipment.

One Focal Point reported that information from existing studies indicated that several workplace environments, such as the glass industry, ceramics, melting, textile/wearing and bakery were more susceptible to exposure of high temperatures.

OCCUPATIONS AT RISK

From their national reports ten Focal Points identified the occupation “Labourers in mining, construction, manufacturing and transport” as most at risk to the effects of high temperature in the working environment.

The ESWC-data highlights “Skilled Agricultural and Fishery Workers” as the occupation category with the highest percentage (46% of interviewees) of workers exposed to high temperature closely followed by “Plant and machine operators and assemblers” (45% of interviewees).

Information submitted in the national reports identified that exposure to high temperature in the workplace can originate from two separate and distinct sources. High levels of heat can be emitted from work processes and its associated equipment. Also, exposure to high temperatures can occur due to climate conditions, such as the effect of prolonged sunshine on offices and similar buildings.

One Focal Point commented that their national data on exposure to high temperatures included not only information of the number of workers exposed but also the level of heat stress they experience in the identification of risk groups. These risk groups included public employees such as fire fighters and industrial workers such as asphalt pavers, foundry workers, glass workers, textile workers and bakers.

One Focal Point identified that exposure to high temperatures was a result of heat from processes such as ovens, boilers and from the environmental conditions such as working in greenhouses and out in the open.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

From their national reports ten Focal Points identified males to be most exposed to high temperature in the workplace. Although there are particular sectors and occupations where women have a greater exposure to high temperatures.

No firm conclusions could be drawn on company size, age or employment status of those at risk. One Focal Point in their national report identified that men are slightly more exposed to high temperatures and that exposure to high heat stress was considered typical for many men’s work such as metal smelting, fire fighting, foundry work and asphalt working. Also, that women were exposed to high temperatures in occupations affiliated with the bakery industry.

One Focal Point clearly identified the younger worker, less than 25 years old, as being most exposed to high temperatures. Another Focal Point commented that the younger worker are more exposed because the older individual is more sensitive to the effects of high temperatures.

PREVENTING EXPOSURE

In their identification of additional preventive the following measures were recorded as measures that could be adopted and further developed to reduce exposure to high temperatures:

- appropriate air ventilation systems;
- isolation of heat sources;
- improvement in the design of personal protective equipment (better comfortable);
- provision of worker training and information; and
- implementation of work organisation procedures (task rotation, scheduled breaks).

It was reported by one Focal Point that in areas where exposure to high temperature is associated with the work process, a decrease is expected as improved insulation of machinery and process-automation is implemented.

In one national report it was reported that there are means available to reduce heat stress and these included drinking more fluids to prevent dehydration, isolation of the heat source, rotation of work tasks and the use of appropriate personal protective equipment such as cooling waistcoats.

One Focal Point commented on the need for the improvement in monitoring hot workplaces and informing the workers of both the hazards and the control measures in order to decrease the occupational health effects from heat stress.

4.4.2 High temperature – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
20	20	20

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers exposed to high temperatures which make you perspire even when you are not working are:

Time period	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
① All or almost all the time	5	6	3	2	2	6	4	10	6	5	4	9	5	10	2	5
② Around ¾ or ½ the time	7	9	6	7	7	7	5	19	6	5	6	9	8	8	4	9
③ Around ¼ of the time	8	8	8	8	11	8	8	10	8	6	4	10	6	6	8	10
Total ①+②+③	20	23	17	17	20	21	17	39	20	16	14	28	19	24	14	24

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria
EL – Greece
E – Spain
B – Belgium
NL – Netherlands
S – Sweden
DK – Denmark
IRL – Ireland
UK – United Kingdom
FIN – Finland
I – Italy
F – France
L – Luxembourg
D – Germany
P – Portugal

Percentage of workers exposed to high temperatures which make you perspire even when not working by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M
① All or almost all the time	5	6	9	3	6	4	10	4	2	2	3	3
② Around ¾ or ½ the time	7	14	8	8	12	5	10	7	3	4	5	5
③ Around ¼ of the time	8	17	9	9	9	6	12	11	4	5	6	5
Total ①+②+③	20	37	26	20	27	15	32	22	9	11	14	13

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing
E: Electricity, Gas and Water Supply
G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
H: Hotels and Restaurants
J: Financial Intermediation
L: Public Administration and Defence; Compulsory Social Security
C-D: Mining, Quarrying and Manufacturing
F: Construction
I: Transport, Storage and Communications
K: Real Estate, Renting and Business Activities
M-Q: Other Services

Percentage of workers exposed to high temperatures which make you perspire even when not working by occupation are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	5	2	3	2	2	4	7	8	13	7	7
② Around ¾ or ½ the time	7	5	3	3	3	5	15	10	13	9	7
③ Around ¼ of the time	8	6	5	5	5	7	18	11	11	9	8
Total ①+②+③	20	13	11	10	10	16	40	29	37	25	22

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers
3: Technicians and associate professionals
5: Service workers and shop and market sales workers
7: Craft and related trades workers
9: Elementary occupations
2: Professionals
4: Clerks
6: Skilled agricultural and fishery workers
8: Plant and machine operators and assemblers
0: Armed forces

4.4.2 High temperature – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to high temperature risks in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1				Question 2			
	"Are there differences between the national data and the data from European sources?"				"Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				○				○
Belgium			○				○	
Denmark*		○				○		
Finland*				○				○
France*				○				○
Germany			○				○	
Greece*		○				○		
Netherlands			○				○	
Ireland			○				○	
Italy			○				○	
Luxembourg*			○				○	
Portugal			○				○	
Spain			○				○	
Sweden*				○	○			
United Kingdom*			○				○	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Belgium: There are no data available for sex, age, sector, company size, occupation and employment status. The percentages are based on the number of employees on 30 June 1997, i.e. 2,972,218 employees. This figure is for all employees except those employees from the public sector and education who are only subject to insurance for medical care. They are not subject to the compulsory insurance for industrial accidents and occupational diseases. This concerns around 756,000 employees.

The industrial medical departments have to produce an annual report stating how many people exposed to each risk have been examined. The breakdowns and the data that the annual report has to contain are set out in the *General Regulation for Worker Protection* (art 121 appendix XI). The data can then be processed according to the categories contained in it.

No specification is given on the time during which workers are exposed. The average exposure time in the Dublin survey is 5.4 while the medical examination data for industrial heat are 0.62%.

Denmark: The data do not differ significantly from the ESWC-data neither with regard to gender and age nor with regard to company size.

Finland: Sector and occupation are classified more specifically in national data than ESWC data, which hampers making a comparison.

Greece: There are some minor differences, which do not change the general image, since the order of the percentages for every factor remains the same.

Luxembourg: The ESWC-data 1996 does not use the two-digit code, neither for the sectors nor for the occupations. A comparison is not possible.

Sweden: The wording of the questions are different but the content is much the same: “high temperatures which makes you perspire even when not working” (ESWC) and the Swedish question about “heat that makes you sweat even if you are not moving”. The latter has a further specification “(28 degrees or more)”. The answering scale is very similar but not identical.

The Swedish Working Environment Survey is based on more than 10,000 respondents.

United Kingdom: There is no comparable data for high temperature at the workplace. The only available national data on temperature at the workplace is from the survey of Self-reported working conditions which includes the questions “Does your job expose you to uncomfortable heat or cold?” and “How often does this happen?” The data from these questions is not comparable to the European question.

Austria, France, Germany, Netherlands, Ireland, Italy, Portugal and Spain did not provide more information than that summarised in the above table.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: Many of the risk sectors or risk occupations are not evident in the ESWC-data which are provided at cruder level of classifications than the national data. In addition, national data includes information of numbers of exposed workers and also the level of the heat stress has been considered in the identification of risk groups. Examples:

Sector 75 Public administration (e.g. fire fighters)

Occupation 93 Labourers in mining etc. (e.g. asphalt pavers)

Occupation 74 Other craft workers (e.g. bakers)

Sweden: The EU data highlights the sector construction and Electricity, gas and water supply, based on a very small sample, which is not highlighted in the Swedish data.

The occupations highlighted in the EU data correspond roughly to the occupations highlighted in the Swedish data.

Austria, Belgium, Denmark, France, Germany, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain and United Kingdom did not provide more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Finland: The questions in the ESWC survey and national interview survey are similar.

4.4.4 High temperature – sectors at risk

The four most frequently identified sectors which the Focal Points* considered to be most at risk from high temperature exposure are listed below:

27 Manufacture of Basic Metals;

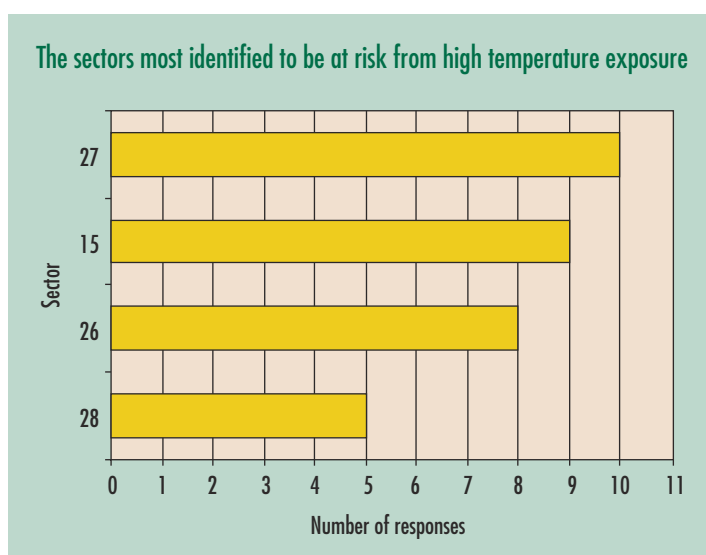
15 Manufacture of Food Products and Beverages;

26 Manufacture of Other Non-metallic Mineral Products; and

28 Manufacture of fabricated Metal Products, except Machinery and Equipment.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.

* The Focal Points used different approaches to identify the occupations to be considered most at risk to high temperature exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.



Total Number of Responses¹⁰¹ = 62

From the national reports as depicted in the above graph ten Focal Points frequently identified the sector 'Manufacture of basic metals' as being most at risk to high temperatures in the workplace.

The ESWC-data highlights the sector category 'Agriculture, Hunting, Forestry and Fishing' with the highest percentage of workers exposed to high temperature with 37% of the interviewees reporting a high temperature working environment.

One Focal Point reported that in the "Manufacturing of metal" sector the number of exposed employees is expected to decrease as automation of the equipment and processes increases.

Exposure to high temperatures in the working environment was identified by one Focal Point as a principal problem for six particular sectors within their country. Data submitted by one Focal Point presented for exposure to high temperatures was separated into two distinct areas. Firstly there was exposure caused by hot and/or humid indoor work climates. Secondly, there was exposure caused by the intense heat radiation from process and equipment. An inspection of work activities of approximately 4,500 companies in 1997 showed that in 325 companies the work was carried out in a hot and humid indoor climate. It was also estimated that about one out of three companies in sector 01, e.g. glass horticultural and flower companies, have a hot and humid indoor working climates. Following a similar inspection of approximately 4,250 companies in 1997, 112 companies carried out some of their work activities with exposure to intense heat radiation.

One Focal Point reported that information from existing studies indicated that several workplace environments, such as the glass industry, ceramics, melting, textile/wearing and bakery were more susceptible to exposure of high temperatures.

4.4.5 High temperature – occupations at risk

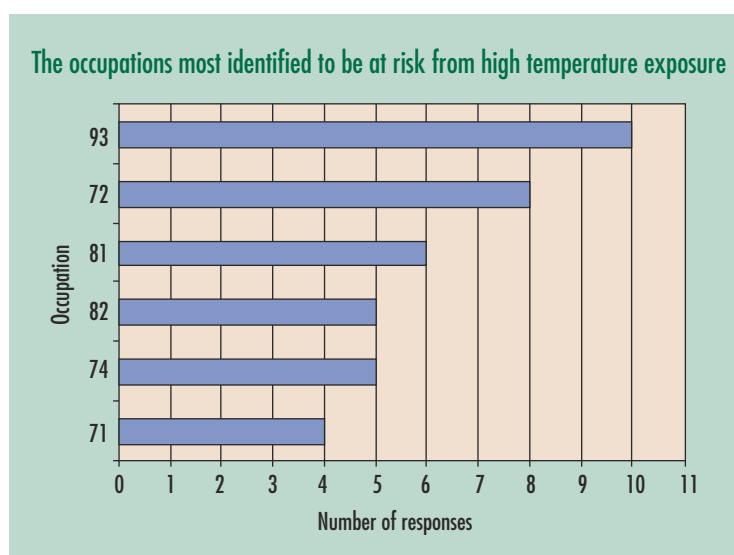
The six most frequently identified occupations which the Focal Points^{*} considered to be most at risk from high temperature exposure are listed below:

- 93 Labourers in mining, construction, manufacturing and transport;
- 72 Metal, machinery and related trades workers;
- 81 Stationary-plant and related operators;
- 82 Machine operators and assemblers;
- 74 Other craft and related trades workers; and
- 71 Extraction and building trades workers.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.

¹⁰¹ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

* The Focal Points used different approaches to identify the occupations to be considered most at risk to high temperature exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.



Total Number of Responses¹⁰² = 49

The above graph illustrates that the occupation “Labourers in mining, construction, manufacturing and transport” was considered by ten Focal Points to be most exposed and at risk to the effects of high temperature in the working environment.

The ESWC-data highlights “Skilled Agricultural and Fishery Workers” as the occupation category with the highest percentage (46% of interviewees) of workers exposed to high temperatures in the workplace closely followed by “Plant and machine operators and assemblers” (45% of interviewees).

It was clear from the information submitted that exposure to high temperature in the workplace can originate from two separate and distinct sources. High levels of heat can be emitted from work processes and its associated equipment, such as a furnace or oven. Also, exposure to high temperature can occur due to climate conditions, such as the effect of prolonged sunshine on offices and similar buildings.

One Focal Point commented that their national data on exposure to high temperature included not only information of the number of workers exposed but also the level of heat stress they experience in the identification of risk groups. These risk groups include public employees such as fire fighters and industrial workers such as asphalt pavers, foundry workers, glass workers, textile workers and bakers.

One Focal Point identified that exposure to high temperature was a result of heat from processes such as ovens, boilers and from the environmental conditions such as working in greenhouses and out in the open.

4.4.6 High temperature – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to high temperature exposure in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to high temperature and company size to be given (see Appendix 5a for the number of responses).

4.4.7 High temperature – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk to high temperature exposure.”

The following results were received:

Gender category most at Risk	Number of Focal Point responses
Female	0
Male	10
No response	5

¹⁰² Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

A total of ten Focal Points identified that male workers were most exposed to high temperature in the workplace. Traditionally males have been employed in the sectors and occupations identified at risk.

One Focal Point in their national report identified that men were slightly more exposed to high temperature in the workplace. Exposure to high heat stress was considered typical for many men's work such as metal smelting, fire fighting, foundry work and asphalt working. Also, that women were exposed to high temperature in occupations affiliated with the bakery industry and other industries.

4.4.8 High temperature – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk exposure to high temperature in the workplace.”*

Data provided by the Focal Points did not allow a European picture with regard to high temperature and age categories to be given (see Appendix 5c for the number of responses).

4.4.9 High temperature – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to high temperature and employment status to be given (see Appendix 5d for the number of responses).

4.4.10 High temperature – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to high temperature over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (2 Focal Points): **Belgium** and **Portugal**

Stable Trend (9 Focal Points): **Austria, Denmark, Finland, France, Greece, Italy, Luxembourg, Spain** and **Sweden***

Increased Trend (1 Focal Point): **Germany**

Category “Other” (3 Focal Points): **Netherlands, Ireland** and **United Kingdom****

“Other Response” includes no response/unable to respond due to unavailability of national data/incompatibility of national data.

* This trend is based male (1991 – 7.9%; 1997 - 8.2%) and female (1991 – 4.1%; 1997 - 3.6%)

** Trend regarding the number of workers exposed over the last 3 – 5 years is unknown.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: The number of exposed employees has remained stable during the past five years. In areas where exposure depends on the process, a decrease is assumed as better insulation of machinery and process-automation are implemented.

In the sector “Manufacturing of metal” the number of exposed employees is expected to decrease as automation increases.

Belgium: Information, training and instructions are the best preventive actions for the risks that are related to work. Promotion campaigns for training and awareness should in the first place be addressed to the high risk groups (i.e. contractors and temporary workers).

Denmark: The number of workers exposed to high temperatures has remained stable over the past 5 years. Data from earlier surveys are not available for sector and occupation due to different classifications incompatible with NACE and ISCO-88.

Netherlands: Related information stems from questions into the possibility of worker's (self) control of temperature and ventilation in the work situation. Approximately 40% of the workers have the possibility to control temperature at the workplace and approximately 45% have the possibility to control ventilation. Over the period these data remain more or less unchanged (1994-1997). This gives some indications that the exposure to non-comfortable work temperatures has not changed over the period.

Portugal: The exposure to high temperatures has decreased due to a better acclimatisation of the workplaces, namely air circulation, roof materials, air conditioned environments at workplaces and automation of work processes.

Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Spain, Sweden and **United Kingdom** did not provide more information than that summarised in the table above.

4.4.11 High temperature – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by five Focal Points: **Austria, Denmark, Netherlands, Luxembourg and Sweden**

Development of additional preventive action was indicated by six Focal Points: **Belgium, Finland, Greece, Italy, Portugal and Spain**

The category “Other” was indicated by two Focal Points: **France and Ireland**

No response: **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Information, training and instructions are the best preventive actions for the risks that are related to work. Promotion campaigns for training and awareness should in the first place be addressed to the high risk groups (i.e. contractors and temporary workers).

Finland: High heat stress is a problem in basic metal industries (e.g. foundries) and works which require the wearing of tight overalls (e.g. fire fighting). There are means to reduce heat stress (e.g. drinking, heat isolation, cooling waistcoats). Also monitoring of hot workplaces and informing of workers are needed to decrease health effects of excessive heat stress.

Italy: A better organisation, planned maintenance and use of PPE.

Spain:

Appropriate air ventilation systems. Actual systems Improvement .

Transmitter sources isolation.

Personal protective equipment improvement (more comfortable designs).

Workers training and information.

Work organisation procedures implementation (rotation, breaks).

Greece and **Portugal** provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Denmark: In the recently published sector-specific guides on working environment issues, high temperatures have been selected as a principal problem for the following sectors (not in order of priority and classification not completely compatible with NACE-93):

Supply of Electricity and Hot Water for Heating

Manufacture of Chemical Products

Manufacture of Basic Pharmaceutical Products

Investigation and Security Activities, Military Service etc.

Hotels and Restaurants

Bread, Tobacco Products, Chocolate and Sugar Confectionery

Exposure to high temperature may originate from two different sources: Industrial processes and climate. As far as the latter is concerned it is included in the current program for a clean working environment by year 2005 as long as it regards indoor climate in offices, schoolrooms, etc.

The preventive actions taken or planned are considered sufficient to deal with the existing heat-related problems as far as the heat originates from industrial processes. High temperatures as a function of an inexpedient indoor climate may call for development of additional preventive actions.

Netherlands: In 1999 results will become available of the data collected by the SZW-Employers Panel (SZW is the acronym for the Ministry of Social Affairs and Employment). In this panel 3,600 companies participated. The panel is representative for the population of companies/institutions (a few sectors are not included in the panel, e.g. educational institutions).

Panel data include an inventory of a number of risks at work (including physical working conditions) and an inventory of complaints of employees regarding these risks as well as data on preventive actions regarding these risks/complaints.

Data from the Labour Inspectorate shows that working in potentially harmful climate conditions is an infrequent occurrence (with the exception of working outdoors, more than 2 hours per day in 31% of all companies). In almost all cases, actions to protect workers have been taken. Working in and outside freezing chambers with e.g. lift trucks, is an example of a situation where improvements are feasible.

Sweden: In this case preventive actions taken/planned are stated to be sufficient. The interpretation should not be that there are no problems related to this exposure and that preventive measurements are complete. However, this exposure and its related problems is not included in a category which receive special attention presently.

4.5 LOW TEMPERATURE

4.5.1 Summary – low temperature

OVERVIEW

From a European picture, the ESWC-data shows that 23% of all workers interviewed reported exposure to low temperatures in their working environments.

From the information submitted for this project only five Focal Points presented national data in relation to this exposure category. A total of seven Focal Points reported the need for the development of additional preventive actions in order to combat low temperature in the workplace. Only three Focal Points reported that their taken/planned actions were considered sufficient to deal with low temperature.

Although a limited response, seven Focal Points reported a stable trend to low temperature exposure whilst three reported a decrease and only one reported an increase in exposure to low temperature in the workplace. Four Focal Points were unable to establish a particular trend.

The comparison of ESWC-data and national data showed that only one Focal Point identified differences and a further two reported that there were no differences between their national data and the data from European sources. A total of twelve Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

Exposure to low temperature conditions can originate from two principal sources. Firstly, low temperatures can be associated with a particular work process, and secondly, it can be a factor of the local weather conditions. Some Member States experience extremely cold conditions during winter months. Therefore exposure to low temperature is prevalent in these countries for outdoor work activities (forestry, farming, fishing, reindeer herding, construction, shipping, stevedoring, safety sector etc.). All year round exposure to low temperature is generally associated with a particular industrial process such as chilling and freezing in the food industry (slaughtering, cold storage etc.).

One national report identified that exposure of workers to cold temperature conditions on construction sites will increase during the winter period. Also, they expect an increase in exposure for workers in the "Manufacture of Food Products and Beverages" following the implementation of stricter hygiene regulations.

In discussing the preventive actions required, one Focal Point suggested that their future campaigns for raising awareness of low temperature working should focus on the high risk groups namely contractors and temporary workers.

In the ten-year period 1986-1996 one Focal Point reported that government action taken involved the provision of information relating to exposure to low temperatures.

Although one Focal Point reported that their preventive actions taken/planned were sufficient to deal with low temperature related problems originating from industrial processes, low temperature exposure as a function of climate conditions may require additional preventive actions. Also, in one national report it was stated that at present there was no general regulations covering this exposure problem. For some specific areas and situations regulations existed but the government was considering the introduction of general regulations for this exposure problem.

One Focal Point commented that exposure to low temperature as a result of climate conditions (inside offices etc.) has been included in their current program for a clean working environment by year 2005.

It was commented by one Focal Point that the concept of “low temperature” has not been specified and its perception may vary strongly across different countries.

Where one Focal Point identified the need for additional preventive actions, they suggested that these should include training on use of personal protective equipment (PPE), improvement in the design of PPE and a reduction of exposure times.

SECTORS AT RISK

The following two sector categories were most frequently identified by nine Focal Points as being most at risk from low temperature in the workplace:

- Manufacture of Food Products and Beverages; and
- Construction.

The ESWC-data highlights the “Agriculture, Hunting, Forestry and Fishing” sector with the highest percentage (55% of interviewees) of workers reporting exposure to low temperature in the workplace.

One Focal Point commented that trends in specific sectors show an increase. This includes “Construction” as these sites are operated during winter months.

Exposure to extreme low temperatures is a main risk factor for sectors where work is carried out outside in the environment. This includes sectors involving workers in sawmills, fishermen, reindeer herders and construction workers.

One Focal Point reported that in 1997 an inspection of some 4,060 companies was conducted to determine the number of workers exposed to indoor working temperatures below freezing point. The findings of this study revealed that 75 companies conducted their work activities in just such conditions.

OCCUPATIONS AT RISK

Eight Focal Points most frequently identified the following occupation categories as being at risk from exposure to low temperature in the workplace:

- Labourers in Mining, Construction, Manufacturing and Transport and
- Extraction and Building Trades Workers.

The ESWC-data highlights the occupation “Skilled Agricultural and Fishery Workers” with the highest percentage (67% of interviewees) of workers reporting exposure to low temperature in the workplace.

One Focal Point particularly identified temporary workers and contractors as high risk groups exposed to low temperatures because information, instruction and training does not always reach these groups due to the nature of their work organisation.

Some occupations are required to carry out their work activities in low temperature conditions for the duration of a shift (e.g. preparation of food and cold storage workers).

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

In their national reports, eight Focal Points identified males to be most exposed to low temperature in the workplace. Men tended to have a greater exposure to low temperature conditions in the traditional industries such as sawmills, slaughter houses, fishing and construction, whereas, women tended to be at risk in the food and drinks industry.

No firm conclusions could be drawn on company size, age, and employment status. Although, in their comments the Focal Points considered those on temporary, self-employed or fixed term contracts were at risk from low temperature exposure. The older individual was considered to be more susceptible to ill effects of cold conditions and therefore it was the younger worker most frequently exposed to the risk.

PREVENTING EXPOSURE

As discussed in several national reports there are many measures that can be implemented and improved upon to reduce the risk from exposure to low temperature conditions. These measures include:

- use of appropriate PPE;
- reduced exposure times;
- training and information on selection and use of PPE; and
- training and information on low temperature working conditions.

One Focal Point noted that the clothing of outdoor workers and resting places have improved during recent years reducing harmful effects of cold stress. Another Focal Point reported that exposure to low temperature had decreased due to a better acclimatisation within the workplaces.

4.5.2 Low temperature – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
24	25	24

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers exposed to low temperatures whether indoors or outdoors are:

Time period	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
① All or almost all the time	5	6	3	3	2	8	3	10	5	4	6	5	4	11	2	4
② Around ¾ or ½ the time	8	8	6	6	7	9	5	21	6	8	6	7	8	9	5	14
③ Around ¼ of the time	10	8	10	11	17	11	9	12	9	10	6	11	6	7	12	15
Total ①+②+③	23	22	19	20	26	28	17	43	20	22	18	23	18	27	19	33

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

Percentage of workers exposed low temperatures whether indoors or outdoors by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
① All or almost all the time	5	15	6	11	11	6	2	6	1	3	2	3
② Around $\frac{3}{4}$ or $\frac{1}{2}$ the time	8	17	7	15	20	8	3	8	3	9	7	5
③ Around $\frac{1}{4}$ of the time	10	23	11	20	19	8	7	11	4	6	9	7
Total ①+②+③	23	55	24	46	50	22	12	25	8	18	18	15

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing C-D: Mining, Quarrying and Manufacturing
 E: Electricity, Gas and Water Supply F: Construction
 G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
 H: Hotels and Restaurants I: Transport, Storage and Communications
 J: Financial Intermediation K: Real Estate, Renting and Business Activities
 L: Public Administration and Defence; Compulsory Social Security M-Q: Other Services

Percentage of workers exposed low temperatures whether indoors or outdoors by occupation are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	5	2	1	3	3	4	17	8	9	9	4
② Around $\frac{3}{4}$ or $\frac{1}{2}$ the time	8	8	4	3	4	6	20	14	12	10	16
③ Around $\frac{1}{4}$ of the time	10	10	8	6	4	7	24	15	13	13	15
Total ①+②+③	23	20	13	12	11	17	61	37	34	32	35

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

2: Professionals

3: Technicians and associate professionals

4: Clerks

5: Service workers and shop and market sales workers

6: Skilled agricultural and fishery workers

7: Craft and related trades workers

8: Plant and machine operators and assemblers

9: Elementary occupations

0: Armed forces

4.5.3 Low temperature – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to low temperature risks in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1			Question 2		
	"Are there differences between the national data and the data from European sources?"			"Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"		
	Yes	No	No comparison reported	Yes	No	No comparison reported
			Lack of National data Difficulty in comparability of data			Lack of National data Difficulty in comparability of data
Austria			<input type="radio"/>			<input type="radio"/>
Belgium			<input type="radio"/>			<input type="radio"/>
Denmark*		<input type="radio"/>			<input type="radio"/>	
Finland*			<input type="radio"/>			<input type="radio"/>
France*			<input type="radio"/>			<input type="radio"/>
Germany			<input type="radio"/>			<input type="radio"/>
Greece*		<input type="radio"/>			<input type="radio"/>	
Netherlands			<input type="radio"/>			<input type="radio"/>
Ireland			<input type="radio"/>			<input type="radio"/>
Italy			<input type="radio"/>			<input type="radio"/>
Luxembourg	<input type="radio"/>					<input type="radio"/>
Portugal			<input type="radio"/>			<input type="radio"/>
Spain			<input type="radio"/>			<input type="radio"/>
Sweden*			<input type="radio"/>		<input type="radio"/>	
United Kingdom*			<input type="radio"/>			<input type="radio"/>

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Belgium: No data is available for sex, age, sector, company size, occupation and employment status. It relates to medical examination data, as it is a legal requirement for employees who are exposed to these risks undergo a medical examination.

The percentages given are based on the number of employees on 30 June 1997, i.e. 2,972,218. This figure is for all employees except those from the public sector and education. This concerns around 756,000 employees.

The industrial medical departments have to produce an annual report stating how many people exposed to each risk have been examined. The breakdowns and the data that the annual report has to contain are set out in the *General Regulation for Worker Protection* (art 121 appendix XI). The data can then be processed according to the categories contained in it.

No specification is given on the time during which workers are exposed. The average exposure time in the ESWC-data is 6.2% while the medical examination data for temperatures of -10° are 0.17%.

Denmark: No significant difference in the data.

Finland: Sector and occupation are classified more specifically in national data than ESWC data which hampers making a comparison.

Germany: No national data available.

Italy: At present there are no national quantitative data available, with the exception of the ESWC.

Luxembourg: The ESWC-data highlights greater risk in the following:

Exposure "all of the time" in sector and occupation:

A-B Agriculture, hunting, forestry and fishing (33.3%)

6 Skilled agricultural, fishery workers (30.8%)

Exposure "3/4 or of the time" in:sectors and occupation

E Electricity and gas, water supply (14.3%);

F Construction (26.5%); and

8 Plant and machine operators and assemblers (23.8%).

Greece: There are some minor differences which do not change the general image, since the order of the percentages for every factor remains the same.

Sweden: The wording of the questions are different. The content is similar but more specified in the Swedish question: "*low temperatures whether indoors or outdoors*" (ESWC) and "*cold (outdoor in winter, work in chilled room and the like)*". The answering scale is very similar but not identical.

The Swedish Working Environment Survey is based on more than 10,000 respondents.

United Kingdom: There is no comparable data for high temperature at the workplace. The only available national data on temperature at the workplace is from the survey of Self-reported working conditions which includes the questions: "*Does your job expose you to uncomfortable heat or cold?*" and "*How often does this happen?*" The data from this question is not comparable to the European question.

Austria, France, Netherlands, Ireland, Portugal and **Spain** did not provide more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Denmark: No difference in data.

Finland: Many of the risk sectors or risk occupations are not evident in the ESWC data which are provided at cruder level of classifications than the national data. In addition, national data includes information of numbers of exposed workers and perceived harmfulness of exposure. Also the level of the cold stress has been considered in the identification of risk groups, including:

Sector: 15 Manufacture of food products and beverages

Occupation 93 Labourers in mining etc. (e.g. asphalt pavers)

Sector 20 Manufacture of wood, articles of straw etc.

Germany: No national data available.

Greece: No difference in data.

Italy: At present there are no national quantitative data available, with the exception of the ESWC.

Sweden: The national data and ESWC-data for sectors and occupations are similar.

Austria, Belgium, France, Greece, Netherlands, Ireland, Luxembourg, Portugal, Spain and **United Kingdom** did not provide more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

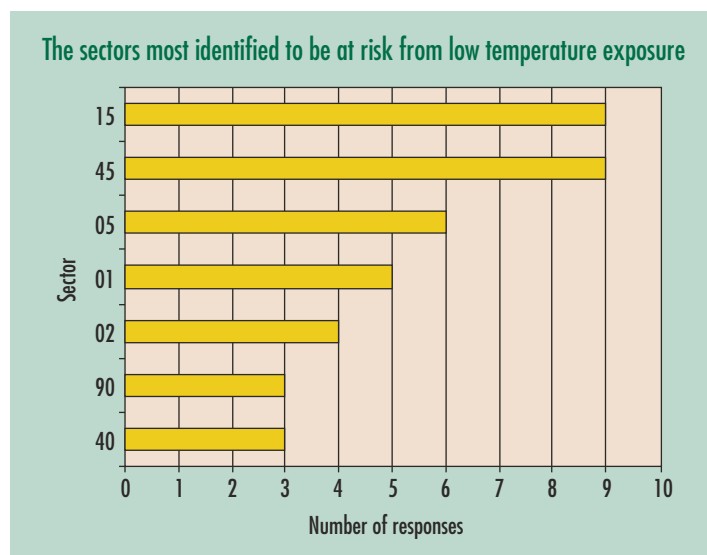
Finland: The questions in the ESWC survey and national interview survey are similar. The concept of “low temperature” has not been specified and its perception may vary strongly across countries.

4.5.4 Low temperature – sectors at risk

The seven most frequently identified sectors which the Focal Points^{*} considered to be most at risk from low temperature exposure are listed below:

- 15 Manufacture of Food Products and Beverages;
- 45 Construction;
- 05 Fishing, Operation of Fish Hatcheries and Fish Farms; Service activities incidental to Fishing;
- 01 Agriculture, Hunting and related service activities;
- 02 Forestry, Logging and related service activities;
- 90 Sewage and Refuse Disposal, Sanitation and similar activities; and
- 40 Electricity, Gas, Steam and Hot Water Supply.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹⁰³ = 53

The above graph shows that the two sector categories most frequently identified by the Focal Points to be at risk from low temperature were:

- Manufacture of Food Products and Beverages; and
- Construction.

The ESWC-data highlights the “Agriculture, Hunting, Forestry and Fishing” sector with highest percentage (55% of interviewees) of workers reporting exposure to low temperature in the workplace.

One Focal Point in discussing trends reported that throughout all sectors, the total number of employees exposed has remained stable over the past five years. However, trends in specific sectors show an increase, for example in “Construction”, as these sites are operated during winter months. Also, the number of employees exposed is expected to increase in the sector “Manufacture of Food Products and Beverages” when stricter hygiene regulations are implemented.

In one national report the Focal Point reported that in a recently published sector-specific guide on working environment issues, low temperature was selected as a principal problem for the following sectors (not in order of priority and classification not completely compatible with NACE-93):

^{*} The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹⁰³ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

- Supply of Electricity and Hot Water for Heating;
- Maintenance and Repair of Motor Vehicles, Electrical Household Goods, Bicycles;
- Office and Computing Machinery;
- Manufacture of Chemical Products;
- Manufacture of Basic Pharmaceutical Products;
- Investigation and Security Activities, Military Service etc.; and
- Bread, Tobacco Products, Chocolate and Sugar Confectionery.

One Focal Point commented that the level of cold stress is taken into consideration when identifying the various risk groups. These risk groups included:

Sector: 15 Manufacture of food products and beverages and 20 Manufacture of wood, articles of straw etc.; and
Occupation: 93 Labourers in mining etc. (e.g. asphalt pavers)

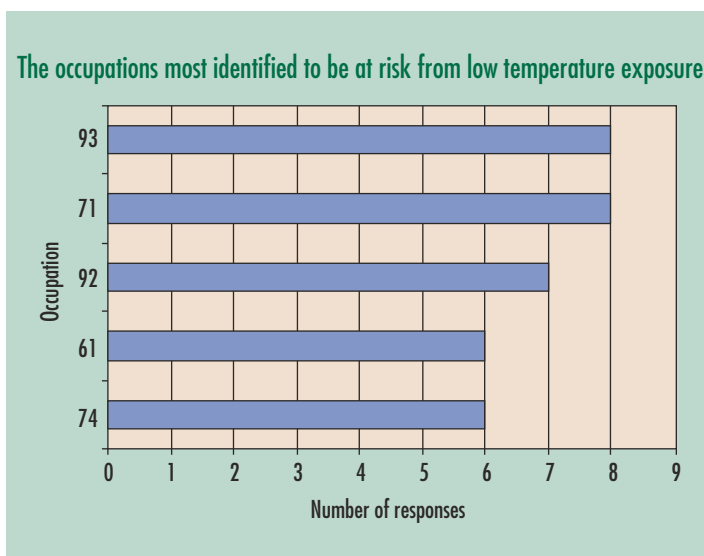
Exposure to extreme low temperatures is a main risk factor for sectors where work is carried out outside in the environment. This includes the likes of workers in saw mills, fishermen, reindeer herders and construction workers.

4.5.5 Low temperature – occupations at risk

The five most frequently identified occupations which the Focal Points* considered to be most at risk from low temperature exposure are listed below:

- 93 Labourers in mining, construction, manufacturing and transport;
- 71 Extraction and building trades workers;
- 92 Agricultural, fishery and related labourers;
- 61 Skilled agricultural and fishery workers; and
- 74 Other craft and related trades workers.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹⁰⁴ = 45

As illustrated above, eight Focal Points most frequently identified the following occupation categories as being at risk from low temperature in the workplace:

- Labourers in Mining, Construction, Manufacturing and Transport; and
- Extraction and Building Trades Workers.

The ESWC-data highlights the occupation “Skilled Agricultural and Fishery Workers” with the highest percentage (67% of interviewees) of workers reporting exposure to low temperature in the workplace.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹⁰⁴ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

One Focal Point particularly identified temporary workers and contractors as high risk groups because information, instruction and training does not always reach these groups due to the nature of their work organisation.

Some occupations are required to carry out their work activities in low temperature conditions for the duration of a shift (e.g. preparation of food and cold storage workers).

4.5.6 Low temperature – company size at risk

Each Focal Point was asked to: *“Indicate the size of company with the highest risk to low temperature exposure in the workplace.”*

Data provided by the Focal Points did not allow a European picture with regard to low temperature and company size to be given (see Appendix 5a for the number of responses).

4.5.7 Low temperature – gender at risk

Each Focal Point was asked to: *“State which gender category has a particular high risk to low temperature exposure.”*

The following results were received:

Gender category most at risk	Number of Focal Point responses
Female	0
Male	8
No response	7

As illustrated above, eight Focal Points identified the male worker to be most exposed to low temperature conditions in their workplace.

One Focal Point in their national report said that it was mostly males exposed to low temperature because males were commonly employed in the identified sectors and occupations, such as sawmills, slaughter houses, fishing and construction from exposure to low temperature. Whereas, women tended to be at risk from low temperature work conditions in the food and drinks industry.

4.5.8 Low temperature – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk exposure to low temperature in the workplace.”*

Data provided by the Focal Points did not allow a European picture with regard to low temperature and age categories to be given (see Appendix 5c for the number of responses).

4.5.9 Low temperatures – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to low temperature and employment status to be given (see Appendix 5d for the number of responses).

4.5.10 Low temperature – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to low temperature over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (3 Focal Points): **Belgium, Germany and Sweden***

Stable Trend (7 Focal Points): **Austria, Denmark, Finland, France, Greece, Italy and Spain**

Increased Trend (1 Focal Point): **Portugal**

Category “Other” (4 Focal Points): **Netherlands, Ireland, Luxembourg and United Kingdom****

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

* This trend is based on males (1991 – 24.6%; 1997 – 22.3%).

** Trend regarding the number of workers exposed over the last 3 – 5 years is unknown.

Furthermore, the Focal Points were asked to identify: “Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: Throughout all sectors, the total number of exposed employees has remained stable during the past five years. However, the trends in specific sectors shows an increase in “Construction” as these sites are operated during winter months. Also, the number of exposed employees will increase in the area of “Manufacture of Food Products and Beverages” as stricter hygiene regulations are implemented.

Belgium: Particular attention should be addressed to the temporary workers and to the contractors, since they are both high risk groups. Information and training does not always reach these risk groups due to the organisation of work.

Denmark: The number of workers exposed to low temperatures has remained stable over the past five years. Data from earlier surveys are not available for sector and occupation due to different classifications incompatible with NACE and ISCO-88.

Finland, France, Germany, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden and **United Kingdom** provided no additional information in relation to the trends of low temperature exposure in the workplace.

4.5.11 Low temperature – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems”;

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by three Focal Points: **Denmark, Greece** and **Netherlands**

Development of additional preventive action was indicated by seven Focal Points: **Austria, Belgium, Finland, Italy, Portugal, Spain** and **Sweden**

The category “Other” was indicated by one Focal Point: **France**

No response: **Ireland, Luxembourg** and **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Training and awareness promotion campaigns should in the first instance be addressed to the high risk groups (i.e. contractors and temporary workers).

Finland: Because of the cold climate during winter months, exposure to low temperatures is prevalent in outdoor work (forestry, farming, fishing, reindeer herding, construction, shipping, stevedoring, safety sector etc.). Exposure occurs all year round in the food industry (slaughtering, cold storage etc.). Exposure may occur also in typically hot workplaces (e.g., steel mills) if a part of work is carried out outdoors (alternating heat and cold stress). Clothing of outdoor workers and resting places have improved during the recent years reducing harmful effects of cold stress.

Italy: Use of appropriate personal protective equipment (PPE).

Portugal: Exposure to low temperatures has decreased due to a better acclimatisation of the workplaces, namely air circulation, roof materials, air conditioning (heating) at work sites and automation of work processes.

Spain: Personal protective equipment training, improvement and adequate use and reduction in exposure times.

Sweden: Presently there are no general regulations covering this exposure problem. For some specific areas and situations there are regulations. Furthermore, in some sectors there may be collective agreements. The Swedish National Board of Occupational Safety and Health is presently considering issuing general regulations for this exposure problem.

Austria provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Denmark: The preventive actions taken or planned are considered sufficient to deal with the existing low-temperature related problems that originate from industrial processes. Low temperature exposure as a function of climate conditions may call for development of additional preventive actions.

In the recently published sector-specific guides on working environment issues, low temperatures have been selected as a principal problem for the following sectors (not in order of priority and classification not completely compatible with NACE-93):

Supply of Electricity and Hot Water for Heating

Maintenance and Repair of Motor Vehicles, Electrical Household Goods, Bicycles, Office and Computing Machinery

Manufacture of Chemical Products

Manufacture of Basic Pharmaceutical Products

Investigation and Security Activities, Military Service etc.

Bread, Tobacco Products, Chocolate and Sugar Confectionery

Exposure to low temperatures may originate from two different sources: Industrial processes and climate. As far as the latter is concerned it is included in the current program for a clean working environment by year 2005 as long as it relates to indoor climate conditions inside offices, etc.

Netherlands: In 1999 results will become available of the data collected by the SZW-Employers Panel (SZW is the acronym for the Ministry of Social Affairs and Employment). In this panel 3,600 companies participated. The panel is representative for the population of companies/institutions (a few sectors are not included in the panel, e.g. educational institutions).

Panel data include an inventory of a number of risks at work (including physical working conditions) and an inventory of complaints of employees regarding these risks as well as data on preventive actions regarding these risks/complaints.

POSTURES AND MOVEMENT EXPOSURES

4.6

LIFTING/MOVING HEAVY LOADS

4.6.1 Summary – lifting/moving heavy loads

OVERVIEW

From a European picture, the ESWC-data shows that 34% of all workers interviewed in the survey reported exposure to lifting/moving heavy loads.

A total of nine Focal Points reported the need for the development of additional preventive actions to combat lifting/moving heavy loads in the workplace. Only three Focal Points reported that their taken/planned actions were sufficient to deal with the lifting and/or moving of heavy load in the workplace.

Although a limited response, four Focal Points reported a stable trend in the exposure of lifting/moving heavy loads in the workplace. Six Focal Points reported a decreased trend and two Focal Points reported an increased exposure to the risk from lifting/moving heavy loads in the workplace.

The comparison of ESWC-data and national data showed that five Focal Points identified differences and a further two reported that there were no differences between their national data and the data from European sources. A total of nine Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

Exposure to lifting or moving of heavy loads continues to be a severe health and safety problem at work. Number of workers exposed is considerable and heavy lifts are an important factor contributing to the risk of musculoskeletal disorders.

One Focal Point reported that from inspection activities conducted in 1997 almost one in four companies undertake regular lifting of loads over 25 kilograms. In one in five of these companies, appropriate mechanical lifting aids were not available.

Increased demands on production throughput can result in increasing the speed at which individuals work. In cases where there is a high demand for variety and flexibility concerning the manipulation of goods (for example with packing/wrapping) the work remains mainly manual. Organisational and technical improvements on a short-time basis require investment, which is often postponed due to the rapidly changing market conditions. Automation is in many cases a solution but it can result in a loss of employment.

One Focal Point commented that since legislation does not focus on static loads nor on repetitive movements little attention has been given to these problems. However, these hazards cause absenteeism, loss of turnover and a loss of human energy within the working environment. Several projects have been initiated in order to tackle both issues.

One Focal Point commented in their national report that lifting and moving of heavy loads has received special attention in the current work programme for a clean working environment by the year 2005.

Another Focal Point reported that there was to be a major initiative planned for 2000/2001 in a co-ordinated government "Back Pain Initiative".

One Focal Point commented on the possibility that increasing mechanisation does not always reduce the physical risk. Mechanisation can increase the number of tasks with static loads thereby increasing repetitive movements. Another comment from a different Focal Point said that the implied decrease in the number of back disorders through the development of improved work practices has not occurred. In some sectors the reported number of back disorders has actually increased.

With the absence of success in decreasing the number of back disorders one Focal Point reported the need to view the problem from a wider perspective and that preventive measures should include more factors than just consideration of the load.

SECTORS AT RISK

The ESWC-data highlights sector A-B "Agriculture, hunting, forestry and fishing" with the greatest exposure (61%). Whereas, the information from the national reports clearly highlights the construction sector as most at risk from lifting/moving heavy loads. In the ESWC survey, construction was the second most at risk sector (57%).

A total of fourteen Focal Points identified the construction sector. The second most reported sector was "Agriculture, hunting and related services activities", for which nine Focal Points identified it to be at risk.

Several Focal Points in their national reports commented on the high risk exposure to lifting/moving heavy in the "Health and Social Work" sector, particularly to female workers.

In general, it was commented that the manufacturing sector has experienced a decline of handling heavy loads through the implementation of automation, which has included the use of automated equipment.

OCCUPATIONS AT RISK

The ESWC-data highlights the occupation "Skilled Agricultural and Fishery Workers" most exposed (76%). Whereas in this project eleven national reports identified workers in the occupation category "Labourers in Mining, Construction, Manufacturing and Transport" to be most exposed to lifting/moving heavy loads.

Automation of work activities is expected to decrease the burden caused by lifting heavy loads in many jobs. However, in many female occupations this trend is not likely, because some lifting and moving tasks in the Health and Social work sector are not easily mechanised or automated at all.

In their national report a Focal Point reported that the frequency of sudden injuries due to lifting is highest within the Health and Social work, building and transportation sectors. Musculoskeletal disorders due to prolonged heavy work are frequent within the manufacturing and cleaning sectors.

OTHER RISK CATEGORIES COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

A total of five Focal Points identified males and three Focal Points identified females to be most exposed to lifting/moving heavy loads in the workplace.

Even though women have a lesser exposure to lifting heavy loads, in some cases they may be at greater risk to injury because of their weaker muscular constitution.

No firm conclusions can be drawn with respect to company size, age and employment status. However, comments made in the national reports identify the younger individuals are being more exposed to carrying out lifting of heavy loads. However, older individuals may be at a greater risk from injury because of the interaction between frequency of exposure and degenerative conditions in the musculoskeletal system.

In one national report the comment was made that since 1994 the number of reported cases of work-related disease has decreased for young people below the age of 25 years. However, for musculoskeletal diseases the number has increased for this same age category and musculoskeletal disorders was the most frequent work-related disease for this age category.

PREVENTING EXPOSURE

The introduction of automation and mechanical handling aids can bring about a reduction in exposure levels. Also, this can be assisted by appropriate design of loads and a reduction in the size of load being handled.

In one national report the Focal Point commented that there was a need for additional preventive actions especially regarding:

- increased availability of lifting aids at work;
- further mechanisation of heavy lifts where possible;
- development and testing of lifting devices applicable for problem areas in social and health care work; and
- training of personnel in using lifting/moving devices.

One Focal Point commented that with regard to physical loads the legislation on manual handling of loads places emphasis on back related injuries. Preventive actions are often focused on the training of lifting and manipulating of goods, while the real solutions to the problem should be found in a technical and organisational optimisation of work.

In many female occupations the reduced trend achieved through mechanisation may not occur because lifting and moving tasks in the Health and Social work sector are not easily mechanised or automated facilities are not provided.

4.6.2 Lifting/moving heavy loads – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
32	39	33

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose job involves carrying or moving heavy loads are:

Time period	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
① All or almost all the time	11	11	8	6	6	16	9	15	8	8	6	8	12	16	8	10
② Around ¾ or ½ the time	9	12	11	11	12	10	8	15	6	12	7	8	7	8	10	10
③ Around ¼ of the time	14	13	13	18	21	14	15	9	10	15	10	8	8	11	17	17
Total ①+②+③	34	36	32	35	39	40	32	39	24	35	23	24	27	35	35	37

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria
EL – Greece
E – Spain
B – Belgium
NL – Netherlands
S – Sweden
DK – Denmark
IRL – Ireland
UK – United Kingdom
FIN – Finland
I – Italy
F – France
L – Luxembourg
D – Germany
P – Portugal

Percentage of workers whose job involves carrying or moving heavy loads by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
① All or almost all the time	11	22	11	15	24	12	8	12	3	5	4	7
② Around ¾ or ½ the time	9	21	9	10	17	10	12	8	2	3	5	7
③ Around ¼ of the time	14	18	15	11	16	17	16	12	5	12	10	12
Total ①+②+③	34	61	35	36	57	39	36	32	10	20	19	26

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing
E: Electricity, Gas and Water Supply
G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
H: Hotels and Restaurants
J: Financial Intermediation
L: Public Administration and Defence; Compulsory Social Security
C-D: Mining, Quarrying and Manufacturing
F: Construction
I: Transport, Storage and Communications
K: Real Estate, Renting and Business Activities
M-Q: Other Services

Percentage of workers whose job involves carrying or moving heavy loads by occupation are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	11	5	2	4	3	10	25	18	18	19	3
② Around $\frac{3}{4}$ or $\frac{1}{2}$ the time	9	6	3	4	2	9	24	15	13	13	15
③ Around $\frac{1}{4}$ of the time	14	12	8	9	6	16	21	21	16	17	10
Total ①+②+③	34	23	13	17	11	35	70	54	47	49	28

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

3: Technicians and associate professionals

5: Service workers and shop and market sales workers

7: Craft and related trades workers

9: Elementary occupations

2: Professionals

4: Clerks

6: Skilled agricultural and fishery workers

8: Plant and machine operators and assemblers

0: Armed forces

4.6.3 Lifting/moving heavy loads – comparison of European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to lifting/moving heavy loads risks in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1				Question 2			
	"Are there differences between the national data and the data from European sources?"				"Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				○				○
Belgium			○				○	
Denmark				○				○
Finland*		○			○			
France*				○				○
Germany*	○				○			
Greece*		○				○		
Netherlands*	○				○			
Ireland			○				○	
Italy			○				○	
Luxembourg*	○						○	
Portugal			○				○	
Spain*	○							○
Sweden*				○		○		
United Kingdom*	○				○			

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Finland: The sample size in the FQWLS (Reference 5) is larger than in the ESWC. In the FQWLS those who work as self-employed, like farmers, are not included. Moreover, there are considerable differences in the question design between the ESWC data and FQWLS data. In the FQWLS the respondent is not asked about the frequency (proportion of working time) of lifting or moving heavy loads like in the ESWC. Instead, in the FQWLS the respondent is asked about the presence of heavy lifts at work (yes/no) and the perceived burden at work due to the heavy lifts. Despite the differences in the question design and in sampling the total percentage of respondents who are exposed to heavy lifts at work is approximately at the same level in both surveys (30 % FQWLS/ 37 % ESWC).

The identification of occupational risk categories in the evaluation section is based on the Finnish National Classification of Occupations -87, which is seen to be the most accurate classification under the Finnish circumstances.

Germany: On average the national data reveals a higher risk than the ESWC-data.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Netherlands: The overall average in the LFS is 36.5% of workers with “any exposure”. This is about 10% more than the ESWC-data; exposure rates are higher in the LFS for males (>10%) and for the age-categories <55 years (>10%); for sectors A-B, F and G major differences occur, the LFS data shows 40%, 20% and 20% more exposed workers, respectively. Other sectors vary less than 15% in both data-sources; and more fixed-term contract workers seem to report “any exposure” in the LFS (13%).

The overall evaluation seems to indicate substantial differences between the data-sources. LFS reports higher numbers of exposed workers, especially in the sectors: agriculture and construction.

The majority of the other differences are relatively small.

The considerable differences between the two data-sources may be attributed to the difference in “wording” of the particular question concerning moving and carrying heavy loads. The LFS question elicits higher exposure responses.

Luxembourg: Used source: Exposure “less than 1/2 of the time” instead of “around 1/4 of the time”

The ESWC-data highlights risks to the following:

Sector A-B:	Agriculture, forestry (33.3% of workers exposed all the time)
Company size:	working alone (10.7% of workers exposed all the time)
Occupation 06:	Skilled agricultural workers (38.5% of workers exposed all the time)
Employment status 2:	fixed term contract (18.5% of workers exposed all the time)
5:	self-employed (11.3% of workers exposed all the time)

Portugal: To date, we are unable to identify any studies relating to this topic in Portugal. It is felt that there is insufficient data available for the formation of accurate opinion, based on either anecdotal or operational data. This lack of information highlights the need for a survey in this area.

Spain: In general the national data and ESWC-data are similar.

Sweden: The question in the ESWC is about “carrying or moving heavy loads” unspecified. In the Swedish Working Environment Survey two indicators are used with a specification of the load “you have to lift several times a day”: “between 15 and 25 kgs” (= at least 15 kgs) and “more than 25 kgs”. Here both indicators have been reported in the tables. The Swedish answers “every day” are reported. That answering scale does not correspond to the part-of-the-day scale of the ESWC. The Swedish Working Environment Survey is based on more than 10,000 respondents.

United Kingdom: The wording of the question in the national survey and the EU survey are slightly different. The national survey asks about lifting or moving heavy loads whereas the EU survey asks about carrying or moving heavy loads.

Overall a higher proportion of individuals (41.5%) in the EU survey reported lifting and moving heavy loads at least a quarter of their working time compared to the national survey (32.2%).

Personal variables: The proportion of cases who reported lifting or moving heavy loads for at least a quarter of their working time was higher in the EU survey (males: EU 45.5%, national 36.4%; females: EU 36.4%, national 27.6%).

The most notable difference by age was for the over 55 year olds, in the EU survey a larger proportion (33.8%) reported lifting or moving heavy loads for at least a quarter of their time at work compared to the national survey (19.3%).

Company size: The two surveys are not directly comparable for companies of less than 100 employees. For companies with more than 100 employees there were no major differences between the two surveys.

Sector: The differences between the two surveys by sector were as follows:

In the electricity, gas and water supply sector the EU survey estimated that 50% of cases lifted or moved heavy loads for at least a quarter of their working time compared to only 27.2% in the national survey.

In the real estate and business activity sector no cases in the EU survey reported lifting or moving heavy loads for more than half of their working time compared to 7.1% of cases in the national survey.

Occupation: For the majority of occupations there were no major differences between the two surveys. The only slight exception was the armed forces where the EU survey estimated that 20% of cases have to lift or move heavy loads at least a quarter of their working time compared to 51.9% in the national survey. This comparison should be viewed with caution since both percentages are based on small sample numbers.

Employment status: The breakdown for employment status is not comparable between the two data sets.

Austria, Belgium, Denmark, France, Ireland and Italy did not provide more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: The national data highlights:

Sectors:

85 Health and Social work; and
28 Manufacture of fabricated metal products.

Occupations:

32,33 Life science and associate professionals; and
71 Extraction and building trades workers.

Germany: The ESWC-data highlights Construction whereas the national data highlights Construction and Agriculture.

Netherlands: The national data particularly highlights the sectors Agriculture, Construction, and Wholesale more so than the ESWC-data.

Sweden: The national data and ESWC-data for sectors and occupations are similar.

United Kingdom: The proportion of workers, in the national and ESWC-data, who lifted/moved heavy loads for at least a quarter of their working time, "Hotels and restaurants" has a higher national ranking, but the proportions of cases are similar in both surveys.

A similar comparison for occupations shows the armed forces has a higher ranking in the national survey and the proportion of cases is more than double that of the ESWC-data.

Austria, Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, Portugal and Spain did not provide more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Germany: The numbers generally appear to be too large. Loads of more than 20 kg are unlikely to be moved to the extent reported here. It is known from studies by the Federal Institute for Occupational Safety and Health that the actual time periods and load weights are considerably overestimated. The difference between reported and objectively measured values derives amongst other things from the subjective "exposure impression".

From an occupational safety and health point of view it is less the weight of the load than the posture required, the exposure risk or a combination of both these factors which must be viewed as problematic.

United Kingdom: The national data is from the survey of self-reported working conditions that was carried out in 1995 and the EU data is based on a survey carried out in 1996.

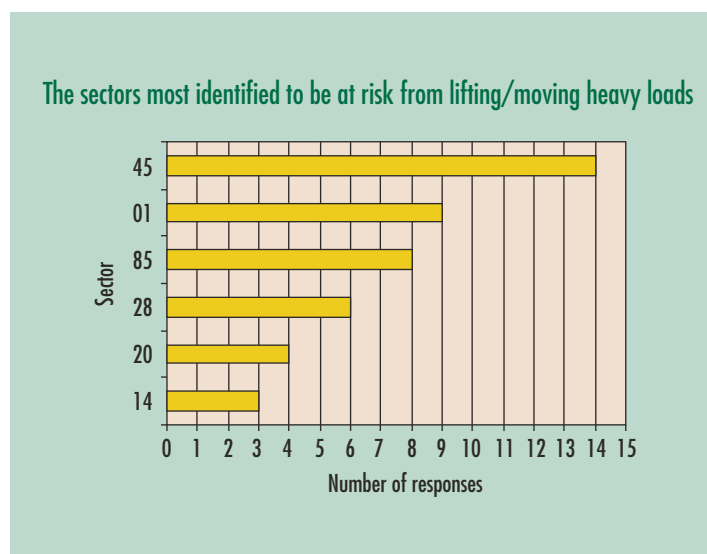
4.6.4 Lifting/moving heavy loads – sectors at risk

The six most frequently identified sectors which the Focal Points* considered to be most at risk from lifting/moving heavy loads exposure are listed below:

- 45 Construction;
- 01 Agriculture, Hunting and related service activities;
- 85 Health and Social Work;
- 28 Manufacture of fabricated Metal Products, except Machinery and Equipment;
- 20 Manufacture of Wood and of Products of Wood and Cork, except Furniture;
Manufacture of articles of Straw and Plaiting Materials; and
- 14 Other Mining and Quarrying.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹⁰⁵ = 72

The ESWC-data highlights sector A-B “Agriculture, Hunting, Forestry and Fishing” with the greatest exposure (61%). Whereas, the information from the national reports clearly highlighted the “Construction” sector most at risk from lifting/moving heavy loads. In the ESWC survey, construction was the second sector reported to be most at risk (57%).

A total of fourteen Focal Points identified the construction sector in their national reports. The second most reported sector was the “Agriculture, Hunting and Related Services Activities”, for which nine Focal Points identified it to be at risk.

Several Focal Points in their national reports commented on the high risk of lifting/moving heavy loads in the “Health and Social work” sector, particularly to female workers.

One Focal Point is expecting exposure to lifting/moving heavy loads to increase in the retail trade. A decrease will only occur through rationalisation and implementation of automation. Also, they reported that the number of exposed employees in construction is declining as greater use is made of lifting equipment. However, exposure is increasing in the service sector and above all in the Health and Social work sector.

In general, it was commented that the manufacturing sector has experienced a decline in handling heavy loads through the implementation of automation and mechanical lifting aids.

4.6.5 Lifting/moving heavy loads – occupations at risk

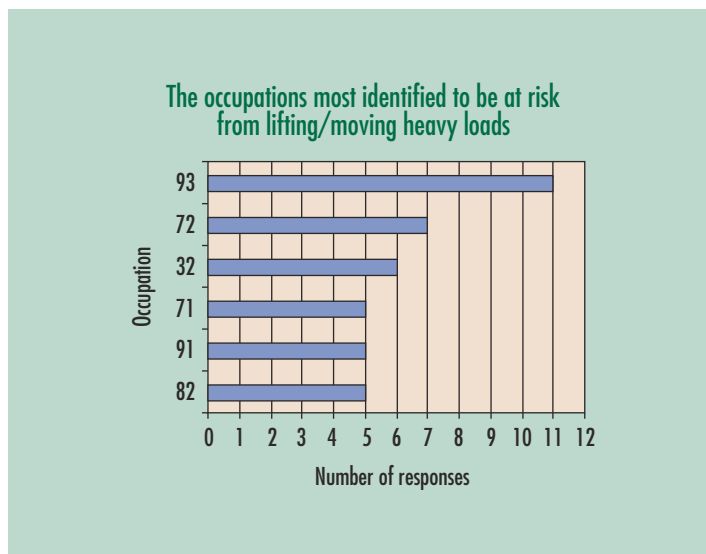
The six most frequently identified occupations which the Focal Points* considered to be most at risk from lifting/moving heavy loads exposure are listed below:

- 93 Labourers in mining, construction, manufacturing and transport;
- 72 Metal, machinery and related trades workers;
- 32 Life science and health associate professionals;
- 71 Extraction and building trades workers;
- 91 Sales and services elementary occupations; and
- 82 Machine operators and assemblers.

¹⁰⁵ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹⁰⁶ = 58

The ESWC-data highlights the occupation "Skilled Agricultural and Fishery Workers" most exposed (76%). Whereas in this project eleven national reports identified workers in the occupation category "Labourers in Mining, Construction, Manufacturing and Transport" to be most exposed from lifting/moving heavy loads.

Automation of work activities is expected to decrease the burden caused by lifting heavy loads in many jobs. However, in many female occupations this trend is not likely, because lifting and moving tasks in the Health and Social work sector are not easily mechanised.

4.6.6 Lifting/moving heavy loads – company size at risk

Each Focal Point was asked to: "Indicate, in general terms, the size of company with the highest risk to exposure to lifting/moving heavy loads in the workplace."

Data provided by the Focal Points did not allow a European picture with regard to lifting/moving heavy loads and company size to be given (see Appendix 5a for the number of responses).

4.6.7 Lifting/moving heavy loads – gender at risk

Each Focal Point was asked to: "State which gender category has a particular high risk to exposure to lifting/moving heavy loads in the workplace."

The following results were received:

Gender category most at risk	Number of Focal Point responses
Female	3
Male	5
No response	7

It was not possible from the national reports to easily identify a particular gender most at risk from lifting/moving heavy loads. Although five Focal Points reported males most at risk and three reported females. Seven Focal Points were unable to identify the gender most at risk.

¹⁰⁶ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

4.6.8 Lifting/moving heavy loads – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk exposure to exposure to lifting/moving heavy loads in the workplace.”*

Data provided by the Focal Points did not allow a European picture with regard to lifting/moving heavy loads and age categories to be given (see Appendix 5c for the number of responses).

4.6.9 Lifting/moving heavy loads – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to lifting/moving heavy loads and employment status to be given (see Appendix 5d for the number of responses).

4.6.10 Heavy loads – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to lifting/moving heavy loads over the last 3 – 5 years has decreased, remained stable or increase.”*

The following responses were received:

Decreased Trend (6 Focal Points): **Belgium, Denmark, Greece, Italy, Luxembourg and Sweden**

Stable Trend (4 Focal Points): **Austria, Finland, Germany, and Netherlands**

Increased Trend (2 Focal Points): **Portugal and Spain**

Category “Other” (3 Focal Points): **France, Ireland and United Kingdom**

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: Total number of exposed employees has remained stable during the past five years. Exposure will increase in the area “Retail Trade”. Decrease will occur in this industrial sector in general as rationalisation and the associated automation increases.

The number of exposed employees is declining in construction as increasing use is made of lifting equipment. Exposure is increasing in the service sector and above all in the Health and Social Work sector.

Denmark: In 1994 the Danish Institute of Clinical Epidemiology made a cross-national survey based on approximately 2,500 respondents. The survey showed that approximately 2 of 5 men and 1 of 4 women reported that they were exposed to lifting of heavy loads more than two days per week. Women reported to be equally exposed to heavy lifting loads across all age groups, probably due to many heavy lifting tasks within the Health and Social sector.

Since 1994, in general, the number of reported cases of work-related disease has decreased for young people below the age of 25. However, for musculoskeletal diseases the number has increased for this age category, and musculoskeletal diseases are the most frequent work-related diseases for this age category. The sectors with the highest frequency of reported musculoskeletal disorders per 1,000 workers in the period 1993 to 1998 caused either by frequent lifting, heavy work or by sudden lifting are:

Fire-Fighting and Rescue Services

Home Nursing Activities and Residential Nursing Homes for Adults

Processing of Poultry Meat

Processing and Preserving of Food Products, Breweries, etc.

Metal Production, Steel Rolling Mills and Foundries

Transportation of Passengers

Manufacture of Stone, Clay, and Glass

Manufacture of Means of Transport

Water Supply, Sewerage Service, etc.

Transportation of Goods

Cleaning Activities.

Processing of Pork and Beef

Shipyards

Hospitals

Contractors of Soil, Concrete and Coverings

Paper and Carton

Manufacture of Dairy Products, etc.

Manufacture of Wood Goods and Furniture

Manufacture of Textile, Clothing, etc.

All the above sectors are well known for work characterised by heavy lifting and manual handling of burdens or persons. The frequency of sudden injuries due to lifting is highest within Health and Social Work sector, but also work carried out on different workplaces e.g. within the building industry and transportation, implies a high frequency of sudden injuries due to lifting. Musculoskeletal disorders due to long time heavy work are frequent within the manufacturing and cleaning sectors.

Finland: Automatization and mechanisation of work is expected to further decrease the burden caused by lifting heavy loads in many jobs. However, in many female occupations this trend is not likely, because lifting and moving tasks in the Social and Health care sector are not easily mechanised or not at all automated.

Netherlands: A related question also indicates stability of the exposure: physically arduous work with approximately 21% over the period 1994 - 1997.

Italy: Decrease in size of load, increase automation and mechanisation and further training.

Sweden: Other results show that there are fewer employed people who must handle heavy loads. An indicator used 1989-1993 shows that the proportion of employed having to handle at least 20 kgs is decreasing over that period.

The indicator about 15-25 kgs is only available for 1995 and 1997.

Male. 1995 21,8% 1997 20,7% and Female. 15,6% 1997 13,8%.

The indicator about 25 kgs or more is only available for 1995 and 1997.

Male. 1995 10,9% 1997 9,5% and Female. 1995 6,5% 1997 5,9%

Belgium, France, Germany, Greece, Ireland, Luxembourg, Portugal, Spain and **United Kingdom** provided no additional information in relation to the trends in the workplace.

4.6.11 Lifting/moving heavy loads – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by three Focal Points: **Greece, Netherlands** and **Luxembourg**

Development of additional preventive action was indicated by nine Focal Points: **Austria, Belgium, Denmark, Finland, Italy, Portugal, Spain, Sweden** and **United Kingdom**

The category “Other” was indicated by one Focal Point: **France**

No response: **Ireland**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: The pressure on production causes a higher work speed. In cases where there is a high demand for variety and flexibility concerning the manipulation of goods (for example with wrapping) the work stays mainly manual. Organisational and technical improvements on a short-time basis means an investment which is often postponed by the rapidly changing market conditions. Automation is in many cases a solution but it causes often a loss of employment.

With regard to the type of physical loads the legislation on the manual handling of loads of (12.8.93) emphasises on the back problems. Preventive actions are often focussing on the training of lifting and manipulating of goods, while the real solutions to the problem should be found in a technical and organisational optimisation of work.

Since legislation does not focus on static loads nor on repetitive movements little attention has been given to these problems. However they cause a lot of absenteeism, turnover and loss of human energy. Several projects have been initiated in order to tackle both items (advise committee for the higher council, PREVENT, ...)

Denmark: With the absence of success in prevention of back disorders emphasises the need to view the problem from a wider angle, i.e. the preventive measures should include more factors than just the load of the burden. It goes especially for prevention of back disorders in the health sector.

Finland: Exposure to lifting or moving of heavy loads continues to be a severe health and safety problem at work. Number of workers exposed is considerable and heavy lifts are an important factor contributing to the risk of musculoskeletal disorders.

There is a need for additional preventive actions especially regarding (1) the availability of lifting device at workplaces, (2) further mechanisation of heavy lifts where possible, (3) the developing and testing lifting devices that are applicable in problem areas of social and health care work and (4) the training of personnel at workplaces in utilising the lifting and moving devices.

Portugal: Besides the applicable legislation about manual movement of loads, it should be elaborated good practice guides for the several sectors at the highest risk, with clear information on how to lift and move loads. Practice training actions with usage of techniques and safety movements.

Spain: Additional preventive actions should include:

- provision of information and training to workers
- task mechanisation and automation
- legislation to establish lifting/moving load limits
- appropriate design of loads

Sweden: The implementation of the new provisions on ergonomics for the protection against musculoskeletal disorders (Ordinance AFS 1998:1 from the Swedish National Board of Occupational Safety and Health) calls for more distinct supervision activities. Action against musculoskeletal disorders is included in the prioritised supervision areas in the plan of activities for the Swedish Occupational Safety and Health administration for the period 1997-1999.

United Kingdom: Major initiative planned for 200/2001 co-ordinated government “Back Pain Initiative”.

Austria and Italy provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

Additional comments submitted by the Focal Points:

Netherlands: The exposure to a number of “classical” exposure factors in the working environment is considered as still being too high. Lifting/moving heavy loads is one of these exposure factors. In the Netherlands approximately 1.3 million workers are “regularly” exposed to work that includes the need for considerable physical strength. High exposures is found in construction and also in the health care institutions, homes for the elderly etc.

Exposure to lifting, the prevention of “excessive” lifting will be one of the specific targets in the Inspection activities of the years to come. A new campaign has been launched by the Dutch Government, the Ministry of Social Affairs and Employment. With a number of sectors covenants are to be concluded; wherever possible targets for an actual reduction of the number of exposed workers within certain periods of time are established.

Sectors particular in focus for lifting/moving heavy loads exposure reduction are: construction, wood- and furniture production, child day care centres, cleaning services, home care, nursing homes and hospitals.

Inspection activities in 1997 found that in almost one out of four companies there is regular lifting of loads of over 25 kilograms. In one out of five of these companies, appropriate lifting tools were not available (not in all cases these are required by legislation. Effective legislation is considered difficult to be attained due to a wide variety in the specific lifting conditions at work).

A representative sample of 131 collective labour agreements (covering 4.5 million workers) was inspected for regulations/prescriptions on physical exposures in the work. 33 of the agreements contain such prescriptions, covering almost one million workers. In 12 agreements there is a concrete prescription on the maximum amount of kilogrammes to be lifted. Other agreements stipulate information on lifting, research or e.g. actions to ease physical job demands of workers of 55 years and over. Agreements with statements on physical exposures are found in agriculture, (branches of) industry and in the construction industry. Agreements in the healthcare sectors still lack such statements (home care exempted).

Luxembourg: Each workplace is subject of a case study. A qualified instructor and the worker himself identify how behaviour has to be improved to decrease the disorders related to lifting/moving heavy loads. If necessary, the instructor is assisted by a greater staff (6-8 persons) including: trade union representative, hierarchical superior, safety manager, occupational psychologist, ergonomist and an OH-physician.

4.7

REPETITIVE MOVEMENTS

4.7.1 Summary – repetitive movements

OVERVIEW

From a European picture, the ESWC-data shows that 57% of all workers interviewed reported exposure to repetitive hand or arm movements whilst at work.

The information collected in this project highlighted seven Focal Points reporting the need for the development of additional preventive actions to combat repetitive movements in the workplace. Only three Focal Points reported that their taken/planned preventive actions were sufficient to deal with repetitive movements at work.

Although a limited response, there was no clear indication with respect to the trend in the exposure of repetitive movement in the workplace over the last 3 – 5 years. Three Focal Points reported a stable trend whereas two reported a decreased trend and five reported an increased exposure to repetitive movements in the workplace. Five Focal Points could not establish a particular trend.

The comparison of ESWC-data and national data showed that five Focal Points identified differences and a further two reported that there were no differences between their national data and the data from European sources. A total of eight Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

Repetitive movements are carried out in many occupations such as agriculture (milking, gardening and horticultural work), in industry using work equipment (nail-guns, pneumatic hand tools, operating machining, loading/unloading and setting of equipment, sorting/selection on production lines), service sector (such as making beds), telephone service centres, banking and insurance.

Repetitive Strain Injuries (RSI) have attracted a great deal of media attention. Repetitive movements combined with a rapid workplace are viewed as important risk factors in RSI. In the media, RSI is more commonly reported in relation to Visual Display Unit (VDU) or computer related work. It was reported that there is an extended and still increasing use in this type of work. Also, there are a number of industrial activities, e.g. meat and poultry processing and service jobs that are known to have an increased the risk of RSI amongst its workforce.

Several Focal Points commented on the rising category of computer related work (key board/mouse operations) requiring special attention.

One Focal Point said that there was still insufficient data on the prevalence of RSI in their country. It had been established from inspection activities that 56% of VDU workers complaints could be related to RSI i.e. pain in fingers, wrists, elbows and shoulders. A number of sectors had been identified for closer attention, these included: banking and insurance, computer and information technology services and (social) rental properties corporations (maintenance work).

One Focal Point commented that a national target set for particular high risk sectors is to the reduce the number of workers with RSI related complaints by at least 10% in the year 2001.

One Focal Point reported that repetitive movements together with manual handling of heavy loads has been given special attention in the government work programme “A Clean Working Environment by the Year 2005”. It was considered that work involving repetitive movements had increased considerably during the past 10-20 years, mostly due to technological development. However, in the latter years the prevalence of repetitive work generally seems to have been relatively constant.

It was stated in one national report that in 1993 the government decided to do a special effort against repetitive work. The Social Partners made an action plan, in which the aim was to reduce repetitive work, and thereby decreased the risk of musculoskeletal disorders by half within the year 2000.

In one national report the Focal Point commented that the proportion of those who stated exposure to repetitive movements at work had risen gradually in every survey they had conducted. Computer related work, especially when working with graphical applications requiring the mouse, is a rising problem. Its prevalence was not easily evaluated in relation to sector or occupation since this type of work is present across many sectors and occupations.

SECTORS AT RISK

From the information collected in this project, the most frequently identified sector at risk from repetitive movements was “Manufacture of food products and beverages”. A total of nine Focal Points reported this sector. The second most frequently identified sectors at risk were:

- Manufacture of wearing apparel, dressing and dyeing of fur;
- Manufacture of textiles; and
- Land transport, transport via pipelines.

The ESWC-data highlights the sector “Agriculture, Hunting, Forestry and Fishing” with the highest percentage (73%) of workers interviewed reporting exposure to repetitive hand or arm movements. This sector was closely followed by “Hotels and Restaurants” where 71% of interviewees reported exposure to repetitive movements at work.

One Focal Point reported that most jobs of a repetitive nature were found within manufacturing. In the service sector efficiency requirements have lead to a high tempo that might increase the risk of musculoskeletal disorders, e.g. cleaning work. Some of the jobs now reported to be repetitive were not earlier regarded as such, e.g. a vehicle driver.

OCCUPATIONS AT RISK

Information from the national reports shows that the most frequently identified occupation considered to be at risk from repetitive movements is “Machine Operators and Assemblers”. A total of eleven Focal Points recorded this occupation as being at risk. In the ESWC-data, the occupation “Skilled agricultural and fishery workers” and “Elementary Occupations” were highlighted as the highest risk groups (84%) closely followed by “Plant and machine operators and assemblers” (82%).

GENDER AT RISK

From their national reports, seven Focal Points identified females and one Focal Point identified males to be most exposed to repetitive movements. One Focal Point reported that repetitive movements at work were more common amongst female employees than male employees. Typical female risk activities include assembly of electronic equipment, cashiers in super markets, textile and sewing workers and typists and computer operators.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, AGE AND EMPLOYMENT STATUS

Although no firm conclusions can be drawn with respect to company size, age and employment status, comments received drew attention to the younger worker. It was reported in several national reports that the younger worker (less than 30 years old) was frequently more exposed to repetitive tasks, particularly young female employees.

One Focal Point reported that repetitive tasks of at least two every minute were most frequent in the youngest age group (16 – 29 years old) for both male and female workers.

PREVENTING EXPOSURE

As commented in several national reports, reduction to the exposure of repetitive work activities can be achieved by the application of several methods, including:

- elimination of particular task;
- increased automation;
- job rotation;
- information and training; and
- sufficient rest breaks and adjustment of workspace and intensity.

4.7.2 Repetitive movements – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
57	59	57

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose job involves repetitive hand or arm movements are:

Time period	Total (%)	Member State															
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK	
① All or almost all the time	33	27	29	22	41	43	22	48	39	25	32	22	48	45	17	36	
② Around ¾ or ½ the time	13	16	14	16	15	11	14	16	12	15	12	13	10	10	12	17	
③ Around ¼ of the time	11	9	8	11	13	8	13	12	7	10	10	8	7	8	14	14	
Total ①+②+③	57	52	51	49	69	62	49	76	58	50	54	43	65	63	43	67	

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
E – Spain S – Sweden UK – United Kingdom

Percentage of workers whose job involves repetitive hand or arm movements by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
① All or almost all the time	33	47	39	31	41	32	45	40	20	26	19	27
② Around $\frac{3}{4}$ or $\frac{1}{2}$ the time	13	15	13	11	18	13	16	10	16	14	12	11
③ Around $\frac{1}{4}$ of the time	11	11	12	11	9	10	10	11	7	11	11	10
Total ①+②+③	57	73	64	53	68	55	71	61	43	51	42	48

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing

E: Electricity, Gas and Water Supply

G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods

H: Hotels and Restaurants

J: Financial Intermediation

L: Public Administration and Defence; Compulsory Social Security

C-D: Mining, Quarrying and Manufacturing

F: Construction

I: Transport, Storage and Communications

K: Real Estate, Renting and Business Activities

M-Q: Other Services

Percentage of workers whose job involves repetitive hand or arm movements by occupation are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	33	17	15	19	31	29	49	42	55	50	26
② Around $\frac{3}{4}$ or $\frac{1}{2}$ the time	13	15	11	10	15	13	16	16	10	15	7
③ Around $\frac{1}{4}$ of the time	11	15	9	9	10	11	13	13	9	10	7
Total ①+②+③	57	47	35	38	56	53	78	71	74	75	40

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

3: Technicians and associate professionals

5: Service workers and shop and market sales workers

7: Craft and related trades workers

9: Elementary occupations

2: Professionals

4: Clerks

6: Skilled agricultural and fishery workers

8: Plant and machine operators and assemblers

0: Armed forces

4.7.3 Repetitive movements – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to repetitive movements risks in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1 “Are there differences between the national data and the data from European sources?”			Question 2 “Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?”		
	Yes	No	No comparison reported	Yes	No	No comparison reported
			Lack of National data Difficulty in comparability of data			Lack of National data Difficulty in comparability of data
Austria			<input type="radio"/>			<input type="radio"/>
Belgium			<input type="radio"/>			<input type="radio"/>
Denmark*			<input type="radio"/>			<input type="radio"/>
Finland*	<input type="radio"/>			<input type="radio"/>		
France*			<input type="radio"/>			<input type="radio"/>
Germany*	<input type="radio"/>					<input type="radio"/>
Greece*		<input type="radio"/>				<input type="radio"/>
Netherlands*	<input type="radio"/>			<input type="radio"/>		
Ireland			<input type="radio"/>			<input type="radio"/>
Italy			<input type="radio"/>			<input type="radio"/>
Luxembourg	<input type="radio"/>					<input type="radio"/>
Portugal			<input type="radio"/>			<input type="radio"/>
Spain*		<input type="radio"/>			<input type="radio"/>	
Sweden*			<input type="radio"/>	<input type="radio"/>		
United Kingdom*	<input type="radio"/>			<input type="radio"/>		

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Denmark: No data directly comparable with the ESWC are available.

The Danish Institute of Clinical Epidemiology showed in 1994, based on approximately 2,500 respondents, that approximately 1 in 4 men and 1 in 3 women reported that they were exposed to work in which they had to do the same unilateral movements more than two days per week. Men and women below the age of 25 years were the most exposed groups.

One in five respondents answered confirmatory to one or both types of repetitive work. About 10% reported “task repetitive work” and 15% reported “movement repetitive work”. 5% reported both task and movement repetitive work.

Most jobs of repetitive character were found within manufacturing. Within the service sector effectiveness requirements have lead to a high tempo that might increase the risk of musculoskeletal disorders, e.g. cleaning work. Some of the jobs now reported to be repetitive have not earlier been regarded as such, e.g. the driver job.

Finland:

- FQWLS sample size is larger than in the ESWC-data;
- FQWLS does not include self-employed; and
- the total percentage of respondents reporting exposure to repetitive and monotonous movements is considerably lower in the FQWLS 1997 data, 31%, compared with ESWC-data, 70%.

There are considerable differences in the question design between the ESWC-data and FQWLS data. In the FQWLS the respondent is not asked about the frequency of repetitive movements in his/her work and the question is not restricted to hand or arm movements.

These differences in the FQWLS and ESWC-data underline the differences in question design. We suggest that ESWC-data include many of those respondents whose work involves typing and computer work, because the question design draws attention especially to hand and arm movements. This would explain why ESWC-data on the prevalence of repetitive movements are so high. The fact that in the ESWC-data, 75% of clerks responded that their work involves repetitive movements at least of the working time and 49% of clerks responded that their work involves repetitive movements almost all the time would support this hypothesis. In comparison, in the FQWLS data only 33% of clerks stated that there are repetitive and monotonous movements in their work.

Germany: On average the national data reveals a 30% higher risk than the ESWC-data. The second ESWC reports an increased exposure with respect to men.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Netherlands:

- about 10% lower than ESWC-data. Overall average in the POLS (Reference 6) data is 51.6% of workers with “any exposure” concerning repetitive movements;
- rates of exposed workers are higher in the ESWC-data for males (7%) and females (11%). The age category 25-54 years is especially higher in the ESWC-data (10%); and
- major differences for sectors can be found in sector F and H: the ESWC-data shows 13% and 23% more exposed workers in these sectors, respectively. Other sectors vary less than 10% in both data sources.

Overall evaluation indicates substantial differences between the data sources: the POLS reports lower numbers of exposed workers, especially concerning the sectors of construction and hotels.

The considerable differences between the two data sources may be attributed to differences in the phrasing of the questions in the two questionnaires. The POLS question explicitly refers to movements “several times a minute”, whereas ESWC-data does not use a time constraint. The time constraint used in the POLS most probably generates the smaller proportion of exposed persons.

Luxembourg: ESWC-data highlights an exposure “All of the time” in:

Sector:

C-D Mining, quarrying, manufacturing (33.3%)

F Construction (36.4%)

K - Real estate and business activities (36.7%)

Occupation:

07 - Craft and related trades workers (43.8%)

08 - Plant and machine operators, assemblers (33.35)

09 - Elementary occupations (31.4%)

Portugal: To date, we are unable to identify any studies relating to this topic in Portugal. It is felt that there is insufficient data available for the formation of accurate opinion, based on either anecdotal or operational data. This lack of information highlights the need for a survey in this area.

Spain: In general the national data and ESWC-data are similar regarding the “never” category.

Sweden: The question in the ESWC is about “*repetitive movement*” in general, but specified to “*hand or arm movements*”. In the Swedish Working Environment Survey two indicators are used with a certain specification of the repeated cycle: “*repetitive tasks several times per hour*” and “*repetitive tasks at least twice every minute*”. Both indicators are reported here.

The Swedish answering scale is very similar but not identical. The Swedish Working Environment Survey is based on more than 10,000 respondents.

United Kingdom: The wording of the question in the national survey and the EU survey are different but they are comparable. The overall proportion of cases who use repetitive movements at work at least a quarter of their working time was similar for the two data sets (EU: 66.5%, national 61.8%).

Personal variables: There were no major differences between the two surveys by gender or age.

Company size: The two surveys are not directly comparable for companies of less than 100 employees. For companies with more than 100 employees there were no major differences between the two surveys.

Sector: The main differences between the surveys by sector were as follows:

In the electricity, gas and water supply sector, the EU survey estimated that 55.6% of cases use repetitive movements at work almost all the time compared to only 33.3% in the national survey.

In the construction sector, the EU survey estimated that 52.1% of cases use repetitive movements at work almost all the time, compared to 26.2% in the national survey.

In the hotels and restaurant sector, the EU survey estimated that 47.6% of cases use repetitive movements at work almost all the time, compared to only 33.9% in the national survey.

The above comparisons should be treated with caution as percentages are based on small sample numbers.

Occupation: The main differences between the surveys by occupation were as follows:

The proportion of the armed forces reporting that their job involved repetitive movements for at least a quarter of the time was much higher in the EU survey (80%) compared to the national survey (33.3%) but the proportions in both surveys were based on only a small number of sample cases.

For professionals the EU survey estimated that 53% of cases use repetitive movements at work for at least a quarter of their working time compared to only 34.6% in the national survey.

Employment status: The breakdown for employment status is not comparable between the two data sets.

Austria, Belgium, France, Ireland, Italy and Spain provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: The national data highlights the following:

Sectors:

- 15 – Manufacture of food products and beverages
- 32 – Manufacture of radio apparatus
- 20 – Manufacture of wood, wood products, articles of straw
- 17, 18, 19 – Manufacture of textiles, dressing, leather manufacture, etc.

Occupations (ISCO-88):

- 61 – Skilled agricultural and fishery workers
- 74 – Other craft and related trades workers

Netherlands: The national data does not highlight any concerns relating to repetitive movements.

Spain: The time categories are different.

Sweden: The EU data shows the sectors “Construction” and “Financial intermediation” to be at a high risk with respect to repetitive movements. The occupations highlighted in the EU data correspond roughly to the occupations highlighted in the Swedish data.

United Kingdom: Comparing the proportion of workers in the national survey who use repetitive movements at work for at least a quarter of their working time, the sectors with the highest proportions are similar to the sectors in the EU survey and no additional sectors are highlighted.

A similar comparison for occupations shows that most of the occupations with the highest proportion of workers who use repetitive movements at work for at least a quarter of their working time are the same.

The only exception is the elementary occupations which are second highest in the national data but are lower in the EU data.

Austria, Belgium, France, Germany, Greece, Ireland, Italy, Luxembourg and Portugal provided no more information than that summarised in the table above.

OTHER COMMENTS RECEIVED:

Germany: The differing answer categories do not allow a direct comparison to be made between the second ESWC survey and the BIBB/IAB survey.

United Kingdom: The national data is from the survey of self-reported working conditions that was carried out in 1995 and the EU data is based on a survey carried out in 1996.

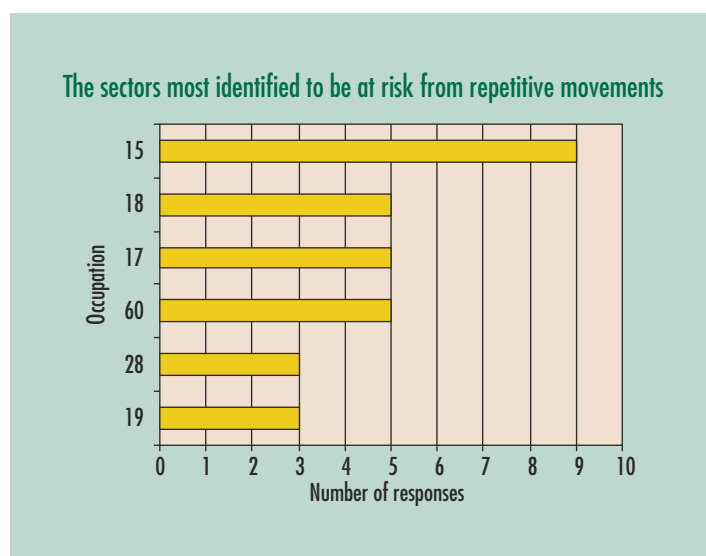
4.7.4 Repetitive movements – sectors at risk

The six most frequently identified sectors which the Focal Points* considered to be most at risk from repetitive movements exposure are listed below:

- 15 Manufacture of Food Products and Beverages;
- 18 Manufacture of Wearing Apparel; Dressing and Dyeing of Fur;
- 17 Manufacture of Textiles;
- 60 Land Transport; Transport via Pipelines;
- 28 Manufacture of fabricated Metal Products, except Machinery and Equipment; and
- 19 Tanning and Dressing of Leather; Manufacture of Luggage, Handbags, Saddlery, Harness and Footwear.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by the Focal Points is given in Appendix 9a.



Total Number of Responses¹⁰⁷ = 79

The above graph clearly shows that from the information collected in this project the most frequently identified sector at risk from repetitive movements was “Manufacture of food products and beverages”. A total of nine Focal Points reported this sector. The second most frequently identified risk sectors were:

- Manufacture of wearing apparel; dressing and dyeing of fur;
- Manufacture of textiles; and
- Land transport, transport via pipelines.

The ESWC-data highlights the sector “Agriculture, Hunting, Forestry and Fishing” with the highest percentage (73%) of workers interviewed reporting exposure to repetitive hand or arm movements. This sector category was closely followed by “Hotels and Restaurants” where 71% of interviewees reported exposure to repetitive movements at work.

One Focal Point reported that most jobs of a repetitive nature were found in manufacturing. In the service sector, efficiency requirements have led to a high tempo that might increase the risk for musculoskeletal disorders, e.g. cleaning work. Some of the jobs now reported to be repetitive were not earlier regarded as such, e.g. a vehicle driver.

4.7.5 Repetitive movements – occupations at risk

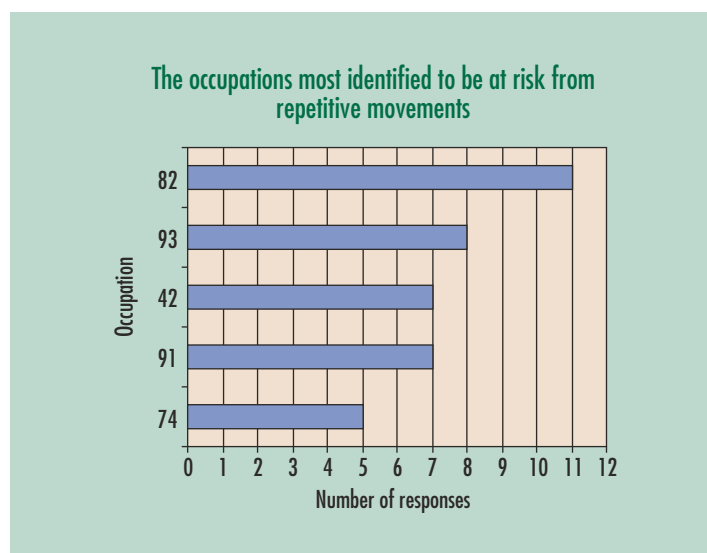
The five most frequently identified occupations which the Focal Points* considered to be most at risk from repetitive movements exposure are listed below:

- 82 Machine operators and assemblers;
- 93 Labourers in mining, construction, manufacturing and transport;
- 42 Customer services clerks;
- 91 Sales and services elementary occupations; and
- 74 Other craft and related trades workers.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by the Focal Points is given in Appendix 9b.

¹⁰⁷ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.



Total Number of Responses¹⁰⁸ = 61

The graph above illustrates that the national reports most frequently identified the occupation considered “Machine Operators and Assemblers” to be at risk from repetitive movements. A total of eleven Focal Points recorded this occupation.

In the ESWC-data the occupation “Skilled agricultural and fishery workers” and “Elementary Occupations” were highlighted as the highest risk groups (84% of interviewees) closely followed by “Plant and machine operators and assemblers” (82% of interviewees).

4.7.6 Repetitive movements – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to exposure to repetitive movements in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to repetitive movements and company size to be given (see Appendix 5a for the number of responses).

4.7.7 Repetitive movements – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk to repetitive movements in the workplace.”

The following results were received:

Gender category most at risk	Number of Focal Point responses
Female	7
Male	1
No response	8

Total Number of Responses¹⁰⁹ = 16

From their national reports seven Focal Points identified females and one Focal Point identified males to be most exposed to repetitive movements. One comment received said that female workers, particularly on assembly lines, were predominantly employed in the sectors identified.

One Focal Point reported that repetitive movements at work were more common amongst female employees than male employees. Typical female risk activities include assembly of electronic equipment, cashiers in super markets, textile and sewing workers, typists and computer operators.

¹⁰⁸ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

¹⁰⁹ Although each of the 15 Focal Points was asked to indicate one category (maximum of 15 responses), in practice, some Focal Points indicated more than 1.

4.7.8 Repetitive movements – age category at risk

Each Focal Point was asked to; *“State which age category has a particular high risk exposure to exposure to repetitive movements in the workplace.”*

Data provided by the Focal Points did not allow a European picture with regard to repetitive movements and age categories to be given (see Appendix 5c for the number of responses).

4.7.9 Repetitive movements – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to repetitive movements and employment status to be given (see Appendix 5d for the number of responses).

4.7.10 Repetitive movements – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to repetitive movements over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (2 Focal Points): **Belgium** and **France**

Stable Trend (3 Focal Points): **Germany, Greece** and **Netherlands**

Increased Trend (5 Focal Points): **Denmark, Finland, Portugal, Spain** and **Sweden***

Category “Other” (5 Focal Points): **Austria***, Ireland, Italy, Luxembourg** and **United Kingdom****

“Other Response” includes no response/unable to respond due to unavailability of national data/incompatibility of national data.

* This trend is based on “Repetitive tasks several times per hour” - half the time or more.

Male (1991 – 32.5%; 1997 – 36.5%) and Female (1991 – 38.7%; 1997 – 44.8%).

** Trend regarding the number of workers exposed over the last 3 – 5 years is unknown.

*** No data available regarding number of exposed workers.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Denmark: Repetitive movements has, together with manual handling of heavy loads, special attention in the work program from the Danish Ministry of Labour: “A Clean Working Environment by the Year 2005”.

Work involving repetitive movements has increased considerably during the past 10-20 years, mostly due to the technological development. In the latest years the prevalence of repetitive work generally seems to have been relatively constant. On the one hand there has been a decrease within the manufacturing sectors due to automation and export of jobs involving repetitive movements to other countries. On the other hand there has been an increase of repetitive work within the service sector and the office sector. However, the problem seems to be most profound in manufacturing industries.

Finland: In the Finnish Quality of Worklife Surveys 1977, 1984, 1990 and 1997 the proportion of those who state that repetitive movements are present in their work has *risen gradually* in every survey. There has been a considerable reduction in workforce in the traditional risk-sectors (e.g. agriculture, food industry and textile industry). Computer related work especially when working with windows applications and mouse is a rising problem. Its prevalence is not easily evaluated in relation to occupation or sector since this type of work is present in various sectors and occupations.

Austria, Belgium, France, Germany, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden and **United Kingdom** provided no additional information in relation to the trends in the workplace.

4.7.11 Repetitive movements – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by three Focal Points: **Denmark, Greece and Netherlands**

Development of additional preventive action was indicated by seven Focal Points: **Austria, Belgium, Finland, Italy, Portugal, Spain and Sweden**

The category “Other” was indicated by one Focal Point: **France**

No response: **Ireland, Luxembourg and United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Finland: There is continuous need to improve prevention. The rising category of computer work requires special attention.

Netherlands: The target set in the sectors mentioned is a reduction in the number of workers that have the RSI related complaints; a reduction by at least 10% in the year 2001.

Instruction material and training to prevent RSI is available. An information campaign will start at short notice.

Italy: Improvement of the technical and organisational measures.

Portugal: Training and information for the high risk groups to inform of correct postures in the workplace.

Spain: Provision of information and training;
Work breaks and job rotation;
Task contents enrichment and improvement; and
Process automation and application of new technologies.

Sweden: The implementation of the new provisions on ergonomics for the protection against musculoskeletal disorders (Ordinance AFS 1998:1 from the Swedish National Board of Occupational Safety and Health) calls for more distinct supervisory activities. Action against musculoskeletal disorders is included in the prioritised supervision areas in the plan of activities for the Swedish Occupational Safety and Health administration for the period 1997-1999.

Austria and Belgium provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Denmark: Repetitive movements together with manual handling of heavy loads has been given special attention in the work program from the Danish Ministry of Labour: “A Clean Working Environment by the Year 2005”.

In spite of incomplete knowledge, we consider the existing information sufficient to point out a number of preventive measures by which we with large probability will be able to reduce the problem. These measures are: 1) Increased automation, taking into consideration the biological, psychological and social constitution of man, 2) job rotation, and 3) sufficient breaks and adjustment of workplace and intensity.

In 1993 the government decided to do a special effort against repetitive work. The Social Partners made an action plan, in which the aim is to reduce repetitive work, and thereby to decrease the risk for musculoskeletal disorders by half within the year 2000.

In the recently published sector-specific guides on working environment issues, unilateral repetitive work has been selected as a principal problem for the following sectors (not in order of priority and classification not completely compatible with NACE-93):

Manufacture of Means of Transport	Manufacture of Iron and Metal Articles
Manufacture of Machinery	Printing and Publishing
Manufacture of Electrical and Electronic Articles	Textiles, Clothing and Leather Goods
Manufacture of Paper and Cartons for Packing and Binding	Manufacture of Chemical Products
Manufacture of Wood Goods and Furniture	Manufacture of Basic Pharmaceutical Products
Manufacture of Products Made of Plastic, Rubber, Asphalt, Mineral Oil	Office and Administrative Work
Manufacture of Products Made of Stone, Clay and Glass	Cleaning Activities
Manufacture of Medical Equipment, Toys, Photo Equipment etc.	Telecommunications

Supermarkets and Department Stores etc.
Hotels and Restaurants
Processing and Preserving of Food Products, Breweries etc.
Bread, Tobacco Products, Chocolate and Sugar Confectionery
Manufacture of Dairy Products etc.

Processing of Pork and Beef
Processing of Poultry Meat
Market Gardening, Forestry etc.

Netherlands: There is a good deal of media attention for Repetitive Strain Injuries (RSI). Repetitive movements together with a rapid workplace are viewed as important risk factors for RSI. In the media RSI is mostly reported in relation to VDU work. There is an extended and still increasing use of VDU's at work. There is also a number of industrial tasks, tasks in e.g. meat and poultry processing and service jobs that are known to have an increased risk for RSI. There is still insufficient data on the prevalence of RSI in the Netherlands. It is known from inspection activities that 56% of VDU-workers have complaints that can be related to RSI i.e. pain in fingers, wrists, elbows and shoulders.

Specifically in relation to RSI, with a number of sectors, covenants (as have been described in the previous sections) are to be concluded. Sectors in focus are: bank and insurance companies, computer and information technology services and (social) rental properties corporations (maintenance work). As stated before; the trade unions' view that in these sectors RSI is predominantly related to VDU-work.

4.8 STRENUOUS WORKING POSTURES

4.8.1 Summary – strenuous working postures

OVERVIEW

From a European picture, the ESWC-data shows that 45% of all workers interviewed reported some exposure to strenuous working postures.

From the findings in this report, six Focal Points reported the need for the development of additional preventive actions to combat strenuous working postures in the workplace. A further four Focal Points reported that their taken/planned preventive actions were sufficient to deal with strenuous working postures. Five Focal Points could not evaluate the question.

Although a limited response, five Focal Points reported a decreased trend in exposure to strenuous working postures. Two Focal Points reported a stable trend and a further two reported an increased trend in exposure to strenuous working postures in the workplace. Six Focal Points were unable to establish a particular trend.

The comparison of ESWC-data and national data showed that five Focal Points identified differences and a further two reported that there were no differences between their national data and the data from European sources. A total of eight Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

Strenuous working postures are of significant importance, especially when combined with lifting of heavy loads and repetitive work tasks. Inadequate working posture is a well known aggravating factor for causing disorders of the lower spine. Difficult working positions contribute to the potential risk of work-induced musculoskeletal disorders. Musculoskeletal disorders are a common cause of early retirement.

One Focal Point reported that, from their national surveys conducted over several years, there has been a steady increase in the number of workers reporting difficult or uncomfortable working positions.

One Focal Point reported that the implementation of the new provisions on ergonomics for the protection against musculoskeletal disorders calls for more distinct supervisory activities. They commented that action against musculoskeletal disorders was included in the prioritised supervision areas in the national plan of activities for Occupational Safety and Health administration for the period 1997-1999. Also, that there was a requirement when constructing new workplaces to ensure that good working postures were possible to obtain.

SECTORS AT RISK

The ESWC-data highlights the sector “Agriculture, Hunting, Forestry and Fishing” as the one with the highest percentage (71%) of workers interviewed that reported exposure to strenuous working postures.

From the information compiled in this project the “Construction” sector was most frequently identified as being at risk, as reported by twelve Focal Points.

OCCUPATIONS AT RISK

Information contained in the national reports shows that the most frequently identified occupation category considered most at risk from strenuous working postures was “Labourers in mining, construction, manufacturing and transport” category. The ESWC-data identifies workers in the category “Skilled agricultural and fishery workers” to be most at risk with 78% of the workers interviewed reporting exposure to strenuous working postures.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to gender, company size, employment status or age of the workers. However, some useful comments and observations from the national reports have been included below.

One Focal Point reported that, following a national study of approximately 2,500 respondents, approximately one in three reported exposure to strenuous working postures. The problem was most frequently found amongst young men below the age of 25 years. For women the rate was almost the same across all age groups with a slight tendency to decrease with increasing age.

One Focal Point identified the smaller company as being most at risk from strenuous working postures in particular they identified warehousing work, work in small supermarkets, welding and other types of metal working and handicraft work to be vulnerable work activities.

Difficult working positions are important factors contributing to the potential risk of musculoskeletal disorders in the workplace. Musculoskeletal disorders are a common cause of early retirement. One Focal Point said that it was individuals in the oldest age group who were most likely to be exposed to difficult working positions. They also commented that many of these employees may no longer be working, or they have changed jobs, making it difficult to obtain data to properly reflect the impact of difficult working positions on the oldest age group.

PREVENTING EXPOSURE

The prevention of strenuous postures in the working environment is related to an appropriate ergonomic design of the workplace, workstation, machinery and work organisation. Assessment of tasks and job rotation is fundamental to reducing the exposure to the risk. It is also well known that an operative’s working level should be adjusted to suit their height. Working at a level above elbow height implies inexpedient lift of the shoulders or arms, which might lead to chronic pain in the neck and shoulder region.

The implementation of new provisions on ergonomics for the protection against musculoskeletal disorders calls for more distinct supervisory activities.

There is a need for improvement of the technical and organisational measures and of information and training.

4.8.2 Strenuous working postures – a European picture

This section provides a European picture using the ESWC-data.

Work category		
Employed (%)	Self employed (%)	All workers (%)
43	53	45

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose job involves painful and tiring positions are:

Time period	Total (%)	Member State															
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK	
① All or almost all the time	18	13	14	9	9	26	14	41	10	10	20	15	37	24	11	12	
② Around ¾ or ½ the time	14	16	12	12	16	17	14	15	8	12	15	12	13	13	15	13	
③ Around ¼ of the time	13	17	14	15	20	12	15	12	9	15	11	9	9	10	18	14	
Total ①+②+③	45	46	40	36	45	55	43	68	27	37	46	36	59	47	44	39	

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

Percentage of workers whose job involves painful and tiring positions by sector are:

Time period	Total (%)	Sector											
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q	
① All or almost all the time	18	35	18	12	25	19	23	21	7	12	11	14	
② Around ¾ or ½ the time	14	24	13	14	19	14	21	12	11	10	11	13	
③ Around ¼ of the time	13	12	13	15	17	13	13	11	9	12	14	15	
Total ①+②+③	45	71	44	41	61	46	57	44	27	34	36	42	

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing C-D: Mining, Quarrying and Manufacturing
 E: Electricity, Gas and Water Supply F: Construction
 G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
 H: Hotels and Restaurants I: Transport, Storage and Communications
 J: Financial Intermediation K: Real Estate, Renting and Business Activities
 L: Public Administration and Defence; Compulsory Social Security M-Q: Other Services

Percentage of whose job involves painful and tiring positions by occupations are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	18	11	6	10	10	14	38	25	32	26	19
② Around ¾ or ½ the time	14	11	10	12	10	14	26	18	15	17	19
③ Around ¼ of the time	13	13	14	11	10	14	14	18	10	14	10
Total ①+②+③	45	35	30	33	30	42	78	61	57	57	48

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers 2: Professionals
 3: Technicians and associate professionals 4: Clerks
 5: Service workers and shop and market sales workers 6: Skilled agricultural and fishery workers
 7: Craft and related trades workers 8: Plant and machine operators and assemblers
 9: Elementary occupations 0: Armed forces

4.8.3 Strenuous working postures – comparison between European and national data

If a Focal Point presented national data, then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to strenuous working postures risks in the workplace.

Member State	Question 1				Question 2			
	“Are there differences between the national data and the data from European sources?”				“Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?”			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				<input type="radio"/>				<input type="radio"/>
Belgium			<input type="radio"/>				<input type="radio"/>	
Denmark				<input type="radio"/>				<input type="radio"/>
Finland*	<input type="radio"/>				<input type="radio"/>			
France*				<input type="radio"/>				<input type="radio"/>
Germany*	<input type="radio"/>				<input type="radio"/>			
Greece*		<input type="radio"/>					<input type="radio"/>	
Netherlands*	<input type="radio"/>					<input type="radio"/>		
Ireland			<input type="radio"/>				<input type="radio"/>	
Italy			<input type="radio"/>				<input type="radio"/>	
Luxembourg*	<input type="radio"/>						<input type="radio"/>	
Portugal			<input type="radio"/>				<input type="radio"/>	
Spain*		<input type="radio"/>				<input type="radio"/>		
Sweden*				<input type="radio"/>		<input type="radio"/>		
United Kingdom*	<input type="radio"/>				<input type="radio"/>			

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Denmark: No data directly comparable with the ESWC are available.

The Danish Institute of Clinical Epidemiology showed in 1994, based on approximately 2,500 respondents, that approximately 1 in 3 workers reported to be exposed to strenuous working postures. The problem was most frequently found amongst young men below the age of 25. For women the rate was almost the same across all age groups with a slight tendency to decrease with increasing age.

Finland:

- FQWLS 1997, the sample size is larger than in the ESWC- data.
- Self-employed are not considered in the FQWLS.
- 31 % of respondents in the FQWLS reported their work exposed them to difficult or uncomfortable positions, this is lower than the 46 % in the ESWC- data. It is likely that the difference in the figures is partly due to the differences in question design.

There are also considerable differences in the question design between the ESWC- data and FQWLS. In the ESWC- data, the respondent is asked about painful or tiring work positions whereas in the FQWLS the respondent is asked about difficult or uncomfortable positions.

In the FQWLS the respondent is not asked about the frequency of difficult positions, unlike in the ESWC- data. Instead, in the FQWLS the respondent is asked about the presence of difficult or uncomfortable positions at work in general and the perceived burden at work due to such positions.

Germany: On average the national data reveals a 20% lower risk than the ESWC- data. The ESWC- data shows that risk has increased for women and for sector H - Hotels and Restaurants.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Netherlands:

- the overall average in the national data (POLS) is 31.3% of workers with “any exposure” concerning repetitive movements. This is about 2% more than the ESWC data;

- rates of exposed workers are higher in the POLS data for males (6%) and lower for females (4%);
- the age category <25 years is especially higher in the POLS (6%);
- major differences for sectors can be found in sectors: F, H and L: the POLS data shows 17% more exposed workers in Construction and 13% more in the Public administration. On the other hand the POLS data shows 15% fewer exposed workers in the Hotel sector. Other sectors vary less than 10% in both data sources; and
- major differences in occupations occur for Craft workers (POLS plus 23%).

Overall evaluation seems to indicate few differences between the data sources: the POLS report some what higher number of exposed workers.

Luxembourg: EU source highlights risks in:

Sectors:

A-B - Agriculture and forestry, 33.3% of workers exposed all of the time

E - Electricity, gas and water supply, 42.9% of workers exposed all of the time

Occupation:

6 - Skilled agricultural workers, 46.2% of workers exposed all of the time

Spain: In general the national data and ESWC- data are similar regarding the “never” category.

Sweden: The question in the second European survey does not give the respondent a possibility to describe the posture itself but specifies them as “*painful and tiring*”. In the Swedish Working Environment Survey four indicators are used for measuring strenuous postures. The first indicator is very general and contains two extremes “strenuous work postures” and “comfortable work postures”. The other three indicators are specified and descriptive and the answering scale is about how much of the working time the respondent has the posture (“*bending forward*”, “*twisted postures*”, “*working with hands raised*”). All four indicators were included in the national report. The Swedish answering scale for the three specific questions is very similar to that of the ESWC, but it is not identical. The more general Swedish indicator about “*strenuous work postures*” has answers “*agree fully, agree to some extent....*”.

The Swedish Working Environment Survey is based on more than 10,000 respondents.

United Kingdom: The wording of the question in the national survey and the EU survey are slightly different. The national survey asks about awkward or tiring positions whereas the EU survey asks about painful or tiring positions.

The overall proportion of cases who work in awkward or tiring positions for at least a quarter of their working time is similar for the two surveys (EU: 41.9%, national 38.2%).

An additional question in the national survey which is not directly comparable with any EU questions is: “*Does your job ever involve using appreciable force?*” “*How often does this happen?*”

Personal variables: There are no major differences between the two surveys for gender. The only notable difference by age is amongst the over 55 years olds, the EU survey estimates that 37% of cases work in awkward positions for at least a quarter of their working time compared to only 24.6% in the national survey.

Company size: The two surveys are not directly comparable for companies of less than 100 employees. There were no major differences between the two surveys for companies with more than 100 employees.

Sector: The main difference between the surveys by sector was:

In the electricity, gas and water sector the EU survey estimated that 27.8% of cases work in awkward positions around a quarter of the time, compared to 3% in the national survey, but the proportions in both surveys were based on only a small number of sample cases.

Occupation: The main differences between the surveys by occupation were as follows: For the armed forces the EU survey estimated that 60% of cases work in awkward positions for at least a quarter of their working time compared to only 44.5% in the national survey.

For service workers, shop, market sales workers the EU survey estimated that 7.9% of cases always or nearly always work in awkward positions compared to 19.6% in the national survey.

For skilled agricultural and fishery workers the EU survey estimated that 50% of cases work in awkward positions for at least a quarter of their working time compared to only 21.9% in the national survey.

Employment status: The breakdown for employment status is not comparable between the two data sets.

Austria, Belgium, France, Ireland, Italy and Portugal provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: The national data highlights:

Sectors:

45 Construction;

85 Health and Social work; and

90, 93, 95 Sewage and refuse disposal and laundry and other service activities.

Occupations:

22 Life sciences and health professionals; and

32, 33 Life science and health associate professionals.

Germany: EU highlights:

Mining and Construction

Plant and machine operators.

National data highlights:

Construction,

Skilled agricultural and craft related trades workers.

Netherlands: The national data especially highlights the relative number of workers with “Any exposure” in the Construction industry and Public administration sector and in the occupation of craft workers.

Sweden: The national data and ESWC- data for sectors and occupations are similar.

United Kingdom: Comparing the proportion of workers in the national survey who work in awkward positions for at least a quarter of their working time, two sectors have high rankings in the national survey: transportation and communications sector and the hotels and restaurants sector which are not highlighted by the EU survey.

A similar comparison for occupations shows one occupation with a high ranking in the national survey: service workers, shop, market sales workers, which is not highlighted by the EU survey.

Austria, Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, Portugal and Spain provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Denmark: Strenuous working postures are of significant importance, especially when they are combined with lifting of heavy loads and repetitive work. Inadequate working posture is a well-known aggravating factor for disorders of the lower spine. It is also well known that the working level should be adjustable according to the workers’ height. Working at a level above elbow height implies inexpedient lift of the shoulders or arms, which might lead to chronic pain in the neck and shoulder region.

The prevention of strenuous postures is related to an appropriate design of the workplace, machinery and work organisation.

In the recently published sector-specific guides on working environment issues, strenuous working postures have been selected as a principal problem for the following sectors (not in order of priority and classification not completely compatible with NACE-93):

Maintenance and Repair of Motor Vehicles, Electrical Household Goods, Bicycles, Office and Computing Machinery	Manufacture of Means of Transport
Metal Production, Steel Rolling Mills and Foundries	Manufacture of Basic Pharmaceutical Products
Supply of Electricity and Hot Water for Heating	Shipyards
Manufacture of Iron and Metal Articles	Retail Trade and Service/ Gas Stations
Contractors of Soil, Concrete and Coverings	Manufacture of Machinery
Bricklaying, Joinery and Carpentry	Office and Administrative Work
Building Completion	Insulation and Installation
Manufacture of Paper and Cartons for Packing and Binding	Printing and Publishing
Wholesale	Transport of Goods
Transport of Passengers	Fire-Fighting and Rescue Services
Manufacture of Products Made of Stone, Clay and Glass	Textiles, Clothing and Leather Goods
Manufacture of Wood Goods and Furniture	Manufacture of Chemical Products
Manufacture of Products Made of Plastic, Rubber, Asphalt and Mineral Oil	
Manufacture of Medical Equipment, Toys, Photo Equipment etc.	
Supermarkets and Department Stores etc.	Service Activities (Personal and Other)
Investigation and Security Activities, Military Service etc.	Cleaning Activities
Hotels and Restaurants	Amusements, Culture and Sport
Processing of Pork and Beef	Processing of Poultry Meat
Processing and Preserving of Food Products, Breweries etc.	Manufacture of Dairy Products etc.
Bread, Tobacco Products, Chocolate and Sugar Confectionery	Agriculture

Market Gardening, Forestry etc.
Home Nursing Activities and Residential Nursing Homes
for Adults
Day Institutions and Residential Homes for Children

Hospitals
General Practitioners, Dentists etc.

Spain: Do not have the same risk categories.

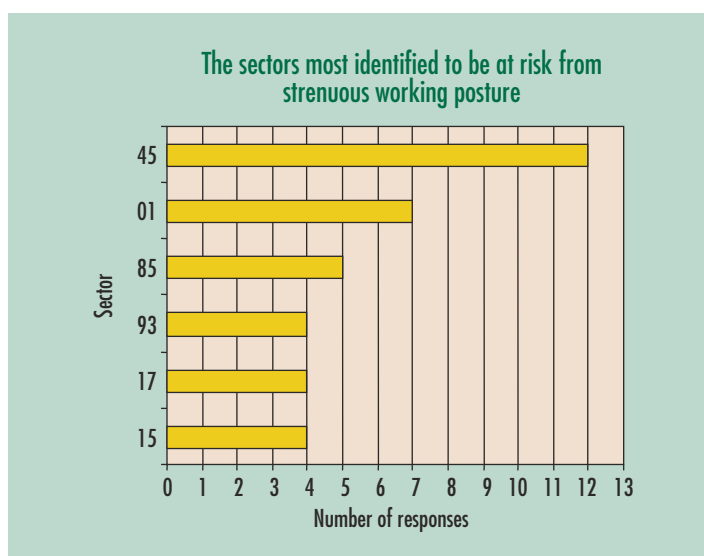
United Kingdom: The national data is from the survey of self-reported working conditions that was carried out in 1995 and the EU data is based on a survey carried on in 1996.

4.8.4 Strenuous working postures – sectors at risk

The six most frequently identified sectors which the Focal Points* considered to be most at risk to strenuous working postures exposure are listed below:

45 Construction;
01 Agriculture, Hunting and related service activities;
85 Health and Social Work;
93 Other Service activities;
17 Manufacture of Textiles; and
15 Manufacture of Food Products and Beverages.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹¹⁰ = 72

The ESWC-data shows that sector “Agriculture, Hunting, Forestry and Fishing” was highlighted as the one with the highest percentage (71%) of workers exposed to strenuous working postures. From the information compiled in this report the “Construction” sector was most frequently identified as being at risk from strenuous working postures as reported by twelve Focal Points.

The second most frequently reported sector exposed to strenuous working postures was “Agriculture, Hunting and Related Services” which was identified in seven national reports.

4.8.5 Strenuous working postures – occupations at risk

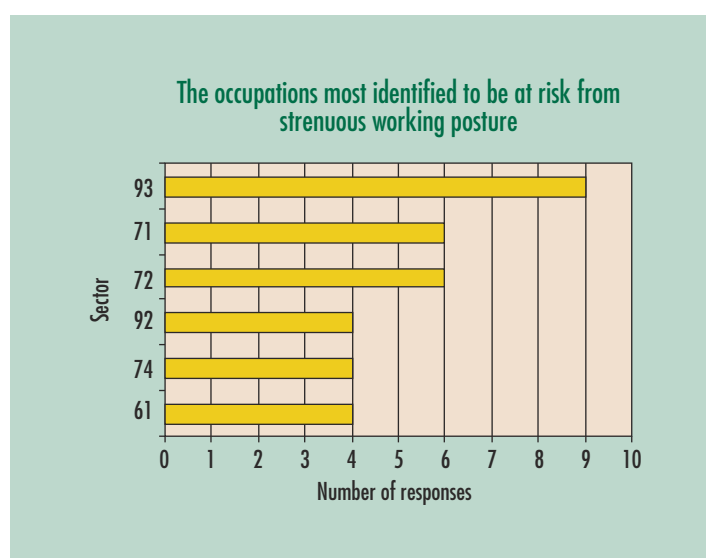
The six most frequently identified occupations which the Focal Points* considered to be most at risk to strenuous working postures exposure are listed below:

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹¹⁰ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

- 93 Labourers in mining, construction, manufacturing and transport;
- 71 Renting of Machinery and Equipment without Operator and of Personal and Household Goods;
- 72 Metal, machinery and related trades workers;
- 92 Agricultural, fishery and related labourers;
- 74 Other craft and related trades workers; and
- 61 Water Transport.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹¹¹ = 54

The graph above shows that the national reports most frequently identified workers in the occupation category “Labourers in mining, construction, manufacturing and transport” to be most exposed from risk of injury caused through strenuous working postures. The ESWC-data identifies workers in the category “Skilled Agricultural and Fishery Workers” to be most exposed, with 78% of the workers interviewed reporting exposure to strenuous working postures.

In one national report, the comment was made that it was necessary to continuously improve prevention measures. Work analysis and improvements in workplace ergonomics are required. In some areas the lack of personnel makes the situation worse, e.g. in the Health and Social care sector.

4.8.6 Strenuous working postures – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to exposure to strenuous working postures in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to strenuous working postures and company size to be given (see Appendix 5a for the number of responses).

4.8.7 Strenuous working postures – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk to strenuous working postures in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to strenuous working postures and gender to be given (see Appendix 5b for the number of responses).

4.8.8 Strenuous working postures – age category at risk

Each Focal Point was asked to; “State which age category has a particular high risk exposure to exposure to strenuous working postures in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to strenuous working postures and age categories to be given (see Appendix 5c for the number of responses).

¹¹¹ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

4.8.9 Strenuous working postures – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to strenuous working postures and employment status to be given (see Appendix 5d for the number of responses).

4.8.10 Strenuous working postures – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to strenuous working postures over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (5 Focal Points): **Belgium, Germany, Netherlands, Italy and Luxembourg**

Stable Trend (2 Focal Points): **Greece and Sweden***

Increased Trend (2 Focal Points): **Finland and Spain**

Category “Other” (6 Focal Points): **Austria***, Denmark**, France, Ireland, Portugal and United Kingdom****

“Other Response” includes no response/unable to respond due to unavailability of national data/incompatibility of national data.

* This trend is based on male/female responses to four national questions (1991 – 1997).

** Trend regarding the number of workers exposed over the last 3 – 5 years is unknown.

*** No available data regarding number of exposed workers.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: No available data regarding the number exposed workers. General decrease in the production (industrial) sectors as automation increases.

Denmark: In the recently published sector-specific guides on working environment issues, strenuous working postures have been selected as a principal problem for the following sectors (not in order of priority and classification not completely compatible with NACE-93):

Metal Production, Steel Rolling Mills and Foundries	Shipyards
Manufacture of Means of Transport	Insulation and Installation
Supply of Electricity and Hot Water for Heating	Manufacture of Machinery
Manufacture of Iron and Metal Articles	Bricklaying, Joinery and Carpentry
Maintenance and Repair of Motor Vehicles, Electrical	
Household Goods, Bicycles, Office and Computing	
Machinery	
Contractors of Soil, Concrete and Coverings	Building Completion
Printing and Publishing	Wholesale
Manufacture of Paper and Cartons for Packing and Binding	Transport of Goods
Fire-Fighting and Rescue Services	Transport of Passengers
Manufacture of Wood Goods and Furniture	Cleaning Activities
Manufacture of Products Made of Plastic, Rubber, Asphalt	Textiles, Clothing and Leather Goods
and Mineral Oil	
Manufacture of Products Made of Stone, Clay and Glass	Retail Trade and Service/ Gas Stations
Manufacture of Medical Equipment, Toys, Photo Equipment etc.	
Manufacture of Basic Pharmaceutical Products	Manufacture of Chemical Products
Supermarkets and Department Stores etc.	Office and Administrative Work
Investigation and Security Activities, Military Service etc.	Service Activities (Personal and Other)
Hotels and Restaurants	Amusements, Culture and Sport
Processing and Preserving of Food Products, Breweries etc.	Processing of Pork and Beef
Bread, Tobacco Products, Chocolate and Sugar	Processing of Poultry Meat
Confectionery	
Manufacture of Dairy Products etc.	
Market Gardening, Forestry etc.	Agriculture
Home Nursing Activities and Residential Nursing Homes	
for Adults	Hospitals
Day Institutions and Residential Homes for Children	General Practitioners, Dentists etc.

France: No data available to make a comparison.

Finland: In the Finnish Quality of Worklife Surveys 1977, 1984, 1990 and 1997 the proportion of those who state that difficult or uncomfortable working positions are present in their work has risen gradually in every survey.

Sweden:

Strenuous postures, generally

[x] remained stable; Male. 1991 33,2%. 1997 33,2%

[x] increased; Female. 1991 37,5%. 1997 39,3%. Significant

Bending forward without support at least 1/4 of the time

[x] decreased; Male. 28,6%. 1997 26,8% . Significant

[x] remained stable; Female. 1991 27,3. 1997 26,9%

Twisted postures at least 1/4 of the time

[x] remained stable; Male. 1991 26,5%. 1997 26,5%

[x] increased; Female. 1991 26,3%. 1997 27,7%. (Significant but small increase)

Working with hands raised at least 1/4 of the time

[x] decreased; Male. 1991 23,8% 1997 20,7%. Significant Female. 1991 17,7% 1997 14,7%. Significant

Belgium, Germany, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain and **United Kingdom** provided no additional information in relation to the trends in the workplace.

4.8.11 Strenuous working posture – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by four Focal Points: **Denmark, Greece, Netherlands** and **Luxembourg**

Development of additional preventive action was indicated by six Focal Points: **Austria, Belgium, Finland, Italy, Spain** and **Sweden**

The category “Other” was indicated by one Focal Point: **France**

No response: **Ireland, Portugal** and **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: The pressure on production causes a higher work speed. In cases where there is a high demand for variety and flexibility concerning the manipulation of goods (for example with wrapping) the work stays mainly manual. Organisational and technical improvements on a short-time basis mean an investment which is often postponed by the rapidly changing market conditions. Automation is in many cases a solution but it causes often a loss of employment.

With regard to the type of physical loads, the legislation on the manual handling of loads of (12.8.93) emphasises on back problems. Preventive actions are often focussing on the training of lifting and manipulating of goods, while the real solutions to the problem should be found in a technical and organisational optimisation of work.

Since legislation does not focus on static loads nor on repetitive movements, little attention has been given to these problems. However they cause a lot of absenteeism, turnover and loss of human energy. Several projects have been initiated in order to tackle both items (advise committee for the higher council, PREVENT, ...).

Finland: There is continuous need to improve prevention. Work analysis and improvements in workplace ergonomics are required. Lack of personnel worsens the situation in Health and Social care sectors.

Italy: Improvement of the technical and organisational measures, training.

Spain: work place ergonomic design, worker training and information and work organisation implementation (rotation, tasks re-design).

Sweden: The implementation of the new provisions on ergonomics for the protection against musculoskeletal disorders (Ordinance AFS 1998:1 from the Swedish National Board of Occupational Safety and Health) calls for more distinct supervision activities. Action against musculoskeletal disorders is included in the prioritised supervision areas in the plan of activities for the Swedish Occupational Safety and Health administration for the period 1997-1999. Currently when constructing workplaces, one has to ensure that good working postures are possible to obtain.

Austria provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Netherlands: A related question is into the exposure of the upper part of the body in one and the same posture. In 1996 appropriately 45% of the workers indicated that they are “regularly” exposed to this situation; the 1997 exposure is 43%. It has been stated in studies that the Netherlands in comparison to other EU countries have a low exposure to lifting/moving and strenuous working postures. Differences are explained by differences in the nature of the Dutch work when compared with the EU situation. In the Netherlands the proportion of workers that work in service sectors and service jobs is larger than the proportion in construction and industry. Exposures to lifting/moving and strenuous working postures in Dutch construction and industry, are comparable to the EU situation in these sectors.

From monitor data it is known that strenuous working postures and lifting/moving heavy loads quite often occur in combination. Data available indicates that approximately one million workers are concurrently exposed to two or more of the next exposure factors: physical strength or exertion, vibrations, noise and time pressure at work; 350.000 workers are simultaneously exposed to three or four factors. In particular, in jobs at the lower levels of the labour market, concurrent exposures accumulate (one out of three workers is exposed to two or more of the risk factors mentioned).

HANDLING CHEMICALS

4.9

HANDLING CHEMICALS

4.9.1 Summary – handling chemicals

OVERVIEW

From a European picture, the ESWC-data shows that 14% of workers interviewed in the survey reported some involvement with the handling of chemicals.

The information collected in this project highlighted eight Focal Points reporting a need for the development of additional preventive actions to control the handling of chemicals in the workplace. Four Focal Points reported that their taken/planned preventive actions were sufficient to control the exposure indicator. Three Focal Points were unable to answer the question.

Although a limited response, seven Focal Points reported a stable trend to handling chemicals in the workplace. One Focal Point reported a decrease in the exposure and three reported an increase to handling chemicals in the workplace. One Focal Point attributed the increase due to the increased number of people in employment. Four Focal Points were unable to establish a particular trend.

Many different occupation categories handle a variety of chemicals as part of their work activities, for example agriculture workers use pesticides, detergents and microbiological dusts, and construction workers commonly use solvents and paints.

Most chemical exposures have not decreased. Legal restrictions and prohibitions have decreased exposure and use of certain chemical agents such as lead and asbestos. Exposure has been reduced through the appropriate selection and use of personal protective equipment (PPE).

One Focal Point commented in their national report that, on the basis of human or animal experiments, information is known about a whole range of chemical substances that are considered to pose carcinogenic, neurotoxic or reproductive hazards. However, the general knowledge about the potency of single substances is still insufficient and needs improving. The example given was that of about 300 substances, which were considered to be carcinogens, there was a need to identify the most hazardous ones within the group. Also, it was generally known that organic solvents have neurotoxic properties and can cause the “psycho-organic syndrome”, but in order to prevent the disease occurring it is necessary to identify which are the most potentially hazardous solvents.

One Focal Point reported that approximately one million people in their country were still occupationally exposed to chemical agents. This number had decreased moderately in the 1990s but mainly as a result of decreasing employment during a recession. When employment improved, some of the exposures, (e.g. dusts in construction), rose again.

A combination of legislation and occupational safety efforts has decreased exposures to some chemicals effectively, reported one Focal Point. The occurrence of tobacco smoke at work has decreased significantly as well as exposure to asbestos. However, the majority of chemical exposures have not changed much in the 1990s. The most common chemical agents causing occupational diseases in 1996 were asbestos, animal dusts, flour dust and detergents.

One national report identifies the need for continuous effort to identify high occupational exposures by health surveillance methods and industrial hygienic measurements. Examples of new chemicals being used include enzymes in production of animal feed and acrylates used in dentistry. Effective preventive measures are needed to decrease exposure.

The dissemination of information on possible substitutes for hazardous chemical agents should be increased.

In one national report, the Focal Point reported a series of actions for controlling the risks from handling chemicals in the workplace. These included:

- chemical industry should contribute to the supply of information by publishing the components of their products;
- standardisation at EU level of chemical safety data sheets would improve their use;
- risk code should be replaced by a short text message; and
- handling of chemicals should always be monitored by OSH professionals for Elementary occupations.

Also reported, volatile organic compounds (VOC's) is a subject area with many unanswered questions. Target sectors include: “Manufacture of coke, refined petroleum products and nuclear fuel”, “Manufacture of rubber and plastic products” and “Manufacture of metal products, except machinery and equipment”.

SECTORS AT RISK

From the information collected for the purposes of this project, the Focal Points most frequently identified the category “Manufacture of Chemicals and Chemical Products” as the sector to be at risk from handling of chemicals at work. This was closely followed by the sector category “Agriculture, Hunting and Related Service Activities”. The ESWC-data identified the sector category “Agriculture, Hunting, Forestry and Fishing” with the highest percentage (29%) of workers reporting handling chemicals whilst at work.

OCCUPATIONS AT RISK

The Focal Points most frequently identified the following two occupation categories as being most exposed to the handling of chemicals:

- Labourers in Mining, Construction, Manufacturing and Transport; and
- Stationary-plant and Related Operators.

In the ESWC-data it was the occupation category “Skilled Agricultural and Fishery Workers” category that reported the highest (31% of interviewees) exposure to handling chemicals in the workplace. This was closely followed by the “Elementary occupation” category in which 28% of interviewees reported handling chemicals.

One Focal Point commented that in several occupations the employees are exposed to low concentrations of a series of substances. Focus was required to determine the effects on individuals after exposure to such combinations. Furthermore, they stated that there was a lack of information of the total exposure to workers.

Another Focal Point reported that they expect the chemical industry to generally improve with regard to the hazards posed by handling chemicals, whilst the protection of agricultural workers was still deficient.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

One Focal Point identified the self-employed to be at risk mainly because this group contains the farmers and associated workers.

Another Focal Point reported that they considered the smaller sized company to be at a greater risk from handling chemicals because of the lack of information, training and application of risk management techniques.

PREVENTING EXPOSURE

As reported in the national reports, there are a number of key preventive measures that can be implemented to reduce the risk of exposure to handling chemicals. These measures range from removing the need to use the chemical/substance, substitution of the chemical to a less hazardous one, installation of automated machinery to isolation of the worker, provision of suitable personal protective clothing, and information, instruction and training.

It was reported that there is a need to continuously identify high occupational exposures through health surveillance methods and industrial hygienic measurements. Examples of new chemicals include enzymes used in production of animal feed and acrylates used in dentistry. Effective preventive measures are needed to decrease exposure, e.g., to allergenic and carcinogenic agents. This is particularly important because atopic allergies were reported to be on the increase and as a result, there will be larger numbers of sensitive individuals in the workplace.

The dissemination of information on substitutes for hazardous chemical agents should be increased and information and training to workers increased.

There is also a need for monitoring the compliance with legislation.

In one national report, the Focal Point stated that exposure to certain chemicals has decreased only by the effective implementation of legislation. Such regulations have either prohibited or restricted the use of a particular hazardous substance or chemical agent e.g. use of asbestos, passive smoking and lead.

4.9.2 Handling chemicals – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
15	14	14

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers exposed to handling or touching dangerous substances are:

Time period	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
① All or almost all the time	5	4	5	2	3	8	5	15	4	4	4	6	6	7	5	4
② Around ¾ or ½ the time	3	5	2	2	3	3	3	9	3	5	2	3	4	5	3	4
③ Around ¼ of the time	6	6	4	5	12	5	6	8	4	8	6	5	3	5	7	8
Total ①+②+③	14	15	11	9	18	16	14	32	11	17	12	14	13	17	15	16

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

Percentage of workers exposed to handling or touching dangerous substances by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
① All or almost all the time	5	6	9	12	6	5	1	4	0	2	4	5
② Around ¾ or ½ the time	3	7	4	6	6	2	2	2	1	3	3	3
③ Around ¼ of the time	6	16	7	7	8	4	3	5	0	3	4	5
Total ①+②+③	14	29	20	25	20	11	6	11	1	8	11	13

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing C-D: Mining, Quarrying and Manufacturing
 E: Electricity, Gas and Water Supply F: Construction
 G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
 H: Hotels and Restaurants I: Transport, Storage and Communications
 J: Financial Intermediation K: Real Estate, Renting and Business Activities
 L: Public Administration and Defence; Compulsory Social Security M-Q: Other Services

Percentage of workers exposed to handling or touching dangerous substances by occupations are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	5	1	5	5	0	3	7	10	9	6	8
② Around $\frac{3}{4}$ or $\frac{1}{2}$ the time	3	2	2	3	0	2	9	7	3	5	4
③ Around $\frac{1}{4}$ of the time	6	4	5	3	1	4	15	11	9	6	8
Total ①+②+③	14	7	12	11	1	9	31	28	21	17	20

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

2: Professionals

3: Technicians and associate professionals

4: Clerks

5: Service workers and shop and market sales workers

6: Skilled agricultural and fishery workers

7: Craft and related trades workers

8: Plant and machine operators and assemblers

9: Elementary occupations

0: Armed forces

4.9.3 Handling chemicals – comparison between European and national data

If a Focal Point presented national data on chemical exposure, then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to handling chemicals risks in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided, this has been summarised below the table.

Member State	Question 1			Question 2		
	"Are there differences between the national data and the data from European sources?"			"Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"		
	Yes	No	No comparison reported	Yes	No	No comparison reported
			Lack of National data Difficulty in comparability of data			Lack of National data Difficulty in comparability of data
Austria			○			○
Belgium			○			○
Denmark			○			○
Finland*			○	○		
France*			○			○
Germany*	○					○
Greece*		○			○	
Netherlands			○			○
Ireland			○	○		
Italy			○			○
Luxembourg*	○					○
Portugal			○			○
Spain*		○			○	
Sweden			○			○
United Kingdom*	○			○		

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Denmark: No data directly comparable with the ESWC are available.

Companies themselves should be able to substitute from a hazardous substance to a less hazardous one, and the authorities should provide the tools, including information on the hazardous properties of the substances. These are principal guidelines for substitution.

On the basis of humans or animal experiments we today know that a whole range of chemical substances are considered carcinogenic, neurotoxic or reprotoxic. However the general knowledge about the potency of the single substance is still insufficient, and needs improvement in the coming years. In this respect, we know that about 300 substances are considered carcinogenic, but we need to identify the most hazardous ones. We also know that organic solvents in general have neurotoxic properties, and can cause "psycho organic syndrome", but to prevent this disease, we need to identify the most potent and hazardous solvents.

Disturbances of the endocrine system because of exposure to, e.g., some plastic softeners and flame retardants, are suspected of reprotoxic effects, and will probably be a very important element in future preventive work and may influence the OEL-setting.

In several occupations the employees will be exposed to low concentrations of series of substances. Focus will be put on effects to the individual after exposure to combinations of substances. Furthermore, we lack information of the total exposure to the workers. In many situations exposure will take place at the workplace and elsewhere. This makes it difficult to estimate the total exposure to workers, and plays an important role for the evaluation of the overall health situations at the workplace.

In the recently published sector-specific guides on working environment issues, chemical exposures have been selected as a principal problem for the following sectors (not in order of priority and classification not completely compatible with NACE-93):

Metal Production, Steel Rolling Mills and Foundries	Shipyards
Manufacture of Means of Transport	Manufacture of Iron and Metal Articles
Supply of Electricity and Hot Water for Heating	Manufacture of Machinery
Maintenance and Repair of Motor Vehicles, Electrical	Manufacture of Electrical and Electronic Articles
Household Goods, Bicycles, Office and Computing Machinery	
Bricklaying, Joinery and Carpentry	Contractors of Soil, Concrete and Coverings
Manufacture of Paper and Cartons for Packing and Binding	Printing and Publishing
Textiles, Clothing and Leather Goods	Hotels and Restaurants
Manufacture of Products Made of Plastic, Rubber, Asphalt and Mineral Oil	Building Completion
Manufacture of Products Made of Stone, Clay and Glass	Insulation and Installation
Manufacture of Medical Equipment, Toys, Photo Equipment etc.	
Mining and Quarrying and Semi-manufactured Products	Manufacture of Chemical Products
Manufacture of Basic Pharmaceutical Products	Retail Trade and Service/ Gas Stations
Supermarkets and Department Stores etc.	Cleaning Activities
Amusements, Culture and Sport	Agriculture
Market Gardening, Forestry etc.	Hospitals
General Practitioners, Dentists etc.	

Finland: The FIOH data are based on a larger sample although the sample was restricted to population between the ages of 25 and 64 years. The particular question refers specifically to "chemicals" in contrast with the more general ESWC-data question.

France: The difference between the basis of the two investigations makes comparison difficult.

Germany:

- the national data reports a more than 5% higher exposure risk; and
- men working in companies with >500 employees are at significantly higher risk.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Ireland: The national data is more focussed than the EU data in relation to categories affected.

Luxembourg: Used source: Exposure -

"1/4 to 1/2 of the time" instead of "1/2 to 3/4 of the time"

"less than 1/4 of the time" instead of "around 1/4 of the time"

The ESWC-data highlights risks in the following:

Sectors:

A-B Agriculture, forestry, 18.2% of workers exposed during all of the time

C-D Manufacturing, 17.6% of workers exposed during all of the time

E - Electricity, gas and water supply 14.3% of workers exposed during all of the time

Occupations:

6 - Skilled agricultural workers, 15.4% of workers exposed all of the time

9 - Elementary occupations, 9.4% of workers exposed all of the time.

Spain: In general, rate of exposure is similar, but the sectors rate don't have the same distribution in European data compared to national data.

United Kingdom: There are two questions in the national survey on handling harmful substances. The national question that is comparable to the EU question asks: "Does your job ever require you to handle or touch harmful substances or materials?" "How often does this happen?" While the EU question asks: "Are you in your work exposed to handling or touching dangerous products or substances?" The additional question on the national questionnaire which is not comparable to any EU question asks: Does your job ever expose you to breathing fumes, dusts or other harmful substances? "How often does this happen?"

The overall proportion of cases who handle harmful substances at work for at least a quarter of their working time was similar for the two data sets (EU: 17.9%, national 15.2%).

Personal variables: There are no major differences between the two surveys for gender or age.

Company size: The two surveys are not directly comparable for companies of less than 100 employees. There are no major differences between the two surveys for company sizes larger than 100 employees.

Sector: The main differences between the surveys by sector were as follows:

In the agriculture, hunting, forestry and fishing sector, no cases reported handling harmful substances at work for at least a quarter of their working time in the EU survey compared to 23.6% in the national survey.

In the electricity, gas and water sector, the EU survey estimated that 27.8% of cases handle harmful substances for at least a quarter of their working time, compared to 12.1% in the national survey.

In the construction sector, the EU survey estimated that 16.7% of cases handle harmful substances for at least a quarter of their working time, compared to 28.5% in the national survey.

Occupation: The main differences between the surveys by occupation were as follows:

For the armed forces no cases reported handling harmful substances for at least a quarter of their working time in the EU survey compared to 22.3% in the national survey.

For "skilled agricultural and fishery workers", the EU survey estimated that 10.5% of cases handle harmful substances for at least a quarter of their working time, compared to 40.8% in the national survey.

Employment status: The breakdown for employment status is not comparable between the two data sets.

Austria, Belgium, Netherlands, Italy, Portugal and Sweden provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: The national data highlights the following:

Occupations:

- 22 - Life science and health professionals;
- 32 - Life science and health associate professionals;
- 52 - Personal and protective services workers;
- 71 - Extraction and building trades workers;
- 72 - Metal, machinery and related trades workers.

France: The difference between the basis of the two investigations makes comparison difficult.

Germany: Differences include:

National data	highlights	agriculture	Other craft and related trades workers
EU data	highlights		Skilled agricultural and fishery workers

Ireland: The health care sector is highlighted in the national data.

United Kingdom: Two sectors in the national survey with the highest proportion of cases who handle harmful substances for at least a quarter of their working time, not highlighted by the ESWC-data survey, are: construction and agriculture, hunting, forestry and fishing.

Occupations which have a higher ranking in the national survey are: skilled agricultural and fishery workers and the armed forces.

Austria, Belgium, Denmark, Greece, Netherlands, Italy, Luxembourg, Portugal, Spain and Sweden provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Finland: The ESWC-data question is unclear as to the inclusion/exclusion of air contaminants originating from work process, e.g., welding fumes¹¹² and wood dusts.

Germany: The differing answer categories do not allow a direct comparison to be made between the ESWC-data and the BIBB/IAB survey. There is a clear discrepancy between the "perceived risk" and the "actual risk", as was investigated in a study by the Federal Institute for Occupational Safety and Health. It is in economic sector 24 "Manufacture of chemicals" that the dangerous substances directive has been best implemented, but it is also in this sector that awareness in dealing with dangerous substances is at its highest.

Spain: Do not have exposure categories in this question.

4.9.4 Handling chemicals – sectors at risk

The five most frequently identified sectors which the Focal Points^{*} considered to be most at risk from handling chemicals are listed below:

24 Manufacture of Chemicals and Chemical Products;

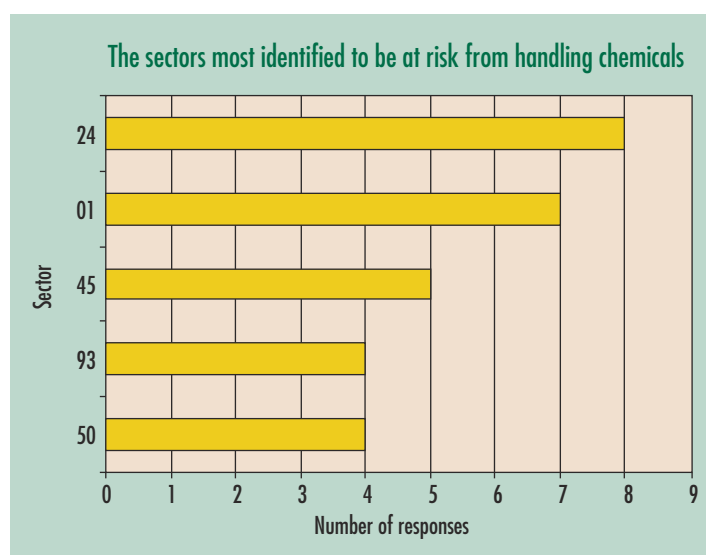
01 Agriculture, Hunting and related service activities;

45 Construction;

93 Other Service activities; and

50 Sale, Maintenance and Repair of Motor Vehicles and Motorcycles; Retail Sale of Automotive Fuel.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹¹³ = 58

From the information collected for the purposes of this project, as shown in the graph above, the national reports most frequently identified the category "Manufacture of Chemicals and Chemical Products" as the sector which was most exposed to the handling of chemicals. This was closely followed by the sector category "Agriculture, Hunting and Related Service Activities". In the ESWC-data, the "Agriculture, Hunting and Fishing" sector was identified as the key risk group.

In one national report it was stated that at present there is no monitoring system for the exposure to dangerous chemicals (or biological agents). However, it was the future intention of the Ministry of Social Affairs and Employment to monitor in the near future, the exposure to (potentially) dangerous substances in the work situation.

¹¹² A fume is defined as small solid particles of condensed vapour. Particle size range = 0.001 - 1.0 microns

^{*} The Focal Points used different approaches to identify the occupations to be considered most at risk to chemical exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

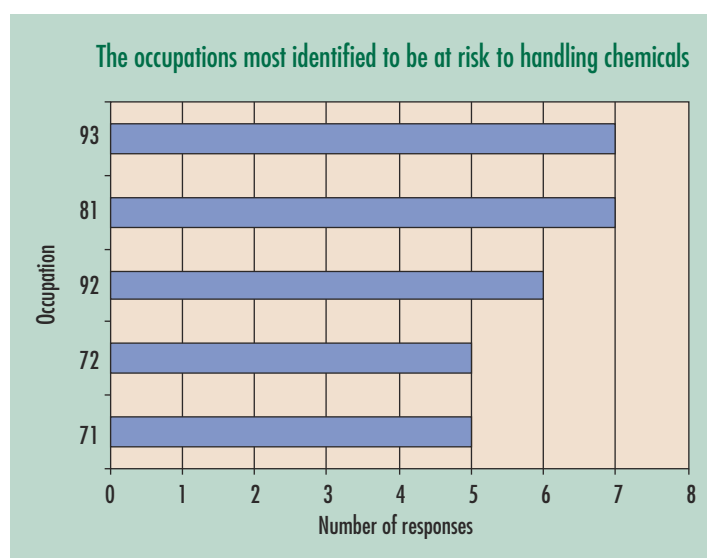
¹¹³ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

4.9.5 Handling chemicals – occupations at risk

The five most frequently identified occupations which the Focal Points* considered to be most at risk from handling chemicals are listed below:

- 93 Labourers in mining, construction, manufacturing and transport;
- 81 Stationary-plant and related operators;
- 92 Agricultural, fishery and related labourers;
- 72 Metal, machinery and related trades workers; and
- 71 Extraction and building trades workers.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹¹⁴ = 53

The above graph shows that from the national reports the Focal Points frequently identified the following two occupation categories as being most exposed to the handling of chemicals:

- Labourers in Mining, Construction, Manufacturing and Transport; and
- Stationary-plant and Related Operators.

In the ESWC-data, it was the “Skilled Agricultural and Fishery Workers” category that was identified as the highest exposure group for handling substances in the workplace.

One Focal Point commented that in several occupations the employees are exposed to low concentrations of a series of substances. Focus will be given to determining the effects to individuals after exposure to combinations of substances. Furthermore, they stated that there was a lack of information of the total exposure to workers. In many situations, exposure occurs at both the workplace and elsewhere. This makes it difficult to estimate total exposure values to workers in order to determine the health effects.

One Focal Point reported that they expect the chemical industry to generally improve with regard to the hazards posed by handling chemicals, whilst the protection of agricultural workers was still deficient.

4.9.6 Handling chemicals – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to exposure to handling chemicals in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to handling chemicals and company size to be given (see Appendix 5a for the number of responses).

* The Focal Points used different approaches to identify the occupations to be considered most at risk from chemical exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹¹⁴ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

4.9.7 Handling chemicals – gender at risk

Each Focal Point was asked to: *“State which gender category has a particular high risk to exposure to handling chemicals in the workplace.”*

Data provided by the Focal Points did not allow a European picture with regard to handling chemicals and gender to be given (see Appendix 5b for the number of responses).

4.9.8 Handling chemicals – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk exposure to exposure to handling chemicals in the workplace.”*

Data provided by the Focal Points did not allow a European picture with regard to handling chemicals and age categories to be given (see Appendix 5c for the number of responses).

4.9.9 Handling chemicals – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to handling chemicals and employment status to be given (see Appendix 5d for the number of responses).

4.9.10 Handling chemicals – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to handling chemicals over the last 3 – 5 years has decreased, remained stable or increased”*

The following responses were received:

Decreased Trend (1 Focal Point): **Finland**

Stable Trend (7 Focal Points): **Germany, Greece, Netherlands, Italy, Luxembourg, Sweden and United Kingdom**

Increased Trend (3 Focal Points): **Austria, Ireland and Spain**

Category “Other” (4 Focal Points): **Belgium, Denmark**, France and Portugal**

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

** Trend regarding the number of workers exposed over the last 3 – 5 years is not possible.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: No data available regarding the number of exposed workers. General increase in practically all sectors, as increased use is made of chemical substances. However, there is also a trend to use less dangerous substances (e.g. water-soluble paints) and/or to change production procedures (e.g. enclosed systems).

Finland: Most chemical exposures have not decreased. Legal restrictions and prohibitions have decreased exposure to certain chemical agents e.g. use of asbestos, passive smoking, lead.

Netherlands: In the Netherlands at present there is no monitoring system for the exposure to dangerous chemicals (or biological agents). In the POLS questionnaire a few questions give related indications: dirty work (20%: Yes, regularly), work in smell (10%); dangerous work (6%). These indirect exposure data show a slight decrease over the period.

ESWC takes inhalation and handling/contact with dangerous substances as exposures. From the ESWC, the indications are that the exposure has remained stable. As a whole, the exposure situation in the Netherlands is more favourable than in the EU. Specific Dutch sectors can have a less favourable exposure than the EU total.

The intention of the Ministry of Social Affairs and Employment is to monitor, in the near future, the exposure to (potentially) dangerous substances in the work situation (in the monitors of the Central Bureau of Statistics).

The number of major accidents in chemical process installations (that contain dangerous chemical substances) in 1997 was three and in 1996 there were two major accidents (accidents that are reported to the EU Commission). Actions with regard to Asbestos (see 2.3.2, step 3 in the national report); actions with regard to OPS (Organo Psycho Syndrome) are described in 2.3.3, step 3 in the national report.

In 37 collective labour agreements, statements are embedded on working with dangerous substances; these agreements apply to approximately one million workers. Statements imply the possibility of applied scientific research on the substances used,

information to workers, possibilities for workers to participate in an occupational health check up. Criteria for safety at work with dangerous substances are embodied in five agreements only. In the agriculture sector statements cover the various aspects.

Ireland: Increased trend due to the increased number of people in employment.

Italy: Chemical industry is going to improve while agriculture workers' protection is still lacking procedures.

Portugal: Insufficient data to draw conclusions.

Belgium, Denmark, France, Germany, Greece, Luxembourg, Spain, Sweden and **United Kingdom** provided no additional information in relation to the trends in the workplace.

4.9.11 Handling chemicals – evaluation of preventive actions

Focal Points were asked to indicate if:

"Preventive actions taken or planned are sufficient to deal with the existing related problems;"

"The development of additional preventive action is necessary;" or

"Other."

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by four Focal Points: **Austria, Denmark, Greece** and **Sweden**

Development of additional preventive action was indicated by eight Focal Points: **Belgium, Finland, Ireland, Italy, Luxembourg, Portugal, Spain,** and **United Kingdom**

The category "Other" was indicated by two Focal Points: **France** and **Netherlands**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE "THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY", THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Finland: Almost one million Finns are still occupationally exposed to chemical agents. The number of exposed decreased moderately in the 1990s but this resulted mainly from decreasing employment during a recession. When employment improved, some of the exposures, e.g., dusts in construction, rose again.

Legislation and occupational safety efforts have decreased some chemical exposures effectively. Occurrence of tobacco smoke at workplaces has decreased significantly, as well as exposure to asbestos. However, majority of chemical exposures have not changed much in the 1990s. Occupational diseases due to chemical exposure decreased in 1990-96 from 2500 to 2300 cases annually which is less than the reduction of the employed. The most common chemical agents causing occupational diseases were in 1996 asbestos, animal dusts, flour dust, and detergents.

There is a continuous need to identify high occupational exposures by surveillance methods and industrial hygienic measurements. Examples of new chemicals include enzymes used in production of animal feed and acrylates used in dentistry. Effective preventive measures are needed to decrease exposure, e.g., to allergenic and carcinogenic agents. This is particularly important because atopic allergies are on the increase and, as a result, there will be larger numbers of sensitive individuals in the labour force. The legal basis for such preventive action is sufficient. Dissemination of information on substitutes for hazardous chemical agents should be increased.

Ireland: The Authority is at present reviewing possible initiatives with regard to this exposure.

Italy: Use of PPE.

Luxembourg: Actions include:

- Chemical industry has to contribute by publishing the components of their products and, above all, the information related to the additives, representing mostly only about 1% but often the highest risk factor.
- Standardisation at EU level of safety sheets would improve their use.
- Risk codification should be replaced by a short written message.
- Handling of chemicals should always be monitored by OSH-professionals and, above all, for Elementary occupations.

Comments:

- The Volatile Organic Compounds till now is a subject burdened with many question marks. Enough funding is not planned for research.
- Information and training of company medical staff have to be topics for the future.

Sector 23/25 – Manufacture of coke, refined petroleum products and nuclear fuel, Manufacture of rubber and plastic products.

Medical staff are in charge of listing the chemicals which are in use, as well as the workers who get in touch with chemicals in their specific plant section.

phase 1: priority identification for air check analyses (chemical job assignment hazards score);

phase 2: priority identification to increase work place quality.

Sector 28 – Manufacture of metal products, except machinery and equipment:

- The producers are required to attach a safety sheet (toxicology information sheet) to their products.
- Some products are analysed in laboratories. The information goes to:
 - the workers' representative
 - the manager of the department
 - the workers

Portugal: There is a need to collect data at national level. Improvement of preventive actions needs to be implemented in several sectors e.g. health, agriculture, public services and enterprises.

Spain: Specific training and information for workers;

Comfortable personal protective equipment (PPE) selection and design;

Adequate use of PPE;

Installation of automation and technical control; and

Surveillance about laws implementation.

United Kingdom: This is ongoing – Control of Substances Hazardous to Health Regulations (COSHH) essentials proposed asthma Approved Code of Practice (ACoP). Good Health is Good Business (GHGB).

Belgium provided no additional information in relation to the evaluation of development of additional preventive action is necessary.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

No additional comments submitted.

CHEMICAL/BIOLOGICAL RISKS

4.10

CHEMICAL/BIOLOGICAL HAZARDS: CARCINOGENS, NEUROTOXICS, REPRODUCTIVE HAZARDS, INFECTIOUS BIOLOGICAL FACTORS, AND NON-INFECTIOUS BIOLOGICAL FACTORS

This section presents the findings from the national reports when the Focal Points were asked to identify the most important chemical/biological risks to the working population. Each Focal Point was requested to identify five chemical/biological substances, the number of workers exposed, together with the trend in the exposure situation in the particular sector for the following categories:

- carcinogens;
- neurotoxic substances;
- reproductive hazards;
- infectious biological hazards; and
- non-infectious biological hazards.

Graphs are presented for each of the above categories of chemical/biological substances in relation to the total times they were recorded across all sectors. For example, thirteen Focal Points identified asbestos as one of their most important risks. In detail, the national reports highlighted that asbestos was prevalent across forty-one different sectors.

Having identified the particular chemical/biological hazards, the Focal Points were then requested to evaluate the state of current preventive control measures in place. The results obtained are presented below.

4.10.1 Carcinogenic substances – summary

There was no specific ESWC-data relating to carcinogenic substances to provide a European picture. From the information collected in the national reports, the Focal Points identified twenty-two different carcinogenic substances. The most frequently identified carcinogen was asbestos. Whilst the use of asbestos is prohibited, the risk to workers remains because of its historical use throughout many industrial sectors. Activities such as demolition and refurbishment of buildings and plants were seen as being vulnerable to the exposure of asbestos.

Six Focal Points reported the need for the development of additional actions to combat exposure to carcinogenic substances in the workplace.

One Focal Point commented that the publication of Council Directive 90/394/CEE has given a new impetus to the legislation on carcinogens. However, it was considered that the full implementation of such measures can take a long time before the benefits are observed and the working environment is fully conscious about the risks encountered when working with carcinogens. Adverse health effects from exposure to carcinogens may only show up after a considerable time has elapsed, therefore society has to bear the heritage of exposure conditions that occurred many years ago. For these reasons the Focal Point did not expect an immediate drop in incident rates in the near future.

Also mentioned by several Focal Points was the lack of reliable statistical information on carcinogens. For example, it was reported that a number of cancer cases are not registered as being originated through occupational exposure for lack of evidence. As a result, the official figures of recognised occupational diseases can prove to be an unreliable source to use for establishing the effectiveness of preventive measures.

The current legislation was considered to be sufficient by one Focal Point for the control and surveillance of exposure to carcinogens in the workplace. However, high exposure to carcinogens still exists and health surveillance activities (to identify them through exposure measurement registers), quantitative risk assessment and more effective means to eliminate and decrease exposures are required.

One Focal Point reported that determining the number of exposed workers in small to medium-sized companies is a difficult task and one that is common to most Member States. The example of the evaluation of substances, within the framework of the EU, used products directive (EEC directive 193/93), where a data deficit can be found with respect to small and medium-sized companies makes this particularly apparent. A suggested possible remedy could be the setting up of product registers.

The Ministry of Social Affairs and Employment and the Labour Inspectorate in one Member State was to take specific action on particular carcinogens such as silica and diesel engine emissions, through exposure monitoring in the workplace.

One national report identified the sector category “Manufacture of machinery and equipment” as requiring further improvements to be made with the elimination of dust sources and improved personal protective equipment. The report also stated that other sectors have obligations to report information on carcinogens on an annual basis.

In one report the Focal Point commented that asbestos and silica dust were not included since exposure to these substances were not considered to pose any present risk. However, historical exposure still results in more deaths than the total number of fatal occupational accidents.

ADDITIONAL ACTIONS IDENTIFIED

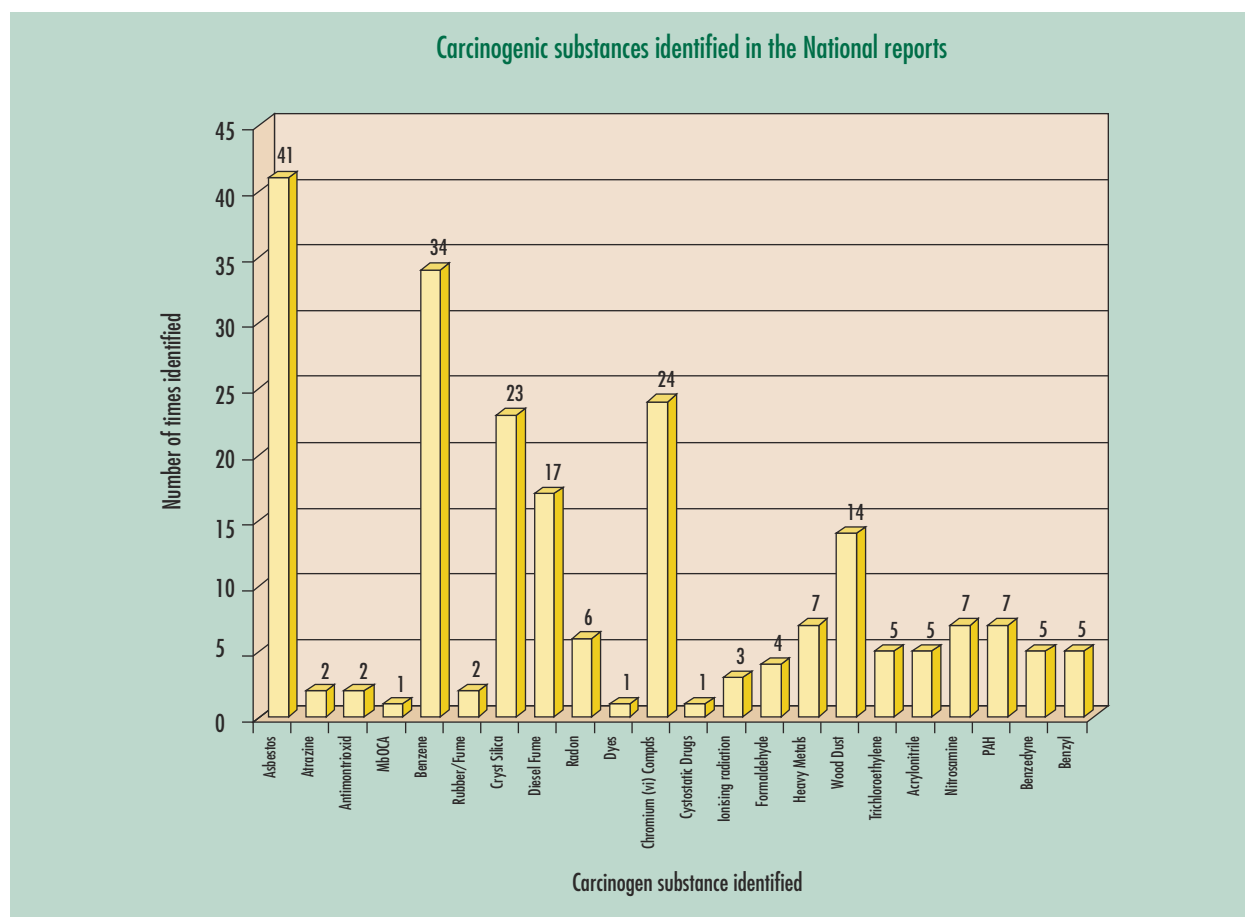
Where a Focal Point reported the need for the development of further preventive actions, a number of different issues were discussed. These issues summarised below:

- production of better statistical data;
- improved collaboration with public health systems;
- additional research;
- determine the number of exposed workers, particularly in small to medium sized companies;
- improved techniques involving personal protective equipment;
- use of local exhaust ventilation;
- substitution of chemicals for less hazardous ones;
- specific pictogram design for labelling; and
- further information and training for workers.

4.10.2 Carcinogenic substances – most frequently identified substances

Each Focal Point was asked to: *“Choose a maximum of 5 carcinogenic substances that are considered to be the most important risks in your Member State taking into account the quantitative information as well as any other relevant qualitative information. Please indicate the qualitative considerations you have taken into account in your choice. The list of (maximum) 5 is not intended to include a ranking of the carcinogens chosen.”*

After reviewing all data submitted by the Focal Points for this risk category the graph below was prepared to show the carcinogenic substances identified.



The above graph illustrates that asbestos was the most frequently identified carcinogen in the working environment. This was identified 41 times compared to the second most frequently identified carcinogen benzene, which was reported on 34 occasions.

One Focal Point estimated that previous occupational exposure to asbestos results in approximately 600 fatalities each year. The projection is that to the year 2018, the number of asbestos victims will continue to raise until about the year 2030 and approximately 40,000 people will fall victim following former asbestos exposure.

Exposure to asbestos will be one of the specific targets for Inspection activities in the forthcoming years in one Member State. Projects on compliance with the regulations have commenced in a number of sectors. Pilot studies will be conducted to build inventories of “hidden” asbestos in buildings. If these are not successful, then the Focal Point reported legislation on an asbestos inventory may be implemented.

4.10.3 Carcinogenic substances – sectors most at risk

Each Focal Point was asked: *“Of the (maximum) 5 carcinogenic substances chosen, please present Member State data on sectors and number of exposed persons (use 2-digit level for sector data). Further, please give your opinion regarding trends in the exposure situation over the last 3-5 years. Use the following categories (the number of exposed workers has): decreased, remained stable or increased.”*

Some Focal Points included one exposure figure to cover more than one sector, which made it difficult to identify the number of exposed people per identified sector. Also, a number of Focal Points did not submit exposure figures for the sectors they had identified. Therefore, to consolidate the data in the manual's column for the number of people exposed, would prove meaningless.

The table below summarises the sectors most frequently identified as being exposed to carcinogenic substances. The complete table showing the proportion of sectors exposed to the different carcinogenic substances is presented in Appendix 6.

Sector code	Sectors exposed to carcinogens	Number of times identified in the National reports
45	Construction	24
24	Manufacture of chemicals and chemical products	20
50	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel	17
26	Manufacture of other non-metallic mineral products	15
25	Manufacture of rubber and plastic products	13
23	Manufacture of coke, refined petroleum products and nuclear fuel	10
60	Land transport, transport via pipelines	10

4.10.4 Carcinogenic substances – exposure trends in the workplace; example asbestos

Focal Points were asked to reveal any trends regarding exposure to carcinogens over the last 3-5 years. As indicated in the graph above, a large number of different carcinogens were identified from the national reports. For this reason, it is not possible to present any evaluation of the trend with respect to carcinogens as a collective group. However, information on trend for the most frequently identified carcinogen, i.e. asbestos, has been given in the table below.

Carcinogen - asbestos						
Member State	Code	Sector category description	Number exposed	Trend		
				Decreased	Stable	Increased
Austria	45 90	Construction Sewage and refuse disposal, sanitation and similar activities		↓	↑	**
Belgium	—	(Growing number of asbestos removal activities)	11,201			↑
Denmark	09 12	Demolition of building and construction Insulation and plumbing	49,300 42,600	↓ ↓	Few exposed Vanishing exposure	
Finland	45 14 50	Construction Other mining and quarrying Sale, maintenance and repair of motor vehicles and motorcycles; Retail sale of automotive fuel	4,000 1,300 800	↓ ↓ ↓	↔	
France	G C-D G K I	Wholesale and retail trade Mining and manufacturing Construction Real estate, renting, business activities Transport, storage and communication	53,069 16,522 11,142 N/A N/A		Trend not available Trend not available Trend not available Trend not available Trend not available	
Germany	45 26 40 50	Construction Manufacture of other non-metallic mineral products Electricity, gas, steam, hot water supply Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel	N/A N/A N/A N/A	↓ ↓ ↓ ↓		
Greece	45 35 25 26 25	Construction Ship maintenance Insulators production Cement production Production of fire resistant clothes	N/A N/A N/A N/A N/A		Trend not available Trend not available Trend not available Trend not available Trend not available	
Netherlands	60 45 26	Car repair shops Demolition Pottery	N/A N/A N/A	↓ ↓	↔	
		Total number of workers exposed	16,000			
Ireland	45 40	Construction Electrical, gas, steam & hot water supply	N/A N/A		↑ ↑	
Italy	26 23 35 45	Manufacture of other non-metallic mineral products Manufacture of coke, refined petroleum products and nuclear fuel Manufacture of other transport equipment Construction Note - before prohibition of asbestos by law	N/A N/A N/A N/A		Trend not available Trend not available Trend not available Trend not available	
Luxembourg		Asbestos not listed in the five categories				
Portugal	26 50	Manufacture of other non-metallic mineral products Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel	N/A N/A		Trend not available Trend not available	
Spain	45 34 50 26 17	Construction Manufacture of motor vehicles, trailers and semi-trailers Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel Manufacture of other non-metallic mineral products Manufacture of textiles				
Sweden		Asbestos not listed among the five categories				
United Kingdom	— —	Asbestos removal work Historical manufacturing industry	N/A *		Continuing activity Now defunct	

N/A - no data available * Many thousands

** - Increasing for waste management

4.10.5 Carcinogenic substances – evaluation of the present state of exposure in the workplace.

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems, was indicated by four Focal Points: **Austria, Denmark, Greece and Sweden**

Development of additional preventive action, was indicated by five Focal Points: **Belgium, Ireland, Luxembourg, Portugal and Spain**

The category “Other” was indicated by two Focal Points: **Finland and Netherlands**

No Response: **France, Italy and United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education, are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: The publication of Council Directive 90/394/CEE has given a new impetus to the legislation on carcinogens. Nevertheless, it will take a long time before all individuals really will be conscious about the risks encountered when working with carcinogens. Due to the fact that many carcinogens only show up a long time after exposure, we still have to bear the heavy heritage of exposure conditions of years ago.

For these reasons, an immediate drop of incidence rates is not foreseeable in the near future. It also must be underlined that a lot of cancer cases are not registered as originated by occupational exposure for reasons of lack of evidence and, hence, are not recognised for reparative payments. In addition, a lot of neoplasms are not pathognomonic for the exposure to one specific agent.

As a result, the official figures of recognised occupational diseases can be very problematic for use in measuring the effects of preventive measures.

Germany: On the basis of measurements of carcinogens, including substances from step 1, undertaken by trade and industry employees' accident insurance funds in 3500 enterprises between 1981 and 1992, it could be shown that there had been a - to some extent considerable - reduction in the exposure risk level.

Ascertaining the number of exposed workers, particularly in small to medium-sized companies, is hardly possible not only in Germany. Almost all other EU Member States face the same difficulties. The example of the evaluation of substances within the framework of the EU used products directive (EEC directive 193/93), where a data deficit is to be regularly found with respect to small and medium-sized companies, makes this particularly apparent. A possible remedy could be achieved by setting up product registers (e.g., Branch or substance specific).

Setting the focus for courses of action, particularly for the entire EU framework, is a demanding task. However, the EU policy on chemicals already in practice today offers a suitable starting point. An increased involvement on the part of the EU chief executive body responsible for occupational safety and health in the discussion and the EU evaluation procedures regarding chemicals (RL 67/548/EEC, directive 793/93) ought to act as an important initiator and provide a starting point for the main course of action.

Ireland: Better statistical data; better liaison with public health system.

Luxembourg: Sector 29 – Manufacture of machinery and equipment NEC, elimination of dust sources, improved PPE.

Sector 23 – manufacture of coke and refined petroleum products and nuclear fuel and sector 25 – manufacture of rubber and plastics, obligation on information; duty of local OH co-ordinator to inform his team annually about:

Carcinogenic substances; Reproductive hazards; and Mutation hazards.

The procedure includes training for the exposed workers as well as written information about the substance. Information must correspond to recent scientific knowledge, this is the responsibility of then company's physician.

Portugal: There is a need to collect data at national level.

Improvement in preventive actions needs to be implemented in several sectors: health, agriculture, public services and enterprises.

Spain: Further measures in:

- workers' training and information
- PPE improvement
- specific pictogram design for labelling
- changing substances
- local extractions

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Finland: Legal measures against exposure to asbestos are strict (prohibition of use, asbestos work only by permission). Legislation is sufficient also for the control and surveillance of exposure to other carcinogens. However, high exposure to carcinogens still exist, and surveillance activities to identify them (through exposure measurement registers), quantitative risk assessment, and more effective means to eliminate and decrease high exposures are needed.

Greece: Although preventive action taken seems to be sufficient, we believe that we need:

- better statistical data
- better collaboration with public health system
- more research

Netherlands: Ministry of Social Affairs and Employment and the Labour Inspectorate is going to take action in specific fields (like Silica, Diesel Engine Exhaust). As stated before, the intention of the Ministry of Social Affairs and Employment is to monitor, in the near future, the exposure to carcinogenic substances in the work situation.

It is estimated that previous occupational exposure to asbestos, at present does result in 600 fatalities each year. Prognosis is that, up to 2018, the number of asbestos victims will continue to rise; until 2030 appr. 40,000 people will fall victim to former asbestos exposure.

Exposure to asbestos will be one of the specific targets for Inspection activities in the next years: projects on upholding the regulations have started in a number of sectors; information brochures will be distributed; information to sectors on risk assessment and evaluation the risks of asbestos in buildings and constructions are pointed out; occupational health services will receive instructions for their information to companies/institutions; pilots will be carried out on inventories of "hidden" asbestos in buildings (if not successful legislation on an asbestos inventory will be taken up).

Sweden: Asbestos and silica dust have not been included since exposure to these substances are not considered to pose any risk for cancer presently. However, in Sweden there are still more deaths in late effects of asbestos exposures (pleural mesotheliomas) than the total number of fatal occupational accidents.

4.10.6 Neurotoxic substances summary

There was no specific ESWC-data relating to neurotoxic substances to provide a European picture. From the information collected in the national reports, a total of twenty-five neurotoxic substances were identified. The most frequently identified neurotoxic substance was organic solvents.

Five Focal Points reported the need for the development of additional actions to combat exposure to neurotoxic substances in the workplace.

One national report commented on the development of workplace surveillance techniques in order to comply with risk assessment and risk control regulations. The introduction of new inexperienced process methods and a continued drive for increased production performance can negate any positive trend in reducing exposure in the workplace. However, by implementing better information and training, the predicted reduction in exposure should be maintained.

A large reduction in exposure to neurotoxic substances was seen by the replacement of lead in petroleum spirit. One Focal Point reported that additional preventive measures for organic solvents were necessary in the painting and printing industries. In particular, chemical substitutions should be sought. Also, prevention of exposure to arsenic compounds, mainly salts is necessary, either by substitution or by altering the work methods.

One Focal Point commented that a report on neurotoxic solvents was being prepared and was expected to be published by the middle of 1999.

In one Member State, a study was conducted into the use of organic solvents in a number of sectors by the Labour Inspectorate. Out of approximately 800 companies, some 515 were considered as users of organic solvents. The study estimated that 18% of work-related tasks involved direct exposure and 10% involved exposure in accommodation that could contain organic solvent vapours. Expectations are such that there will be an estimated 100 to 200 new patients with symptoms of Organo-Psycho Syndrome (OPS), a disease of the central nervous system related to the use of organic solvents.

OPS was cited by one Focal Point as a good example of a joint approach by government and Social Partners. The government initiated legislative proposals, which were intensively discussed by the Social Partners with regard to its implementation. As a result, in 1998, a campaign commenced to prepare the painting sector for a change over from solvent based paints to alternatives for indoor work situations. A comparable approach is being developed for the printing industry and for car painting.

ADDITIONAL ACTIONS IDENTIFIED

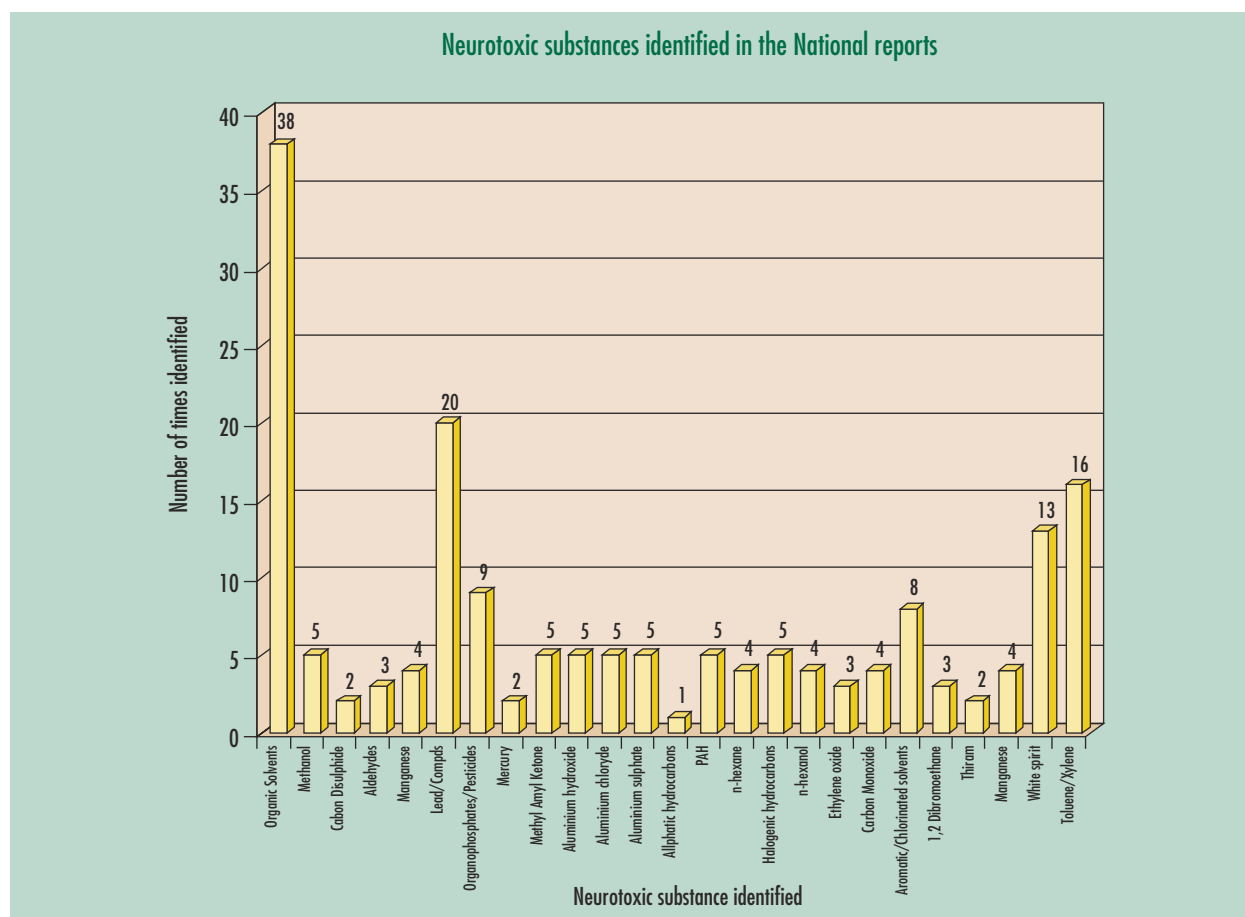
Where a Focal Point reported the need for the development of further preventive actions, a number of different issues were discussed, these issues are summarised below:

- production of better statistical data;
- substitution of solvent-based substances;
- further research;
- health surveillance and monitoring;
- use of improved personal protective equipment;
- improved use of local extraction ventilation; and
- improvement of preventive actions in several sectors, e.g. health, agriculture, public services and enterprises, painting and printing.

4.10.7 Neurotoxic substances – most frequently identified substances;

Each Focal Point was asked to: “Choose a maximum of 5 neurotoxic substances that are considered to be the most important risks in your Member State taking into account the quantitative information as well as any other relevant qualitative information. Please indicate the qualitative considerations you have taken into account in your choice. The list of (maximum) 5 is not intended to include a ranking of the neurotoxic substances chosen.”

After reviewing all data submitted by the Focal Points for this risk category, the graph below was prepared to show the neurotoxic substances identified.



The above graph illustrates that organic solvents were the most frequently identified neurotoxic substances. This was mentioned some 54 times (including toluene and xylene). The second most frequently identified neurotoxic substance to which workers are exposed to was lead and its compounds which was reported on 20 separate occasions.

One Focal Point reported that their largest group of neurotoxic agents was the organic solvent group.

In another national report, it was detailed how the Labour Inspectorate undertook a study to determine the use of organic solvents in a number of key sectors which were previously known for using such substances. This study included approximately 800 companies, of which some 515 were considered to be users of organic solvents. These companies

employ around 22,000 workers. It was estimated that 18 % of work activities were in situations of direct exposure and that 10% involved work tasks in accommodation that could contain the solvent vapours.

Vulnerable occupations to Organo Psycho Syndrome (OPS), a disease of the central nervous system related to the use of organic solvents, include: painters, floor carpet layers, printing machine operators and metal machine operators. In the paint industry and in construction, workers that have solvent related complaints can report direct to “solvent teams”. In 1997 some 250 workers reported to these teams and 80 of them were diagnosed as OPS victims.

4.10.8 Neurotoxic substances – sectors most at risk

Each Focal Point was asked: *“Of the (maximum) 5 neurotoxic substances chosen, please present Member State data on sectors and number of exposed persons (use 2-digit level for sector data). Further, please give your opinion regarding trends in the exposure situation over the last 3-5 years. Use the following categories (the number of exposed workers has): decreased, remained stable or increased.”*

Some Focal Points included one exposure figure to cover more than one sector, which made it difficult to identify the number of exposed people per identified sector. Also, a number of Focal Points did not submit exposure figures for the sectors they had identified. Therefore to consolidate the data in the manual’s column for number of people exposed would prove meaningless.

The table below summarises the sectors most frequently identified as being exposed to neurotoxic substances. The complete table, showing the proportion of sectors exposed to different neurotoxic substances, is presented in Appendix 6.

Sector code	Sectors exposed to carcinogens	Number of times identified in the National reports
24	Manufacture of chemicals and chemical products	33
28	Manufacture of fabricated metal products, except machinery and equipment	17
45	Construction	15
27	Manufacture of bases metals	10

4.10.9 Neurotoxic substances – exposure trends in the workplace; example organic solvents

Focal Points were asked to reveal any trends regarding exposure to neurotoxins over the last 3-5 years. As indicated in the graph above, a large number of different neurotoxic substances were identified in the national reports. For this reason it is not possible to present any evaluation of the trend with respect to neurotoxic substances as a collective group. However, information on trend for the most frequently identified neurotoxic, i.e. organic solvents, has been given in the table below.

Neurotoxic hazard - organic solvents						
Member state	Code	Sector category description	Number exposed	Trend		
				Decreased	Stable	Increased
Austria	28	Manufacture of fabricated metal products, except machinery and equipment (e.g. degreasing of metal)	N/A	↓		
	93	Other services activities (e.g. dry cleaning)			↔	
	73	Research and development (halogenic hydrocarbons)		↓		
	19	Tanning and dressing of leather, manufacture of luggage, saddlery, harneaa and footwear			Trend not available	
	24	Manufacture of chemicals and chemical products			Trend not available	
	36	Manufacture of furniture, manufacturing NEC			↔	
	45	Construction	N/A		↔	
	22	Publishing, printing and reproduction of recorded media	N/A			↑
	73	Research and development (polycyclic aromatic hydrocarbons)	N/A		↔	
	50	Sale, maintenance and repair of motor vehicles and motorcycles, retail sale of automotive fuel	N/A		Trend not available	
Belgium	—	(Benzene and homologues)	80,590		↔	
	—	(organic esters and halogenated derivatives)	11,268		↔	
Denmark	28, 29	Metal and machinery industry	121,100	↓		
	50	Sale, maintenance and repair of motor vehicles and motorcycles, retail sale of automotive fuel	22,400	↓		
	45	Construction (building completion); vanishing exposure	17,000	↓		
Finland	25	Manufacture of rubber & plastics (e.g. lamination)	1,100		↔	
	22	Publishing, printing and reproduction of recorded media (e.g. cleaning of machines)	1,500		↔	
	93	Other services activities (e.g. cleaning)	300		↔	
	28	Manufacture of fabricated metal products (e.g. spray painting)	400		↔	
	20	Manufacture of wood and products of wood (e.g. varnishing and gluing)	200		↔	
	20,24	Manufacture of fuels and chemicals, chemical process work	N/A		↔	
France	C-D	Mining and manufacturing	525, 159		Trend not available	
	F	Construction	134,462		Trend not available	
	G	Wholesale and retail trade	223,475		Trend not available	
	K	Real estate, renting and business activities	77,617		Trend not available	
Germany	85	Health & social work	N/A		Trend not available	
	73	Research and development	N/A		Trend not available	
Greece	24	Manufacture of chemicals and chemical products ((production of antiseptics)	N/A		Trend not available	
	17	Manufacture of textiles	N/A		Trend not available	
	19	Tanning and dressing of leather, manufacture of luggage, saddlery, harneaa and footwear	N/A		Trend not available	
Netherlands	45	Construction, painting in houses (Turpentine)	N/A		↔	
	24	Manufacture of chemicals and chemical products (Turpentine)	N/A		↔	
	22	Publishing, printing and reproduction of recorded media (turpetine)	N/A		↔	
	45	Construction (gluing in houses); toluene	N/A		↔	
	24	Manufacture of chemicals and chemical products (Toluene)	N/A		↔	
Ireland	45	Construction	N/A			↑
	30	Manufacture of office machinery & computers	N/A			↑
	31	Manufacture of electrical machinery and apparatus	N/A			↑
	32	Manufacture of radio and television	N/A			↑
Italy	24	Manufacture of chemicals and chemical products	N/A		Trend not available	
Luxembourg		Insufficient information available				
Portugal	24	Manufacture of chemicals and chemical products	N/A		Trend not available	
	31	Manufacture of electrical machinery and apparatus NEC	N/A		Trend not available	
	29	Manufacture of machinery and equipment NEC	N/A		Trend not available	
	45	Construction	N/A		Trend not available	
Spain	24	Manufacture of chemicals and chemical products	N/A		Trend not available	
	36	Manufacture of furniture, manufacturing NEC	N/A		Trend not available	
	29	Manufacture of machinery and equipment NEC	N/A		Trend not available	
	28	Manufacture of fabricated metal products, except machinery and equipment	N/A		Trend not available	
Sweden	25	Manufacture of rubber and plastic products (in the production of laminated polyester)	1,500		↔	
	22	Publishing, printing and reproduction of recorded media	500		↔	
United Kingdom	—	Painting and decorating	N/A		Trend not available	

N/A - no data available

4.10.10 Neurotoxic substances – evaluation of the present state of exposure in the workplace

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems, was indicated by four Focal Points: **Austria, Denmark, Greece and Sweden**

Development of additional preventive action, was indicated by four Focal Points: **Finland, Ireland, Portugal and Spain**

The category “Other” was indicated by two Focal Points: **France and Netherlands**

No Response: **Belgium, Italy, Luxembourg and United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: The largest group of neurotoxic agents is the organic solvent group. Most exposure patterns are by respiration and through the skin. Elaborated workplace surveillance techniques have been developed to comply with risk assessment and risk control regulations. The improvement of risk assessment methods combined with technical progress in the available measurement procedures will lower the exposure levels. However, new inexperienced process methods and a continuous thrive to higher product quota can annihilate the positive trend. This can only be prevented by better information and training of all the actors in prevention.

Finland: Preventive actions taken are sufficient to deal with exposure to lead. Lead in gasoline was problematic (as tetraethyl lead), but nowadays almost purely unleaded gasoline is being used.

Development of additional preventive action is necessary for organic solvents in painting and printing industries, and, therefore, substitutions for these compounds are being sought in Finland and other European Union Member States. Also, prevention of exposure to arsenic compounds, mainly salts, is necessary either by substitution of arsenicals or by altering working methods in the wood industry. Exposure to carbon monoxide rarely causes accidents in occupational environments, even though they are possible in sewage plants, water purification, and amongst fire fighters. Furthermore, substitution of n-hexane in chemical industry and car/trailer production would be justified.

Ireland:

Additional resources are necessary
Have specific regulations with regard to lead
Do continual monitoring by means of Occupational Health (OH) inspections
Have chemical agent's regulations and COP setting occupational exposure limits for workplace

Portugal: There is a need to collect data at national level. Improvement in preventive actions needs to be implemented in several sectors: health, agriculture, public services and enterprises.

Spain:

Workers training and information
PPE improvement
Changing substances
Local extractions

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Germany: A report on neurotoxic solvents is currently being prepared and will be published in the middle of 1999.

Greece: Although preventive action taken seems to be sufficient, we believe that we need:
better statistical data
more research

Netherlands: The use of organic solvents has been investigated by the Labour Inspectorate in a number of sectors (known for their use of these substances). Of approximately 800 companies, 515 appeared to use organic solvents; these companies employ approximately 22,000 workers; it is estimated that 18 % of workers work in situations of direct exposure and 10% e.g. in accommodations that can contain vapours. Present estimates are 2,500 OPS patients (Organo Psycho Syndrome, a disease of the central nervous system that is related to the use of organic solvents); expectations are annually 100 to 200 new OPS patients. Occupations known for OPS are: painters, floor-carpenters, printing machine operators, Metal-machine operators. In the paint industry and in construction, workers that have (related) complaints can report to “solvent teams”. In 1997 250 workers reported to the teams, 80 of them were diagnosed as OPS victims.

OPS is another good example of a joint approach of government and Social Partners. The government initiated legislative proposals; these were intensively discussed with Social Partners in regard to implementation. As a result, amongst others in the autumn of 1998 employers and employee organisations for the painting sector started a campaign to prepare the sector for a change over to the use of paints in indoor work situations that are deficient in organic solvents. A comparable approach is developed for e.g. the printing industry and for car painting.

4.10.11 Reproductive hazards summary

There was no specific ESWC-data relating to reproductive hazards to provide a European picture. From the information collected in the national reports, a total of 22 different reproductive hazards were identified. The most frequently reported hazard was exposure to lead and its compounds. This was mentioned on some 28 occasions compared to the second most frequently identified hazard, biological agents, which was mentioned on 10 occasions.

One Focal Point reported that there was little understanding in relation to possible reproductive hazards at normal working concentration levels. Also, the understanding of both employees and employers was considered to be lacking. It was reported that there is urgent need for epidemiological research work in this area.

The protection of pregnant women in one Member State was considered to be sufficient. However, there was the need to increase the knowledge on occupational reproductive hazards amongst other workers. Also, occupational exposure limits should always take reproductive effects into account.

Another Focal Point reported that national regulations ensure that risk assessments have to be undertaken to identify any agent in the working environment where exposure can be harmful to a pregnant worker.

One Focal Point raised the point about adequate health surveillance and monitoring of exposed workers.

No firm conclusions can be drawn from the responses to the question regarding the state of exposure in the workplace. Five Focal Points reported the need for the development of additional actions, five reported measures taken/planned were sufficient and five were unable to evaluate the question regarding preventive measures to control exposure to reproductive hazards in the workplace.

ADDITIONAL ACTIONS IDENTIFIED

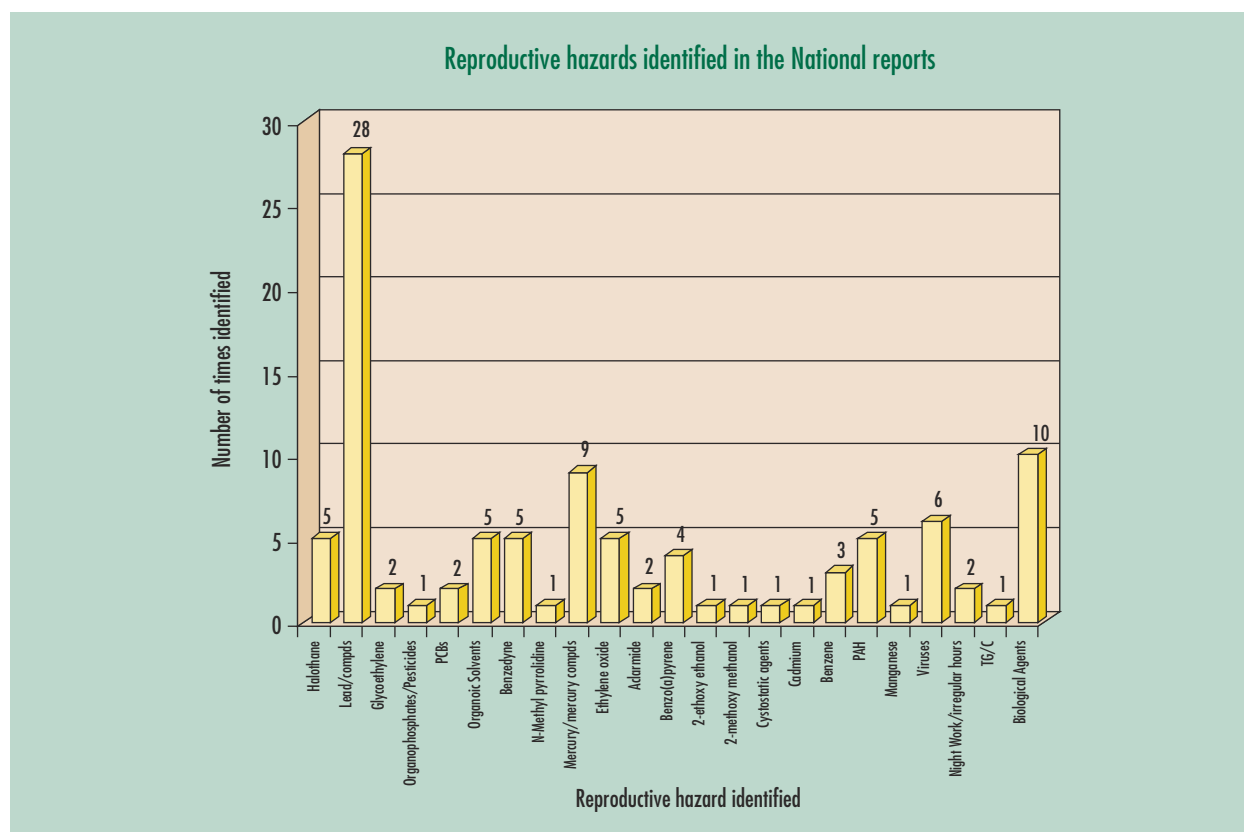
Where a Focal Point reported the need for the development of further preventive actions, a number of different issues were discussed which are summarised below:

- production of better statistical data;
- improved collaboration with the public health systems;
- requirement for further scientific research;
- increase the knowledge on occupational reproductive hazards amongst workers; employers and occupational health personnel;
- improved training and information for the workers;
- improved personal protective equipment;
- further research regarding substitution; and
- improved use of local extraction systems.

4.10.12 Reproductive hazards – most frequently identified substances

Each Focal Point was asked to: *“Choose a maximum of 5 reproductive hazards that are considered to be the most important risks in your Member State taking into account the quantitative information as well as any other relevant qualitative information. Please indicate the qualitative considerations you have taken into account in your choice. The list of (maximum) 5 is not intended to include a ranking of the reproductive hazards chosen.”*

After reviewing all data submitted by the Focal Points for this risk category the graph below was prepared to show the reproductive hazards.



4.10.13 Reproductive hazards – sectors most at risk

Each Focal Point was asked: “Of the (maximum) 5 reproductive hazards chosen, please present Member State data on sectors and number of exposed persons (use 2-digit level for sector data). Further, please give your opinion regarding trends in the exposure situation over the last 3-5 years. Use the following categories (the number of exposed workers has): decreased, remained stable or increased.”

Some Focal Points included one exposure figure to cover more than one sector, which made it difficult to identify the number of exposed people per identified sector. Also, a number of Focal Points did not submit exposure figures for the sectors they had identified. Therefore, to consolidate the column for number of people exposed would prove meaningless.

The table below summarises the sectors most frequently identified as being exposed to reproductive hazards. The complete table, showing the proportion of sectors exposed to different infectious reproductive hazards substances, is presented in Appendix 6.

Sector code	Sectors identified exposed to reproductive hazards	Number of times identified in the National reports
24	Manufacture of chemicals and chemical products	14
85	Health and social work	8
27	Manufacture of basic metals	7
25	Manufacture of rubber and plastic products	7
45	Construction	7

4.10.14 Reproductive hazards – exposure trends in the workplace; example lead and its compounds

Focal Points were asked to reveal any trends regarding exposure to reproductive hazards over the last 3-5 years. As indicated in the graph above, a large number of different reproductive hazards were identified in the national reports. For this reason it is not possible to present any evaluation of the trend with respect to reproductive hazards as a collective group. However, information of trend for the most frequently identified reproductive hazard, i.e. lead and its compounds, has been given in the table below.

Reproductive hazard - lead and lead compounds						
Member State	Code	Sector category description	Number exposed	Trend		
				Decreased	Stable	Increased
Austria	26	Manufacture of other non-metallic mineral products	N/A	↓		
Belgium		No data available				
Denmark	28, 29	Metal and machinery industry	121,100	↓		
	45	Construction, building completion	17,000	Few/low exposure		
	31	Electrical equipment	21,100		Reduced use	
Finland	27	Manufacture of basic metals	400 w		↔	
	28	Manufacture of fabricated metal products	200 w		↔	
	29	Manufacture of machinery and equipment NEC	200 w		↔	
	60	Land Transport	200 w		↔	
	64	Post and telecommunications	400 w		↔	
France	C-D	Mining and manufacturing	63,141		Trend not available	
	G	Wholesale and retail trade	31,593		Trend not available	
	F	Construction	14,513		Trend not available	
	I	Transport, storage and communication	N/A		Trend not available	
Germany	24	Manufacture of chemical products	N/A		Trend not available	
	90	Sewage and refuse disposal	N/A		Trend not available	
Greece	27	Lead production	N/A		Trend not available	
	31	Batteries production	N/A		Trend not available	
	45	Sanitation and waste pipes works	N/A		Trend not available	
	26	Glass industry	N/A		Trend not available	
	24	Paint industry	N/A		Trend not available	
Netherlands		Lead not list in the five categories				
Ireland	26	Manufacture of other non-metallic mineral products	N/A		↔	
	31	Manufacture of electrical machinery and apparatus	N/A			↑
	32	Manufacture of radio, television, communications	N/A			↑
Italy		Insufficient information available				
Luxembourg		Insufficient information available				
Portugal	24	Manufacture of chemicals and chemical products	N/A		Trend not available	
	27	Manufacture of base metals	N/A		Trend not available	
	28	Manufacture of fabricated metal products, except machinery and equipment	N/A		Trend not available	
	29	Manufacture of machinery and equipment NEC	N/A		Trend not available	
Spain	26	Manufacture of other non-metallic mineral products	N/A		Trend not available	
	28	Manufacture of fabricated metal products, except machinery and equipment	N/A		Trend not available	
	27	Manufacture of base metals	N/A		Trend not available	
	24	Manufacture of chemicals and chemical products	N/A		Trend not available	
Sweden	31	Manufacture of electrical machinery (batteries)	<100*	↓		
	26	Manufacture of other non-metallic mineral products	<100*	↓		
United Kingdom	—	Lead battery manufacture	N/A		Trend not available	
	—	Manufacture and use of lead sheet	N/A		Trend not available	
	—	Lead pigment	N/A		Trend not available	

N/A - no data available w - female workers
 * - A total of <100 women below 50 years of age for all sectors

4.10.15 Reproductive hazards – present state of exposure in the workplace

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems, was indicated by five Focal Points: **Austria, Denmark, Greece, Netherlands and Sweden**

Development of additional preventive action, was indicated by five Focal Points: **Belgium, Finland, Ireland, Portugal and Spain**

The category “Other” was indicated by one Focal Point: **France**

No Response: **Italy, Luxembourg and United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Little is known about possible reproductive hazard at usual concentration levels in workplaces. Nor is information about this kind of exposure sufficiently known by workers and employers. There is an urgent need for epidemiological research, better worker's information, better registration methods and systematic performed validated exposure measurements.

Finland: The legislation on protection of pregnant women (special maternity leave) is sufficient. There is a need to increase the knowledge on occupational reproductive hazards amongst workers, employers and occupational health personnel. Industrial hygienic measurement should be conducted more often for risk assessment. Occupational exposure limits should always take reproductive effect into account. When available, vaccination may be used to prevent occupational viral infections.

Ireland: Better statistical data needed and better liaison with public health system.

Portugal: There is a need to collect data at national level. Improvement in preventive actions needs to be implemented in several sectors: health, agriculture, public services and enterprises.

Spain: Workers training and information, PPE improvement, Changing substances, Local extractions.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Greece: Although preventive action seems to be sufficient, we believe that we need better statistical data, more research and better collaboration with public health system.

Netherlands: The issue of monitoring as mentioned before.

Sweden: Swedish regulations state that detailed individual risk assessment have to be made to identify any agent in the work environment where exposure can be harmful to a pregnant worker. Special consideration is given to exposures from chemical and biological agents and from physical, ergonomic and psycho-social factors. Pregnant women can, in most cases obtain a risk-free working environment through the careful application of working environment regulations in force.

4.10.16 Exposures to infectious biological factors summary

There was no specific ESWC-data relating to infectious biological substances to provide a European picture. From the information collected in the national reports, a total of twenty infectious biological hazards were identified. The most frequently identified factor from this group was hepatitis B/C, 14 Focal Points reported this on 27 different occasions. The second most frequently identified infectious biological factor to which workers are exposed was Tuberculosis (TB) which was reported on 19 occasions.

There was a greater potential risk of exposure to workers in the sector category “Health and Social Work” particularly from hepatitis B/C viruses.

In all, six Focal Points reported the need for the development of additional actions to combat exposure to infectious biological substances in the workplace.

One national report commented that preventive actions in this field were generally sufficient with the one exception, which was the enforcement of existing recommendations for vaccinations against hepatitis B. Coverage amongst general surgeons and other medical staff entering into surgery was reported to be 50%.

One Focal Point reported that new strategies should be developed to prevent new cases of occupational infections amongst hospital and laboratory staff. There is still the need to increase knowledge of these hazards to the workers.

A wide consensus about further needs in one national report highlighted the requirement for additional research work on exposure, monitoring and limiting values. Also, the need for the implementation of good safety and health practices were identified.

One Focal Point identified the need to collect data at the national level. Also, the improvement in preventive actions needed to be focused at several key sectors, including: health, agriculture, public services and enterprises.

Following the evaluation of specific legislation to control hazardous substances in one Member State, the Focal Point reported that, where sectors deliberately worked with biological agents, there was a high level of awareness of the regulations. Managers and safety professionals were aware of biological agents, but such knowledge did not appear present in other workers where staff may be incidentally exposed. Therefore, additional guidance on biological agents was identified.

ADDITIONAL ACTIONS IDENTIFIED

Where a Focal Point reported the need for the development of further preventive actions, a number of different issues were discussed, these are summarised below:

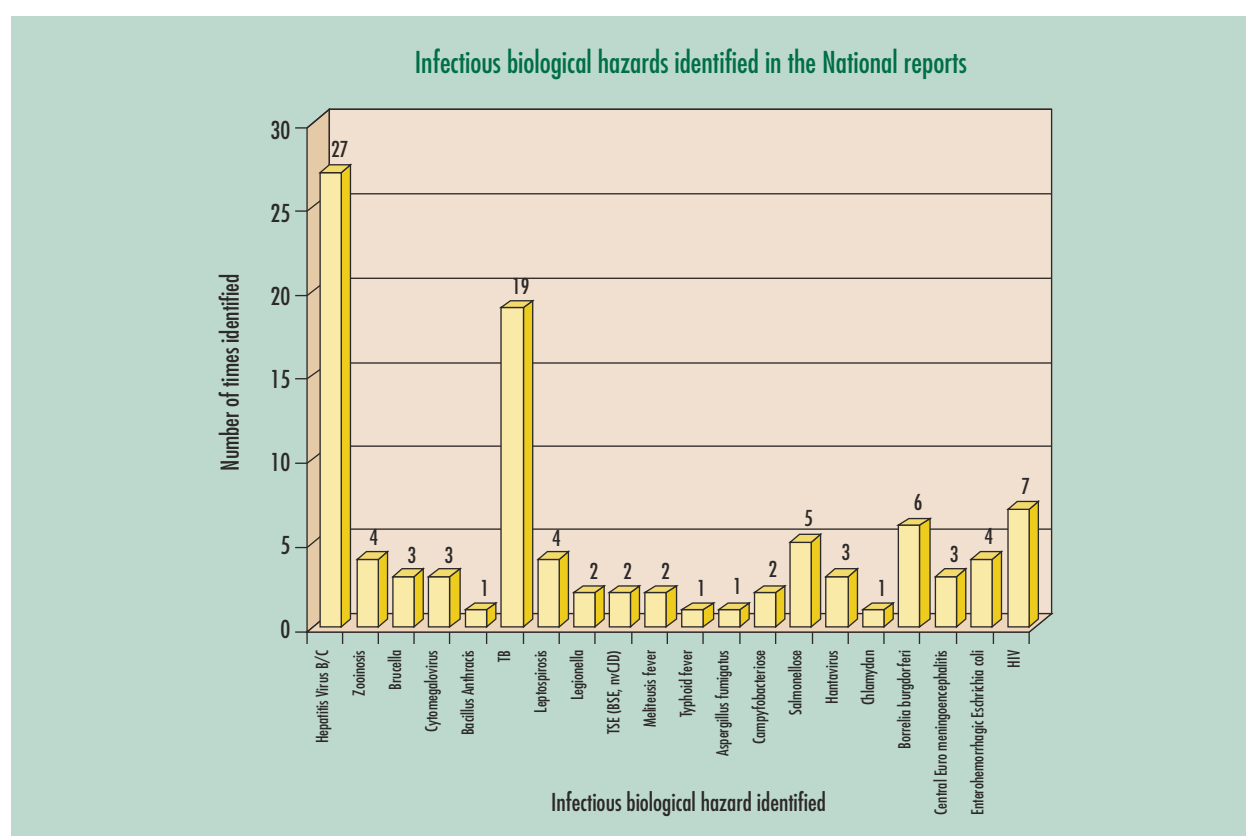
- production of better statistical data;

- improved collaboration with the public health systems;
- requirement for further scientific research;
- increase the knowledge amongst workers, employers and occupational health personnel;
- improved training and information for the workers;
- improved design and use of personal protective equipment;
- developing vaccinations;
- research and development on exposure limit, monitoring and standardisation;
- improving safety measures; and
- improving medical surveillance.

4.10.17 Infectious biological factors – most frequently identified substances

Each Focal Point was asked to: “Choose a maximum of 5 infectious biological factors that are considered to be the most important risks in your Member State, taking into account the quantitative information, as well as any other relevant qualitative information. Please indicate the qualitative considerations you have taken into account in your choice. The list of (maximum) 5 is not intended to include a ranking of the infectious biological factors chosen.”

After reviewing all data submitted by the Focal Points for this risk category, the graph below was prepared to show the infectious biological hazards identified.



4.10.18 Infectious biological factors – sectors most at risk

Each Focal Point was asked: “Of the (maximum) 5 infectious biological factors chosen, please present Member State data on sectors and number of exposed persons (use 2-digit level for sector data). Further, please give your opinion regarding trends in the exposure situation over the last 3-5 years. Use the following categories (the number of exposed workers has): decreased, remained stable or increased.”

Some Focal Points included one exposure number to cover more than one sector, which made it difficult to identify the number of exposed people per identified sector. Also, a number of Focal Points did not submit exposure numbers for the sectors they had identified. Therefore, to consolidate the column for number of people exposed would prove meaningless.

The table below summarises the sectors most frequently identified as being exposed to biological hazards. The complete table, showing the proportion of sectors exposed to different infectious biological substances, is presented in Appendix 6.

Sector code	Sectors exposed to infectious biological hazards	Number of times identified in the National reports
85	Health and social work	41
01	Agriculture, hunting and related service activities	18
90	Sewage and refuse disposal, sanitation and similar activities	14
15	Manufacture of food products and beverages	8

4.10.19 Trends – exposure to infectious biological hazards in the workplace; example hepatitis B/C

Focal Points were asked to reveal any trends regarding exposure to infectious biological hazards over the last 3-5 years. As indicated in the graph above, a large number of different infectious biological hazards were identified in the national reports. For this reason, it is not possible to present any evaluation of the trend with respect to infectious biological hazards as a collective group. However, information of trend for the most frequently identified infectious biological hazard, i.e. hepatitis B/C, has been given in the table below.

Infectious biological hazard - hepatitis B/C						
Member state	Code	Sector category description	Number exposed	Trend		
				Decreased	Stable	Increased
Austria	85	Health and social work				↕
Belgium	85	Health & social work	N/A	↓		
	93	Other service activities	N/A			Trend not available
Denmark	85	Health and social work	103,100			Trend not available
	90	Sewage and refuse	6,200			Trend not available
Finland	85	Health and social work	1,200			↕
	75	Public administration (police guards etc)	100			↕
France	M-Q	Milieu de soins	295, 033			Trend not available
	M-Q	Medical analysis laboratories	31,693			Trend not available
Germany	85	Health and social work				↕
	85	Hepatitis C - 1.7 million in total only those with blood contact at high risk	N/A			
		Health and social work				
		Hepatitis B -	90,000		↔↔↔	
Greece	85	Health and social work	N/A			Trend not available
	90	Sewage and refuse disposal, sanitation & similar activities	N/A			Trend not available
Netherlands	85	Health and social work	90,000		↔↔↔	
	85	Microbiological and clinical laboratories	8,500		↔↔↔	
		Note: more than 1,000 infection per year				
Ireland	85	Health and social work	N/A		↔↔↔	
	90	Sewage and refuse disposal, sanitation & similar activities	N/A			↕
Italy	55	Hotels and restaurants	N/A			Trend not available
	85	Health and social work	N/A			Trend not available
	90	Sewage and refuse disposal, sanitation & similar activities	N/A			Trend not available
Luxembourg		Insufficient information available				
Portugal	85	Health and social work	N/A			Trend not available
Spain	85	Health and social work	N/A			Trend not available
	90	Sewage and refuse disposal, sanitation & similar activities	N/A			Trend not available
Sweden	85	Health and social work	N/A		↔↔↔	
United Kingdom	85	Health and social work	N/A*	↓		↕
	—	Custodial care (prison officers) & emergency services	N/A*			

N/A - no data available

* - estimate of numbers exposed to blood borne viruses not known

4.10.20 Evaluation of the present state of exposure to infectious biological factors in the workplace

Focal Points were asked to indicate if:

"Preventive actions taken or planned are sufficient to deal with the existing related problems;"

"The development of additional preventive action is necessary;" or

"Other."

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems, was indicated by five Focal Points: **Austria, Belgium, Denmark, Greece and Sweden**

Development of additional preventive action, was indicated by six Focal Points: **Finland, Ireland, Italy, Portugal, Spain and United Kingdom**

The category "Other" was indicated by two Focal Points: **France and Netherlands**

No Response: **Luxembourg**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE "THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY", THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: The Royal Decree of 4/8/96 with regard to the protection of workers against the risk of carcinogens substances, strengthened the preventive actions.

Finland: Strategies should be established to prevent new cases of occupational infections amongst hospital workers and laboratory personnel. Guidelines to avoid hanta virus infections have been provided. Infection risk can be decreased e.g. by preventing the access of bank voles to buildings, food storage etc. and by avoiding dusting of ground which may be contaminated by urine of voles. The legislation protecting pregnant women from the reproductive hazards of some infectious agents (special maternity leave) is sufficient, yet, there is need to increase knowledge on these hazards amongst workers.

Ireland: Better statistical data needed and better liaison with public health system needed.

Italy: Use of PPE and training.

Portugal: There is a need to collect data at national level. Improvement in preventive actions needs to be implemented in several sectors: health, agriculture, public services and enterprises.

Spain: Workers' training and information; PPE improvement; Vaccinations; Safety measures improvement and Medical surveillance.

United Kingdom: Data from UK surveillance schemes reported 1294 cases of occupationally acquired infections in the 12 months from Oct. 1996 to Sept. 1997, although this figure probably substantially underestimates the true incidence – data from the latest survey of self reported work-related illness suggests figures in the region of 27,000 per year. Some occupations do have a better reporting rate, primarily those where there is higher awareness or health screening, eg health care and food production. The underlying trends from statutory reporting schemes suggest little change in numbers of infections in recent years but provide even lower annual estimates. However, such schemes are associated with considerable levels of underreporting.

Control of exposure to biological agents in the UK is under the Control of Substances Hazardous to Health Regulations (COSHH 1994). This implemented the Biological Agents directive (90/679/EEC). Schedule 9 of COSHH 1994 contains a mixture of duties covering all workplaces where there may be exposure to biological agents. However, there is a distinction between a deliberate intention to work with or use a biological agent (e.g. in a laboratory) and exposure to a biological agent which arises out of a work activity but is incidental to it (e.g. agriculture, sewage disposal or health care). A recent evaluation of Schedule 9 concluded that:

- in those sectors which deliberately worked with biological agents, there was a high level of awareness of the regulations and that most of the requirements were already in place prior to COSHH 1994, because most were already in place in UK guidance (Advisory Committee on Dangerous Pathogens).
- although there was awareness of biological agents and COSHH amongst management and health and safety practitioners in industries where staff may be incidentally exposed, this did not appear to result in greater awareness amongst other staff or to affect work practices. A need for additional guidance on biological agents was identified for those who are only incidentally exposed.
- no trends in the reduction of ill health could be linked to the introduction of COSHH Schedule (but see above).

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Denmark: The preventive actions taken or planned in this field are generally considered sufficient except the enforcement of existing recommendations for vaccination against hepatitis B. Coverage amongst general surgeons and other medical staff entering surgery is only 50%.

In the recently published sector-specific guides on working environment issues, biological exposures have been selected as a principal problem for the following sectors (not in order of priority and classification not completely compatible with NACE-93):

Supply of Electricity and Hot Water for Heating	Agriculture
Mining and Quarrying and Semi-manufactured Products	Cleaning Activities
Manufacture of Basic Pharmaceutical Products	Processing of Pork and Beef
Water Supply, Sewerage Services etc.	Processing of Poultry Meat
Home Nursing Activities and Residential Nursing Homes for Adults	Hospitals
Day Institutions and Residential Homes for Children	General Practitioners, Dentists etc.

Greece: Although preventive action seems to be sufficient, we believe that we need: better statistical data; more research; better collaboration with public health system.

Netherlands: A wide consensus about the need for:

Research and development on exposure, monitoring, standardisation, limit values

R&D on preventive measures / good safety and health practices

R&D on vaccination programmes

preparation of policy actions on exposure to infectious micro-organisms

on a number of issues "preventive actions taken/planned are sufficient" e.g.: hepatitis vaccination programmes.

4.10.21 Non-infectious biological factors summary

There was no specific ESWC-data relating to non-infectious biological substances to provide a European picture. From the information collected in the national reports, a total of 20 non-infectious biological substances were identified. The most frequently identified non-biological hazard was exposure to "Endotoxins". These were reported on eight different occasions.

In all, five Focal Points reported the need for the development of additional actions to combat exposure to non-infectious biological hazards in the workplace.

One national report commented that the potential exposure to non-infectious biological hazards was great. There are a large number of exposed employees in bakeries, agriculture, sewage works and waste treatment.

In another national report, workplaces in water damaged buildings was highlighted as a particular wide-spread and difficult problem. The number of exposed workers in such situations was considered to be high. Strategies for investigating buildings and identifying the exposed individuals have been established together with instructions for preventing allergic reactions due to enzymes.

Exposure to flour dust was still considered to be a significant risk, particularly in many of the smaller bakeries, as reported in one national report. Whilst in another, the Focal Point said that the reduction of occupational exposure limit values for flour dust was imminent.

ADDITIONAL ACTIONS IDENTIFIED

Where a Focal Point reported the need for the development of further preventive actions, a number of different issues were discussed, these are summarised below:

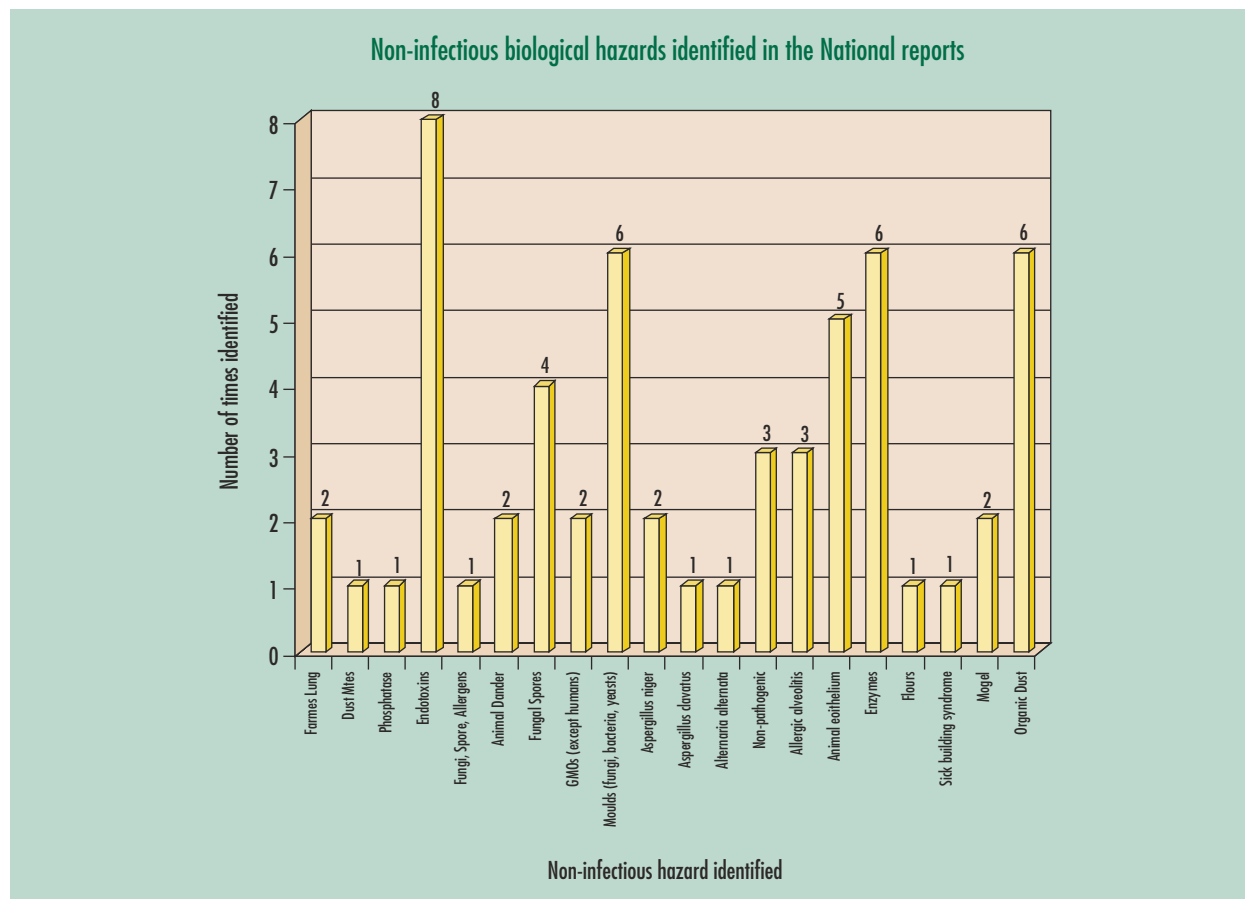
- production of better statistical data;
- improved collaboration with the public health system;
- requirement for further scientific research on exposure and monitoring;
- increase the knowledge on occupational reproductive hazards amongst workers; employers and occupational health personnel;
- improved training and information for the workers;
- improved design and use of personal protective equipment;
- developing vaccinations;
- water damaged buildings need addressing;
- research and development on exposure limit, monitoring and standardisation
- improving safety measures;
- improving medical surveillance;
- improving preparation of policy actions regarding exposures to non infectious biological agents; and
- reduction of exposure to flour dust in bakeries.

4.10.22 Non-infectious biological factors – most frequently identified substances

Each Focal Point was asked to: "Choose a maximum of 5 non-infectious biological factors that are considered to be the most important risks in your Member State taking into account the quantitative information as well as any other relevant

qualitative information. Please indicate the qualitative considerations you have taken into account in your choice. The list of (maximum) 5 is not intended to include a ranking of the non-infectious biological factors chosen."

After reviewing all data submitted by the Focal Points for this risk category, the graph below was prepared to show the non-infectious biological hazards identified.



4.10.23 Non-infectious biological factors – sectors most at risk

Each Focal Point was asked: "Of the (maximum) 5 non-infectious biological factors chosen, please present Member State data on sectors and number of exposed persons (use 2-digit level for sector data). Further, please give your opinion regarding trends in the exposure situation over the last 3-5 years. Use the following categories (the number of exposed workers has): decreased, remained stable or increased."

Some Focal Points included one exposure number to cover more than one sector, which made it difficult to identify the number of exposed people per identified sector. Also, a number of Focal Points did not submit exposure numbers for the sectors they had identified. Therefore, to consolidate the column for number of people exposed would prove meaningless.

The table below summarises the sectors most frequently identified as being exposed to non-infectious biological substances. The complete table, showing the proportion of sectors exposed to different non-infectious biological substances, is presented in Appendix 6.

Sector code	Sectors exposed to non-infectious biological hazards	Number of times identified in the National reports
01	Agriculture, hunting and related service activities	17
15	Manufacture of food products and beverages	8
73	Research and development	5
17	Manufacture of textiles	4
85	Health and social work	4

4.10.24 Non-infectious biological factors – exposure trends in the workplace; example endotoxins

Focal Points were asked to reveal any trends regarding exposure to non-infectious biological hazards over the last 3-5 years. As indicated in the graph above, a large number of different non-infectious biological hazards were identified in the national reports. For this reason, it is not possible to present any evaluation of the trend with respect to non-infectious biological hazards as a collective group. However, information of trend for the most frequently identified non-infectious biological hazard, i.e. Endotoxins, has been given in the table below.

Non-infectious biological hazard - endotoxins						
Member state	Code	Sector category description	Number exposed	Trend		
				Decreased	Stable	Increased
Austria		Endotoxins not reported among the five categories				
Belgium		Endotoxins not reported among the five categories				
Denmark		No data available				
Finland		Endotoxins not reported among the five categories				
France		Intensive farming				↕
		Waste treatment line				↕
		Livestock farming (contact with the grain & animal feed)				↕
		Air conditioning/humidification				
		Textiles and cotton			Trend not available	
		Sectors using cutting oil				↕
Germany	01	Agriculture (animal breeding farms)	1.1 m		↔	
Greece		Endotoxins reported among the five categories				
Netherlands	15	Manufacture of food products and beverages	N/A	↓		
	17	Manufacture of textiles	N/A	↓		
	61	Transportation (grain, peanuts)	N/A	↓		
Ireland	01	Agriculture	N/A	↓		
Italy		Insufficient information available				
Luxembourg		Insufficient information available				
Portugal	85	Health and social work	N/A		Trend not available	
Spain	01	Agriculture	N/A		Trend not available	
	15	Manufacture of food and beverages	N/A		Trend not available	
Sweden	01	Agriculture	N/A*		Trend not available	
	90	Sewage and refuse disposal, sanitation & similar services	N/A*			
United Kingdom	—	Manufacturing	N/A		Trend not available	
	—	Refuse disposal	N/A		Trend not available	
	—	Agriculture	N/A		Trend not available	
	—	Textile	N/A		Trend not available	

N/A - no data available

m - million

* - large number of exposed employees

4.10.25 Non-infectious biological factors – evaluation of the present state of exposure in the workplace

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by four Focal Points: **Austria, Belgium, Greece and Sweden**

Development of additional preventive action was indicated by five Focal Points: **Finland, France, Ireland, Portugal and Spain**

The category “Other” was indicated by one Focal Point: **Netherlands**

No Response: **Denmark, Italy, Luxembourg and United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Finland: Water-damaged buildings as workplaces is a difficult and wide-spread problem. The number of exposed persons is high. Strategies for investigating buildings and exposed individuals have to be established. Instructions to prevent allergic reactions due to enzymes have been published. Exposure to flour dust still remains significant health hazards in many small bakeries.

Ireland: Better statistical data needed and better liaison with public health system needed.

Portugal: There is need to collect and analyse the data.

Spain: Workers’ training and information; PPE improvement; Places and containers marking; Safety measures improvement and Medical surveillance.

Additional comments submitted by the Focal Points:

Belgium: The preventive actions and measures implied in the Belgium legislation are sufficient. The juridical instrument is sufficient.

Greece: Although preventive action seems to be sufficient, we believe that we need: better statistical data; more research; better collaboration with public health system.

Netherlands: A wide consensus about the need for:
research and development on exposure and monitoring
R&D on preventive measures / good safety and health practices
preparation of policy actions regarding exposures to non infectious biological agents
on a number of issues “preventive actions taken/planned are sufficient” e.g.: occupational limits for flour, grain are currently prepared

Sweden: A lowering of the Swedish Occupational Exposure Limit Values for flour dust is imminent. Information activities about hazards connected with exposure to mould, organic dust, wood dust and so on are planned.

France provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

PSYCHO-SOCIAL WORKING CONDITIONS

4.11 HIGH SPEED WORK

4.11.1 Summary – high speed work

OVERVIEW

From a European picture, the ESWC-data shows that 55% of all workers interviewed reported exposure to high speed work.

The information collected in this project highlighted six Focal Points who reported a need for the development of additional preventive actions to combat high speed work in the workplace. Only one Focal Point reported that their measures taken/planned were sufficient to deal with the exposure indicator.

With regard to the trend of exposure in the workplace to high speed work over the past 3-5 years eight Focal Points reported an increased trend. No Focal Point reported a decreased trend and only one identified a stable trend. Six Focal Points were unable to establish a particular trend.

The comparison of ESWC-data and national data showed that six Focal Points identified differences and a further one reported that there were no differences between their national data and the data from European sources. Eight Focal Points could not report a comparison between the data sources, either because of difficulties in comparability of data, or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

There are many situations in the working environment that can lead to high speed work, both as a result of the nature of the work activity (loading and unloading of materials under time pressure) and because of time pressures demanded by production delivery schedules (“Just In Time” management). High-speed work is frequently related to repetitive, monotonous, piece-paid work.

Assembly workers, unskilled metalworkers, manual intensive labour activities (slaughter and fish workers) are frequently exposed to both repetitive and monotonous work conducted at high speed. Consequently, as reported in the national studies, there is a need for a programme to reduce the risk of ill health from such work activities.

One Focal Point in their national report commented that “time pressure”, which is near the concept of high speed work, has grown to be one of the most harmful factors in their working life. Further research was considered necessary to establish effective preventive actions.

SECTORS AT RISK

From the ESWC-data, 55 % of the workers interviewed in the sector category “Hotels and Restaurants” had the highest percentage (75%) of exposure to high speed work.

The information collected in the national reports identified the sector category “Hotels and Restaurants” as being most exposed. Only four Focal Points considered this sector to be most at risk. This sector category was followed by a total of nine other sectors, each of which were identified by three Focal Points as being most at risk.

OCCUPATIONS AT RISK

The ESWC-data identified the occupation categories “Skilled agriculture and fishery workers” and “Plant and Machine Operators” as the groups with the highest percentage of workers exposed to high speed work. Both of these groups had 61% of the interviewees reporting exposure to high speed work.

From the national reports, the two occupation categories considered to be most exposed to high-speed work in the workplace were:

- Corporate Managers; and
- Customer Services Clerks.

A total of five Focal Points identified each of the above occupations.

One Focal Point in their national report said that it was the less educated, young individuals and the self-employed who they considered were at the greatest risk from high speed work.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, one comment made in a national report said that time pressures were previously a typically male problem in the working environment which became a female problem during the 1980's.

PREVENTING EXPOSURE

As commented in a number of national reports, there are a number of measures that can be adopted and further developed to reduce the risk from high-speed work in the workplace. Such measures include:

- regular workplace checks and assessment;
- introduction of regular breaks;
- regular job/task rotation;
- suitable training and information for the work force;
- work strain regularisation and analysis; and
- improvement of technical and organisational measures training.

It was considered that further research was required, into how pressures at work arise in order to implement effective preventive measures.

Several national reports commented that time pressure and its outcomes should not be seen as an individual problem with individual solutions, but as an outcome of work organisation. Lack of personnel, increased demands for effectiveness, productivity and flexibility should be evaluated as key contributors to the increasing risk level.

4.11.2. High speed work – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
55	53	54

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose job involves working at very high speed are:

Time period	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
① All or almost all the time	25	29	19	23	32	23	25	27	38	17	24	18	32	22	27	25
② Around ¾ or ½ the time	17	22	9	23	21	15	17	25	21	16	19	14	17	14	26	16
③ Around ¼ of the time	13	13	13	15	18	8	13	14	12	10	12	5	10	13	16	10
Total ①+②+③	55	64	41	61	71	46	55	66	71	43	55	37	59	49	69	51

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

Percentage of workers whose job involves working at very high speed by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M
① All or almost all the time	25	29	31	20	27	22	35	28	22	25	17	21
② Around ¾ or ½ the time	18	17	17	15	21	18	27	17	22	18	16	15
③ Around ¼ of the time	12	13	13	16	15	11	13	10	10	8	12	11
Total ①+②+③	55	59	61	51	63	51	75	55	54	51	45	47

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing C-D: Mining, Quarrying and Manufacturing
 E: Electricity, Gas and Water Supply F: Construction
 G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
 H: Hotels and Restaurants I: Transport, Storage and Communications
 J: Financial Intermediation K: Real Estate, Renting and Business Activities
 L: Public Administration and Defence; Compulsory Social Security M-Q: Other Services

Percentage of workers whose job involves working at very high speed by occupations are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	25	25	17	20	24	23	28	27	37	30	24
② Around ¾ or ½ the time	18	21	18	16	19	17	18	19	14	17	23
③ Around ¼ of the time	12	13	10	13	11	12	15	12	10	9	10
Total ①+②+③	55	59	45	49	54	52	61	58	61	56	57

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers 2: Professionals
 3: Technicians and associate professionals 4: Clerks
 5: Service workers and shop and market sales workers 6: Skilled agricultural and fishery workers
 7: Craft and related trades workers 8: Plant and machine operators and assemblers
 9: Elementary occupations 0: Armed forces

4.11.3 High speed work – comparison between European and national data

If a Focal Point presented national data on high-speed work then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to high speed work risks in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1			Question 2		
	"Are there differences between the national data and the data from European sources?"			"Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"		
	Yes	No	No comparison reported	Yes	No	No comparison reported
			Lack of National data			Lack of National data
			Difficulty in comparability of data			Difficulty in comparability of data
Austria						
Belgium						
Denmark						
Finland*						
France*						
Germany*						
Greece*						
Netherlands*						
Ireland						
Italy						
Luxembourg						
Portugal						
Spain*						
Sweden						
United Kingdom*						

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Finland:

- the FQWLS 1997 used a larger sample size than ESWC-data;
- self-employed are not included in FQWLS; and
- 62% of respondents who reported time pressure at work in FQWLS is slightly lower than the 71% reported in ESWC-data. It is likely that these differences are partly due to differences in the question design and sampling.

There are considerable differences in the question design between the ESWC-data and FQWLS. In the FQWLS the respondent is not asked about the duration of exposure unlike in the ESWC-data. Instead, in the FQWLS the respondent is asked about whether there is time pressure or tight time schedules and the perceived burden at work due to time pressure.

Germany: National data reports about a 35% higher exposure rate and a higher exposure rate in companies with more than 100 and 500 employees.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Netherlands:

- overall average in the POLS data is 72.9% of workers with "any exposure" to high speed work. This is about 3.5% more than the ESWC-data;
- 5% higher rates of exposed workers for females in the POLS data;

- 5% higher rates of exposed workers in the age-category 25-54 years in the POLS data;
- Major differences for sectors can be found in sectors G, H and J. The POLS data shows:
 - 12% more exposed workers in Wholesale;
 - 10% more in the sector Financial intermediation.
 - 11% fewer exposed workers in the Hotel sector.
 - other sectors vary less than 10% in both data-sources.
 - No major differences occur concerning the occupations (<10%).
- 8% more self-employed workers reported exposure to high speed work;

The overall evaluation seems to indicate few differences between the data-sources: the POLS reports somewhat higher numbers of exposed workers.

Luxembourg: The EU data highlights an exposure “All of the time” in:

Sectors:

F – Construction (27.6%); and

J – Financial intermediation (28.0%).

Occupations:

4 – Clerks (20.4%); and

7 – Craft related trade workers (18.8%).

Spain: The answer “almost never” is always lower in the national data than the ESWC-data.

United Kingdom: The questions on speed of work are slightly different, the national survey asks: “Does your job ever involve working very fast?” “How often does this happen?” Whilst the EU survey asks: “How often does your main paid job involve working at very high speeds?”

The overall proportion of cases who ever work fast is similar for the two data sets (EU: 47.7%, national: 51.9%).

Personal variables: There are no major differences between the two surveys for gender or age.

Company size: The two surveys are not directly comparable for companies of less than 100 employees. There are no major differences between the two surveys for company sizes larger than 100 employees.

Sector: The main differences between the surveys by sector were as follows:

In the agriculture, hunting, forestry and fishing sector the EU survey estimated that 33.3% of cases always or nearly always work very fast compared to only 5.6% in the national survey.

In the transportation and communication sector although the proportion of workers who work very fast for at least a quarter of their working time is similar for the two surveys the EU survey estimated that 27.4% of cases always work very fast compared to 16.7% in the national survey. This last comparison is only based on a small number of sample cases and should be treated with caution.

In the financial intermediation sector although the proportion of workers who work very fast for at least a quarter of their working time is similar for the two surveys the EU survey estimated that 28.3% of cases always work very fast compared to 13.1% in the national survey. Again this last comparison is only based on a small number of sample cases and should be treated with caution.

Occupation: The main differences between the surveys by occupation were as follows:

For the armed forces the EU survey estimated that 60% of cases always or nearly always work very fast compared to 14.9% in the national survey.

For skilled agricultural and fishery workers no cases reported always or nearly always working very fast in the national survey compared to 26.3% in the EU survey.

Employment status: The breakdown for employment status is not comparable between the two data sets.

Austria, Belgium, Denmark, France, Ireland, Italy, Portugal and Sweden provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: Differences mainly due to more detailed level of classification, but also due to the question design:

Sectors:

22 - Publishing, printing

30, 31, 33 - Manufacture of office machinery;

36 - Manufacture of furniture, manufacturing NEC;

60, 61, 62 Land, water and air transport

63 - Supporting transport activities; and

Occupations:

22 - Life and health professionals;

23 - Teaching professionals;
32, 33 - Life science and health associate professionals; and
83 - Drivers and plant operators.

Germany: EU data highlights Mining, Quarrying and Manufacturing and Plant and machine operators.

National data highlights Construction, Legislators, professionals, Transport & communication, Hotels & Restaurants.

Netherlands: The national data highlights the relative number of workers with “any exposure” to high speed work in the Financial sector.

United Kingdom: Comparing the proportion of workers in the national survey who work very fast for at least a quarter of their working time, two sectors have high proportions in the national survey: public administration sector and the electricity, gas and water supply sector which are not highlighted by the EU survey.

A similar comparison for occupations shows two occupations with high proportions of cases who work very fast for at least a quarter of their working time in the national survey: craft and related trades workers and service workers, shop, market sales workers which are not highlighted by the EU survey.

Austria, Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, Portugal, Spain and Sweden provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

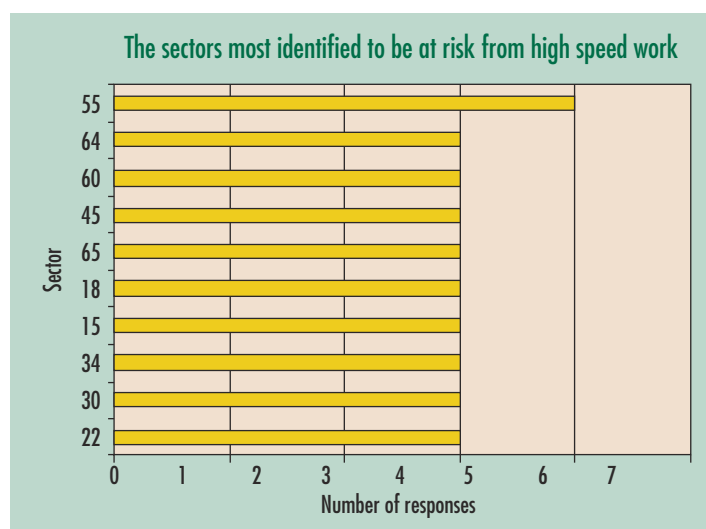
United Kingdom: The national data is from the survey of self-reported working conditions that was carried out in 1995 and the EU data is based on a survey carried out in 1996.

4.11.4 High speed work – sectors at risk

The ten most frequently identified sectors which the Focal Points* considered to be most at risk from high speed work exposure are listed below:

55 Hotels and Restaurants;
64 Post and Telecommunications;
60 Land Transport; Transport via Pipelines;
45 Construction;
65 Financial Intermediation, except Insurance and Pension Funding;
18 Manufacture of Wearing Apparel; Dressing and Dyeing of Fur;
15 Manufacture of Food Products and Beverages;
34 Manufacture of Motor Vehicles, Trailers and Semi-Trailers;
30 Manufacture of Office, Accounting and Computing Machinery; and
22 Publishing, Printing and Reproduction of Recorded Media.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹¹⁵ = 60

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹¹⁵ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

The category “Hotels and Restaurants” was the sector with the highest percentage of workers being exposed to high speed work. As illustrated in the above graph, the information collected from the national reports identified the sector “Hotels and Restaurants” as being most exposed. Only four Focal Points considered this sector to most at risk. As shown in the graph there were nine sectors that were identified by three Focal Points as being most at risk.

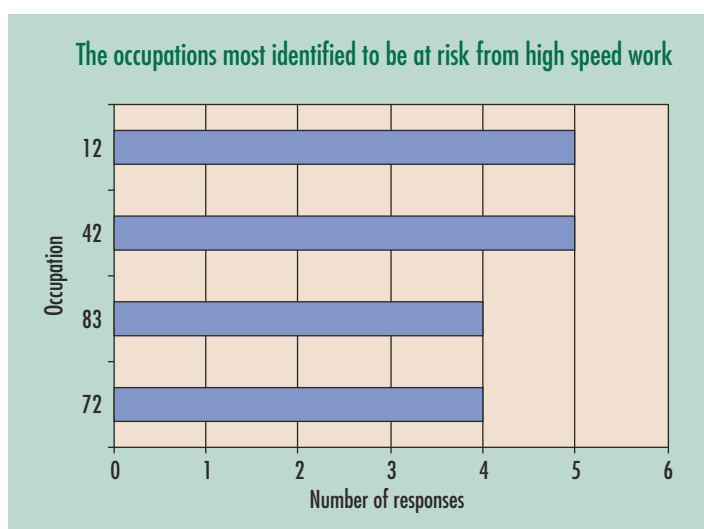
One Focal Point commented that the trend of exploiting existing capacities more intensively combined with the poor situation in the employment market means that an increased risk can be expected in all sectors.

4.11.5 High speed work – occupations at risk

The four most frequently identified occupations which the Focal Points* considered to be most at risk from high speed work exposure are listed below:

- 12 Corporate managers;
- 42 Customer services clerks;
- 83 Drivers and mobile plant operators; and
- 72 Metal, machinery and related trades workers.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹¹⁶ = 53

The ESWC-data identified the occupation categories “Skilled agriculture and fishery workers” and “Plant and Machine Operators” as the groups with the highest percentage of workers exposed to high speed work. Both of these groups had 61% of the interviewees reporting exposure to high speed work.

From the national reports the two occupation categories considered to be most exposed to high-speed work in the workplace were:

- Corporate Managers; and
- Customer Services Clerks.

A total of five Focal Points identified each of the above occupations.

4.11.6 High speed work – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk from high speed work exposure in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to high speed work and company size to be given (see Appendix 5a for the number of responses).

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹¹⁶ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

4.11.7 High speed work – gender at risk

Each Focal Point was asked to: *“State which gender category has a particular high risk from high speed work exposure.”*

Data provided by the Focal Points did not allow a European picture with regard to high speed work and gender to be given (see Appendix 5b for the number of responses).

4.11.8 High speed work – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk from to high speed work exposure.”*

Data provided by the Focal Points did not allow a European picture with regard to high speed work and age categories to be given (see Appendix 5c for the number of responses).

4.11.9 High speed work – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to high speed work and employment status to be given (see Appendix 5d for the number of responses).

4.11.10 High speed work – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to high speed work over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (0 Focal Points): -

Stable Trend (1 Focal Point): **Italy**

Increased Trend (8 Focal Points): **Austria, Belgium, Finland, Germany, Greece, Netherlands, Spain and Sweden**

Category “Other” (6 Focal Points): **Denmark, France, Ireland, Luxembourg, Portugal and United Kingdom***

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

* Trend regarding the number of workers exposed to vibrations over the last 3 – 5 years is unknown.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: The number of exposed employees has increased during the past five years. The trend of exploiting existing capacities more intensively and the poor situation on the employment market means that an increased risk can be expected in all sectors.

Belgium: Most vulnerable employees are the less educated, young workers and temporary workers.

Finland: The growth in time pressure (high speed work) has been obvious during the 20 years period of QWS. Examined by occupational group, there are distinct differences: at first, industrial work was perceived as the one most hampered by time pressure, particularly by female workers, whereas lately most in the field of health care work. By employer sector, municipal employees' time pressure appears to have increased most.

Germany: An increase in deadline and achievement is reported in all branches, often in connection with a high number of hours worked overtime as well as in branches where productivity must be increased.

Netherlands: Trend has increased according to monitor data over the period 1995 – 1997.

Denmark, France, Greece, Italy, Ireland, Luxembourg, Portugal, Spain, Sweden and United Kingdom provided no additional information in relation to the trends in the workplace.

4.11.11 High speed work – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by one Focal Points: **Greece**

Development of additional preventive action was indicated by six Focal Points: **Belgium, Denmark, Finland, Netherlands, Italy** and **Spain**

The category "Other" was indicated by three Focal Points: **France, Portugal** and **Sweden**

No response: **Austria, Ireland, Luxembourg** and **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE "THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY", THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Specific actions are nearly impossible. General awareness for prevention as a whole would be the correct approach.

Denmark: The impact of high-speed work has been known since the 1970s. The documentation is based on representative cross-sectional studies of workers in 1972, 1990 and 1995 and on sector-specific studies of, for instance, slaughters and persons in the textile industry.

High speed work is frequently related to repetitive monotonous piece-paid work. A program aiming at a reduction of repetitive monotonous work is negotiated and accepted by the Social Partners. However, the tradition of payment by the piece has constituted a barrier for obtaining success with the program.

Assembly workers, unskilled metalworkers, slaughters and workers in the fish industry still have their working environment characterised by repetitive monotonous work at high speed. Consequently, there is still a need for a program for the reduction of such work.

Finland: Time pressure, which is near the concept of high-speed work, has grown to be one of the most harmful factors in the Finnish working life. Preventive actions should base on further research. There is a need for more research into how pressures at work arise, how they could be avoided and how burnout - the worst ultimate outcome of the process - could, at the same time, be prevented. Time pressure and its outcomes should not be seen as an individual problem with individual solutions, but as an outcome of work organisation. Lack of personnel, increased demands of effectiveness, productivity and flexibility should be evaluated as contributors.

Netherlands: The Central Bureau of Statistics has calculated that work pressure in the past two decades has increased by some 1,5% per year. At this point in time some 1,7 million workers in the Netherlands regularly encounter situations of high work pressure (working at a rapid pace is one of the aspects considered here). In regard to work pressure, the Netherlands is on the top of the EU list. Of all workers that are exposed to high work pressure, appr. 1 out of 4 feels that work troubles them too much.

Interventions with regard to work pressure have been intensified over the period, in particular in government institutions, in education. The majority of the interventions concern social management training, rotation of tasks and workers consultations. It also appears that only few workers participate in the interventions; the majority of them state the interventions not to be particularly effective. There are indications that combinations of various intervention techniques are more effective.

27 collective labour agreements do specify actions regarding the prevention of work pressure; these agreements cover some 750,000 workers. A specific aspect here is that to elderly workers, additional leisure time is made available.

Organisations of Social Partners have stated that work pressure is at a too high level. They also have agreed that in negotiations on collective labour agreements, an approach towards a more acceptable level of work pressure should be on the agenda.

The new campaign that is to be launched by the Ministry of Social Affairs and Employment (the covenants that have been described in a number of previous sections) will also take into account the prevention of work pressure.

Italy: Improvement in the technical and organisational measures, training.

Spain: Work place checking. Regular work breaks implementation and/or rotation. Workers training and information and work strain analysis.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Portugal: There is a need to perform a survey, aiming to obtain supportive data for Focal Point and policy makers in the field of safety and health at work.

Sweden: It is not clear what working at very high speed exactly means.

United Kingdom: Not evaluated.

4.12 **WORKSPACE DICTATED BY SOCIAL DEMAND**

4.12.1 Summary – workspace dictated by social demand

OVERVIEW

From a European picture, the ESWC data shows that 67% of the workers interviewed for the survey reported exposure to workspace that was dictated by social demand.

The information collected in this project highlighted three Focal Points reported a need for the development of additional preventive actions to reduce exposure to the risk of workspace dictated by social demand. Only two Focal Points reported that their measures taken/planned were sufficient to deal with the exposure indicator. Ten Focal Points could not answer the question.

With regard to the trend in exposure to workspace dictated by social demand over the past 3-5 years no clear conclusions can be drawn. Three Focal Points reported a stable trend and three reported an increased exposure trend. In general, because of the lack of available national information nine Focal Points were unable to establish a trend.

One Focal Point reported that further knowledge is required into the effects of workspace dictated by social demands with respect to several employee groups, including hospital nurses, shop assistants, social counsellors, waiters, cooks, bus, taxi, van and lorry drivers. Another Focal Point reported their urgency to carry out a survey in order to gather information on this topic.

The comparison of ESWC-data and national data showed that three Focal Points identified differences and a further one reported that there were no differences between their national data and the data from European sources. Eleven Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

As discussed in one national report an observed effect of cutting financial budgets in the education and health care sectors has been to increase the demand placed on the workers in these sectors over the last decade.

SECTORS AT RISK

From a European picture, the ESWC-data shows that the sector category “Hotels and Restaurants” had the highest percentage group, 90% of the respondents, reporting exposure to workspace which was dictated by social demands.

Information in the national reports shows that the Focal Points most frequently identified “Hotels and Restaurants” as the sector at risk. A total of six Focal Points identified this sector. The second most frequently identified sector category was the “Health and Social Work” which was identified in five national reports.

OCCUPATIONS AT RISK

The ESWC-data identified the “Service Workers, Shop and Market Sales Workers” to the most exposed occupation. Information in the national reports shows that the Focal Points most frequently identified the occupation “Customer Service Clerks” at risk. This indicates that workers connected with the service sector are most likely to be exposed to the effects of workspace which is dictated by social demands.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

One Focal Point commented that they assumed the risk of exposure was greatest in larger organisation (employing more than fifty) because such establishments would be more likely to have automated machinery i.e. production lines, than the small enterprise.

It was also believed that females were at a higher risk of exposure because predominantly females have been employed in organisations using production lines which dictate the pace of work.

One Focal Point commented that their national data showed that as the company size increased so did the risk of exposure to workplace dictated by social demand. This was said to be the reverse of that shown in the ESWC-data.

From the expert opinion in one national report it was believed that the larger organisation, the female worker employed and those on a permanent employment basis were common factors to those most exposed to the risk of workplace dictated by social demand.

PREVENTING EXPOSURE

As commented in a number of national reports there a number of measures that can be adopted and further developed to reduce the risk from workplace dictated by social demand, these measures included:

- improved work planning and organisation;
- implementation of improved work organisation including job/task rotation, regular scheduled breaks; and
- provision and information for training.

4.12.2 Workplace dictated by social demand – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
65	80	67

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose pace of work is dependent on direct demands from people such as customers, passengers, pupils, patients etc. are:

	Total (%)	Member State															
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK	
Yes	67	62	73	69	63	73	57	61	69	67	67	64	64	66	79	78	

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

Percentage of workers whose pace of work is dependent on direct demands from people such as customers, passengers, pupils, patients etc. by sector are:

	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Yes	67	35	50	56	58	86	90	67	74	78	68	76

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing C-D: Mining, Quarrying and Manufacturing
 E: Electricity, Gas and Water Supply F: Construction
 G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
 H: Hotels and Restaurants I: Transport, Storage and Communications
 J: Financial Intermediation K: Real Estate, Renting and Business Activities
 L: Public Administration and Defence; Compulsory Social Security M-Q: Other Services

Percentage of workers whose pace of work is dependant on direct demands from people such as customers, passengers, pupils, patients etc. by occupation are:

	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
Yes	67	81	82	72	71	84	35	57	52	51	55

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

2: Professionals

3: Technicians and associate professionals

4: Clerks

5: Service workers and shop and market sales workers

6: Skilled agricultural and fishery workers

7: Craft and related trades workers

8: Plant and machine operators and assemblers

9: Elementary occupations

0: Armed forces

4.12.3 Workspace dictated by social demand – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to workplace dictated by social demand.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1				Question 2			
	"Are there differences between the national data and the data from European sources?"				"Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				<input type="radio"/>				<input type="radio"/>
Belgium			<input type="radio"/>				<input type="radio"/>	
Denmark				<input type="radio"/>				<input type="radio"/>
Finland			<input type="radio"/>				<input type="radio"/>	
France*				<input type="radio"/>				<input type="radio"/>
Germany*	<input type="radio"/>				<input type="radio"/>			
Greece*		<input type="radio"/>					<input type="radio"/>	
Netherlands			<input type="radio"/>		<input type="radio"/>			
Ireland			<input type="radio"/>				<input type="radio"/>	
Italy			<input type="radio"/>				<input type="radio"/>	
Luxembourg	<input type="radio"/>						<input type="radio"/>	
Portugal			<input type="radio"/>				<input type="radio"/>	
Spain*	<input type="radio"/>							<input type="radio"/>
Sweden			<input type="radio"/>				<input type="radio"/>	
United Kingdom*			<input type="radio"/>				<input type="radio"/>	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Germany:

- national study reports a 20 % higher exposure risk.
- exposure to work pressure increases with company size. The reverse is true in the ESWC-data.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Luxembourg: The EU data highlights “Workspace dictated by social demands” in:

Sector:

G - wholesale and retail trade, repairs (82.9%)

H - Hotels and restaurants (94.15); and

J – Financial intermediation (76.9%).

Occupations:

1 - Legislators and senior officials and managers (87.2%)

2 – Professionals (75.4%)

5 - Service workers, shop, market sales workers (74.5%); and

8 - Plant machine operators and assemblers (71.4%).

Spain: In general, the percentage of exposed workers is higher in the ESWC-data than the national data; especially in sectors like: construction and mining, quarrying; and occupations like “elementary occupations”.

United Kingdom: There is no national data which compares with the European question.

Austria, Belgium, Denmark, Finland, France, Netherlands, Ireland, Italy, Portugal, and Sweden provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Germany:

EU data highlights:

Wholesale and retail trade	Service workers	females
----------------------------	-----------------	---------

National data highlights:

Construction and electricity, gas and water supply and occupation	Armed forces	males
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Netherlands: In 1997 approximately 70% of employees could decide when and how to do their jobs, and 55% could decide when to interrupt their work.

The ESWC-data question asks about time constraints in the work. There are several questions on time constraints in Dutch monitors.

Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden and United Kingdom provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Germany: The question posed in German does not correspond exactly to the ESWC question: the ESWC asks about the “pace” in relation to other people. In the BIBB/IAB survey the question asked relates to the social demand stemming from the necessity of working together.

Netherlands: The ESWC question asks about time constraints in the work. There are several questions on time constraints in Dutch monitors (e.g. POLS, Monitor on Stress and Physical Load). In these monitor questions the constraints are, however, not specified to their cause (ESWC specifies social demands and machine dictated pacing). In 1997 appr. 70% of the Dutch employees can decide (when and how) to do their job (POLS. N= appr. 6,000), and 55% can decide when to interrupt their work (POLS).

Portugal: The Focal Point reports the need to carry out a national survey covering this subject.

Spain: The question in the European survey is more general than the national question. So it could include topics about the subject.

4.12.4 Workspace dictated by social demand – sectors at risk

The five most frequently identified sectors which the Focal Points* considered to be most at risk from workspace dictated by social demand exposure are listed below:

* The Focal Points used different approaches to identify the occupations to be considered most at risk from work pace dictated by social demand exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

55 Hotels and Restaurants;
85 Health and Social Work;
52 Retail Trade, except of Motor Vehicles and Motorcycles; Repair of Personal and Household Goods;
75 Public Administration and Defence; Compulsory Social Security; and
93 Other Service activities.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹¹⁷ = 39

As shown in the above graph “Hotels and Restaurants” was the sector most frequently identified in the national reports. A total of six Focal Points identified this sector to be most at risk. The second most frequently identified sector category was the “Health and Social work” as identified in five national reports.

From the ESWC survey the sector category “Hotels and Restaurants” recorded 90% of the respondents reporting exposure to workplace which was dictated by social demands.

4.12.5 Workplace dictated by social demand – occupations at risk

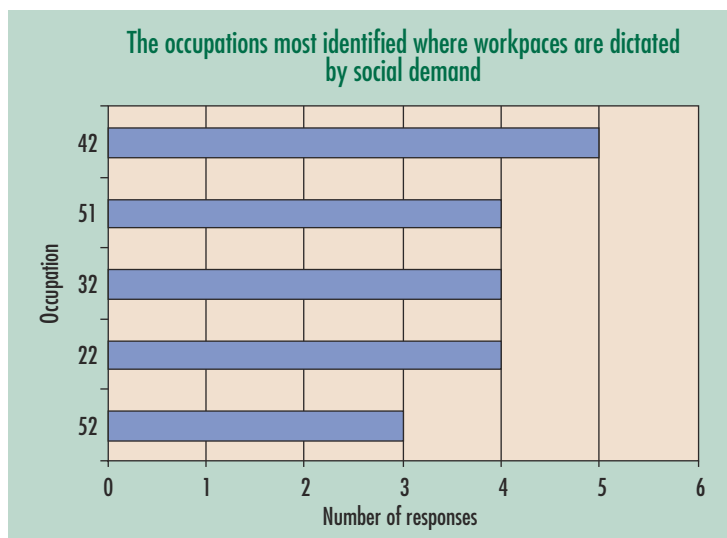
The five most frequently identified occupations which the Focal Points* considered to be most at risk to workplace dictated by social demand exposure are listed below:

42 Customer services clerks;
51 Personal and protective services workers;
32 Life science and health associate professionals;
22 Life science and health professionals; and
52 Models, salespersons and demonstrators.

¹¹⁷ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

* The Focal Points used different approaches to identify the occupations to be considered most at risk from work pace dictated by social demand exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹¹⁸ = 35

The graph above illustrates that the information in the national reports most frequently identified the occupation “Customer Service Clerks” to be most at risk. From the ESWC survey the occupation category “Service Workers and Shop and Market Sales Workers” recorded 84% of the respondents, which was the highest percentage group, being exposed to workspace which was dictated by social demand. This was closely followed by the occupation categories “Professionals” and “Legislators, senior officials and managers” with 81% and 82%, respectively of the respondents reporting exposure to the risk. This indicates that workers connected with the service sector are most likely to be exposed to the effects of workspace which is dictated by social demand.

4.12.6 Workspace dictated by social demand – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to exposure to workspace dictated by social demand.”

Data provided by the Focal Points did not allow a European picture with regard to workspace dictated by social demand and company size to be given (see Appendix 5a for the number of responses).

4.12.7 Workspace dictated by social demand – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk to exposure to workspace dictated by social demand.”

Data provided by the Focal Points did not allow a European picture with regard to workspace dictated by social demand and gender to be given (see Appendix 5b for the number of responses).

4.12.8 Workspace dictated by social demand – age category at risk

Each Focal Point was asked to: “State which age category has a particular high risk to exposure to workspace dictated by social demand.”

Data provided by the Focal Points did not allow a European picture with regard to workspace dictated by social demand and age categories to be given (see Appendix 5c for the number of responses).

4.12.9 Workspace dictated by social demand – employment status at risk

Each Focal Point was asked to: “State if the employment status is of importance.”

Data provided by the Focal Points did not allow a European picture with regard to workspace dictated by social demand and employment status to be given (see Appendix 5d for the number of responses).

4.12.10 Workspace dictated by social demand trend in the number of workers exposed

Each Focal Point was asked to: “Consider if the number of workers exposed to workspace dictated by social demand over the last 3 – 5 years has decreased, remained stable or increased.”

¹¹⁸ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

The following responses were received:

Decreased Trend (0 Focal Points): -

Stable Trend (3 Focal Points): **Greece, Netherlands** and **Spain**

Increased Trend (3 Focal Points): **Austria, Germany** and **Sweden**

Category "Other" (9 Focal Points): **Belgium, Denmark*, Finland, France, Ireland, Italy, Luxembourg, Portugal** and **United Kingdom**

"Other Response" includes no response/unable to respond due unavailability of national data/incompatibility of national data.

* Trend regarding the number of workers exposed over the last 3-5 years is unknown.

Furthermore, the Focal Points were asked to identify: *"Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?"*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: No data available regarding the number of exposed workers. Increase in production (industrial) sectors as the implementation of automation increases.

Germany: Demands are high in all branches where forms of team or group work have been introduced. The transition from mass/large-scale production to customer-orientated/limited edition production will lead to a strong increase in the social demands made of employees in the production sector.

Netherlands: Trend has remained stable (from other questions, the indications are that job autonomy has remained stable over the period).

Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Portugal, Spain, Sweden and **United Kingdom** provided no additional information in relation to the trends in the workplace.

4.12.11 Workspace dictated by social demand – evaluation of preventive actions

Focal Points were asked to indicate if:

"Preventive actions taken or planned are sufficient to deal with the existing related problems;"

"The development of additional preventive action is necessary;" or

"Other."

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by two Focal Points: **Greece** and **Netherlands**

Development of additional preventive action was indicated by three Focal Points: **Denmark, Spain** and **Sweden**

The category "Other" was indicated by two Focal Points: **France** and **Portugal**

No response: **Austria, Belgium, Finland, Ireland, Italy, Luxembourg** and **United Kingdom**.

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE "THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY", THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Denmark: The relationship between workplace dictated by social demand and health is far from well elucidated, maybe with the exception of what is known from studies of bus drivers. Knowledge of this relationship is required on hospital nurses, shop assistants, social counsellors, waiters, cooks, bus, taxi, van and lorry drivers.

Spain: Work planning and organising, work organisation procedures implementation (shifts, rotation, task re-distribution, breaks), training about: public relations, its conflicts and interferences.

Sweden: Due to budget cuts in education and health care the demand on the workers in these sectors has increased during the last decade.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Austria: No data available.

Netherlands: Available is data on 5 questions on autonomy in the job. For “decide on work interruption” the positive responses for ‘94 through ‘97 are resp. 54, 53, 52 and 55%. In the same line when and how to do the job: 64, 66, 68 and 70%. The positive response for “control own workspace” is 59% in ‘96 and in ‘97, positive for “decide on order of tasks” is 71% in ‘96 and 72% in ‘97. “Find out solutions in the work” is 78 and 77% positive for resp. ‘96 and ‘97. As an overall picture, autonomy is at a relatively high level and has remained more or less stable over the period. Within the autonomy questions there are indications for an increase of autonomy in the job.

Portugal: A survey needs to be carried out with some urgency.

4.13 MACHINE DICTATED WORKSPACE

4.13.1 Summary – machine dictated workspace

OVERVIEW

From a European picture, the ESWC-data shows that 22% of all workers interviewed for the survey reported exposure to machine dictated workspace.

The information collected in this project highlighted four Focal Points reporting a need for the development of additional preventive actions to combat the risk posed by machine dictated workspace. Four Focal Points reported that their measures taken/planned were sufficient to deal with the exposure indicator. Seven Focal Points were unable to answer the question.

With regard to the trend of exposure to machine dictated workspace over the past 3-5 years four Focal Points reported an increased trend, one reported a stable trend and two reported a decreased trend. A total of eight Focal Points were unable to establish a particular trend.

The comparison of ESWC-data and national data showed that three Focal Points identified differences and a further one reported that there were no differences between their national data and the data from European sources. Eleven Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

There are many work-related tasks that are characterised by repetitive and monotonous activities, which are governed by the relationship between the machine/production requirements and the worker. Such relationships are typically amongst unskilled labour such as metal workers, assemblers/packers and workers in the food industry.

Machine Operators and Assemblers was the most frequently identified occupation category considered at risk from machine dictated workspace.

One national report commented that machine dictated workspace is frequently related to repetitive monotonous piece-paid work and that a programme aimed at reducing this sort of work had been negotiated and accepted by the Social Partners. However, the traditional payment by the piece has constituted a barrier for obtaining success with the programme.

SECTORS AT RISK

The information collected in the national reports as part of this project highlights the category “Manufacture of Textiles” as the sector most frequently identified as being exposed to the risk posed by a machine dictated workspace.

From the ESWC survey the category “Agriculture, Hunting, Forestry and Fishing” was identified as the sector with the highest percentage (40% of respondents) of workers reporting exposure to machine dictated workspace.

OCCUPATIONS AT RISK

The information reported by the Focal Points for this project shows the most frequently reported occupation category considered at risk from machine dictated workspace to be “Machine Operators and Assemblers”. This information is in

agreement with the findings of the ESWC-data which highlights “Plant and machine operators and assemblers” as being most exposed (46% of the respondents).

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

Females were considered by one Focal Point to be more exposed to the risk of machine dictated workplace because predominantly they have been employed in industries that have utilised production line methodologies. An increase in exposure levels is expected as more industries implement automated production facilities.

Another Focal Point reported that many piecework tasks are likely to be replaced by forms of working techniques such as group work giving which will give rise to a strong increase in social demands.

PREVENTING EXPOSURE

As discussed in several national reports there are a number of measures that can be implemented and improved upon to reduce the risk from exposure to machine dictated workplace, these measures include:

- improvement in technical and organisational measures;
- regular workplace inspections;
- implementation of regular breaks;
- routine job/task rotation; and
- provision of information and training.

4.13.2 Machine dictated workplace – a european picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
23	17	22

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose pace of work is dependent on automatic speed of machine are:

	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
Yes	22	19	16	14	20	22	20	26	21	23	22	25	24	24	12	25

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

Percentage of workers whose pace of work is dependent on automatic speed of machine by sector are:

	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Yes	22	40	37	17	26	17	13	20	14	19	11	11

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing C-D: Mining, Quarrying and Manufacturing
 E: Electricity, Gas and Water Supply F: Construction
 G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
 H: Hotels and Restaurants I: Transport, Storage and Communications
 J: Financial Intermediation K: Real Estate, Renting and Business Activities
 L: Public Administration and Defence; Compulsory Social Security M-Q: Other Services

Percentage of workers whose pace of work is dependent on automatic speed of machine by occupations are:

	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
Yes	22	13	9	13	20	10	42	32	46	26	21

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

2: Professionals

3: Technicians and associate professionals

4: Clerks

5: Service workers and shop and market sales workers

6: Skilled agricultural and fishery workers

7: Craft and related trades workers

8: Plant and machine operators and assemblers

9: Elementary occupations

0: Armed forces

4.13.3 Machine dictated workspace – comparison between European and national data

If a Focal Point presented national data, then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to machine dictated workspace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1				Question 2			
	"Are there differences between the national data and the data from European sources?"				"Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				<input type="radio"/>				<input type="radio"/>
Belgium			<input type="radio"/>				<input type="radio"/>	
Denmark				<input type="radio"/>				<input type="radio"/>
Finland			<input type="radio"/>				<input type="radio"/>	
France*			<input type="radio"/>				<input type="radio"/>	
Germany*	<input type="radio"/>				<input type="radio"/>			
Greece*		<input type="radio"/>					<input type="radio"/>	
Netherlands			<input type="radio"/>				<input type="radio"/>	
Ireland			<input type="radio"/>				<input type="radio"/>	
Italy			<input type="radio"/>				<input type="radio"/>	
Luxembourg	<input type="radio"/>						<input type="radio"/>	
Portugal			<input type="radio"/>				<input type="radio"/>	
Spain*	<input type="radio"/>							<input type="radio"/>
Sweden			<input type="radio"/>				<input type="radio"/>	
United Kingdom			<input type="radio"/>				<input type="radio"/>	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Germany:

- the national data reports a 15% higher exposure risk.
- the ESWC-data highlights male and company size 50 -99.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Luxembourg: The EU-data highlights “Machine dictated workplace” in:

Sectors:

A-B Agriculture, hunting, forestry and fishing (66.75);
C –D Mining, quarrying and manufacturing (51.9%); and
F Construction (43.8%).

Occupations:

6 - Skilled agricultural and fishery workers (46.25);
7 - Craft and related trades workers (48.15); and
8 - Plant and machine operators, assemblers (57.95).

Spain: The percentage of exposed workers is almost bigger in European data than national data especially in the sectors: “Transport, storage” and “Construction” and in the occupation “Plant and machine operators”.

United Kingdom: There is no national data which is comparable with the European question.

Austria, Belgium, Denmark, Finland, France, Netherlands, Ireland, Italy, Portugal and Sweden provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Germany: The ESWC-data highlights greater risk in Agriculture sector and skilled agricultural worker’s occupation. The national data highlights greater risk in the sectors: transportation and construction, and the occupations: craft and related trade workers and elementary occupations.

Austria, Belgium, Denmark, Finland, France, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden and United Kingdom provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Netherlands: The ESWC question asks about time constraints in the work. There are several questions on time constraints in Dutch monitors (e.g. POLS, Monitor on Stress and Physical Load). In the monitor questions the constraints are, however, not specified to their cause (ESWC specifies social demands and machine dictated pacing). In 1997 appr. 70% of the Dutch employees can decide (when and how) to do their job (POLS. N= appr. 6,000), and 55% can decide when to interrupt their work (POLS).

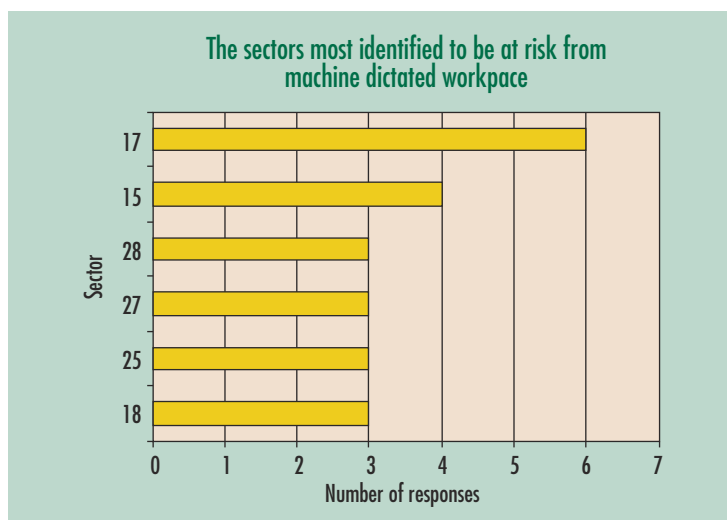
4.13.4 Machine dictated workplace – sectors at risk

The six most frequently identified sectors which the Focal Points* considered to be most at risk from machine dictated workplace exposure are listed below:

- 17 Manufacture of Textiles;
- 15 Manufacture of Food Products and Beverages;
- 28 Manufacture of fabricated Metal Products, except Machinery and Equipment;
- 27 Manufacture of Basic Metals;
- 25 Manufacture of Rubber and Plastic Products; and
- 18 Manufacture of Wearing Apparel; Dressing and Dyeing of Fur.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹¹⁹ = 37

As shown in the graph above the findings from this project identified the category “Manufacture of Textiles” as the sector most frequently identified by the Focal Points as being at risk from machine dictated workplace.

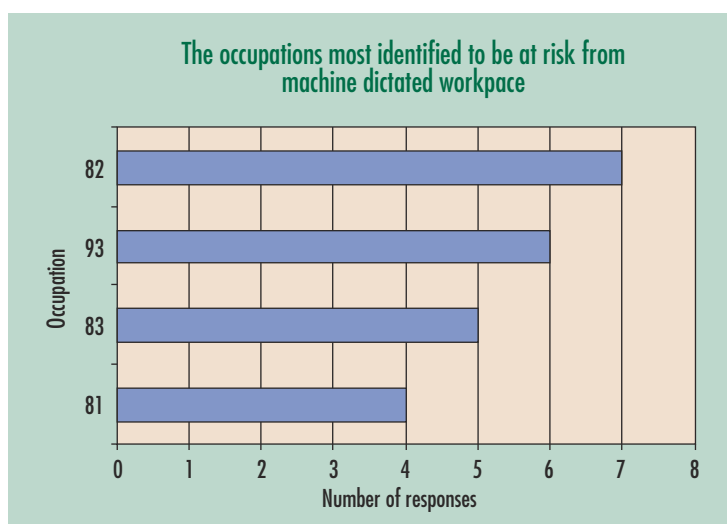
In the ESWC survey “Agriculture, Hunting, Forestry and Fishing” was identified as the sector category with the highest percentage (40% of respondents) of workers reporting exposure to machine dictated workplace.

4.13.5 Machine dictated workplace – occupations at risk

The four most frequently identified occupations which the Focal Points* considered to be most at risk from machine dictated workplace exposure are listed below:

- 82 Machine operators and assemblers;
- 93 Labourers in mining, construction, manufacturing and transport;
- 83 Drivers and mobile plant operators; and
- 81 Stationary-plant and related operators.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹²⁰ = 37

¹¹⁹ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹²⁰ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

As illustrated on page 193 the information collected for this project identified the category “Machine operators and assemblers” as the most frequently reported occupation exposed to machine dictated workspace in the working environment. This information is in agreement with the findings of the ESWC-data which highlighted “Plant and machine operators and assemblers” as being most exposed (46% of respondents) occupation to machine dictated workspace.

4.13.6 Machine dictated workspace – company size at risk

Each Focal Point was asked to: *“Indicate, in general terms, the size of company with the highest risk to exposure to machine dictated workspace.”*

Data provided by the Focal Points did not allow a European picture with regard to machine dictated workspace and company size to be given (see Appendix 5a for the number of responses).

4.13.7 Machine dictated workspace – gender at risk

Each Focal Point was asked to: *“State which gender category has a particular high risk to exposure to machine dictated workspace.”*

Data provided by the Focal Points did not allow a European picture with regard to machine dictated workspace and gender to be given (see Appendix 5b for the number of responses).

4.13.8 Machine dictated workspace – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk to exposure to machine dictated workspace.”*

Data provided by the Focal Points did not allow a European picture with regard to machine dictated workspace and age categories to be given (see Appendix 5c for the number of responses).

4.13.9 Machine dictated workspace – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to machine dictated workspace and employment status to be given (see Appendix 5d for the number of responses).

4.13.10 Machine dictated workspace – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to machine dictated workspace over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (2 Focal Points): **Germany** and **Sweden**

Stable Trend (1 Focal Point): **Greece**

Increased Trend (4 Focal Points): **Belgium, Finland, Italy** and **Spain**

Category “Other” (8 Focal Points): **Austria*, Denmark**, France, Netherlands, Ireland, Luxembourg, Portugal** and **United Kingdom**

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

* This trend is based on “Repetitive tasks several times per hour” - half the time or more.

Male (1991 – 32.5%; 1997 – 36.5%) and Female (1991 – 38.7%; 1997 – 44.8%)

** Trend regarding the number of workers exposed over the last 3-5 years is unknown.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: No available data regarding the number of exposed workers. Increase in production (industrial) sectors as automation increases.

Germany: The branches with piecework structures are dominant in the economic sectors. Many piecework tasks will be replaced by forms of group work giving rise to strong increase in social demands.

Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and **United Kingdom** provided no additional information in relation to the trends in the workplace.

4.13.11 Machine dictated workplace – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems”;

“The development of additional preventive action is necessary”; or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by four Focal Points: **Finland, Greece, Netherlands** and **Sweden**

Development of additional preventive action was indicated by four Focal Points: **Belgium, Denmark, Italy** and **Spain**

The category “Other” was indicated by two Focal Points: **France** and **Portugal**

No response: **Austria, Ireland, Luxembourg** and **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Denmark: Machine dictated workplace is frequently related to repetitive monotonous piece-paid work. A program aiming at a reduction of this sort of work is negotiated and accepted by the Social Partners. However, the tradition of payment by the piece has constituted a barrier for obtaining success with the program.

Assembly workers, unskilled metalworkers, slaughters and workers in the fish industry still have their working environment characterised by repetitive monotonous work at high speed. Consequently, there is still a need for a program for the reduction of such work.

Italy: Improvement of the technical and organisational measures.

Spain: work place checking and breaks, rotation, rhythms establishment, workers training and information.

Belgium provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Austria: No data available.

Portugal: Need to carry out a survey in this subject.

4.14 PHYSICAL VIOLENCE

4.14.1 Summary – physical violence

OVERVIEW

From a European picture, the ESWC-data shows that only 4% of all workers interviewed in the survey reported exposure to physical violence in the workplace.

A total of seven Focal Points reported the need for the development of additional actions to combat physical violence in the workplace. Only one Focal Point reported that the existing measures were considered to be sufficient and seven were unable to evaluate the question. One Focal Point commented that violence is a relatively new topic and more information is required with respect to this complex problem.

Although a limited response, two Focal Points reported a stable trend to physical violence whilst one Focal Point reported a decrease and four reported an increase in physical violence. Eight Focal Points were unable to establish a particular trend.

With regard to the trend of exposure to physical violence in the workplace over the past 3-5 years no firm conclusions can be drawn. Four Focal Points reported the exposure had increased, whereas two reported it had remained stable. Only one Focal Point said that the trend had increased. Eight Focal Points could not establish a particular trend pattern.

The comparison of ESWC-data and national data showed that two Focal Points identified differences and a further two reported that there were no differences between their national data and the data from European sources. Eleven Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

The sectors and occupations most at exposed to the risk of physical violence in the workplace appear to be those in which there is an interface with the public. These include: banking, public transportation, health and social work. One Focal Point commented that preventive actions should be targeted at such vulnerable groups and that not all industries or sectors require campaigns to be implemented.

People working in psychiatric wards, local social administrations, public transportation (including air), shopping centres, petrol stations, restaurants, kiosks, discotheques, and first-aid units most frequently report physical violence during the course of their work.

Violence is increasing in many workplaces and occupations which have not been well prepared for violent situations. It is important to provide reliable data on the full extent of workplace violence and to develop violence prevention strategies for the high-risk industries as well as to conduct evaluation research to determine the effectiveness of these strategies. Collaboration is needed between different organisations. Workplaces should be supported with practical tools, which can be used for developing and improving the violence prevention program.

Also, there is the possibility that a degree of under-reporting of incidents at work particularly where only a threat occurs. Over the last few years there has been much public and media debate about violence at work. This has led to increased attention to this emerging risk at work. General public impression is that there is an increase. Aggression and violence at work will be one of the major topics in the activities of the Labour Inspectorate in the years to come, reported one Focal Point. It was also reported in one national report that there was a relationship between stress and physical violence in the workplace and that this was well understood.

In a number of collective labour agreements, employer and employee organisations have agreed upon ways and means to prevent violence at work. However, there is little information on the implementation and the success of such measures. Information on appropriate “safety and health” practices would preferably contain practice oriented “models” to tackle the problem: e.g. what co-operation of parties within companies is needed, information for clients as to what kind of behaviour is regarded as unacceptable, training of personnel to cope with aggression, balancing hardware prevention and customer service levels, organisation of the work (e.g. working alone versus those in small teams, age groups that are exposed to potential incident situations).

SECTORS AT RISK

The ESWC survey identified two sector categories “Public Administration and Defence” and “Other Services” as the sectors with the highest percentage of workers reporting exposure to physical violence in the workplace. Both of these sectors reported a 6% response rate. From the information contained in the national reports the most frequently identified sector category considered exposed to physical violence at work was “Health and Social Work”. A total of eleven Focal Points reported this sector. The second most frequently identified sector category in the national reports was “Public Health and Defence, Compulsory Social Security” which was reported by seven Focal Points.

OCCUPATIONS AT RISK

According to seven national reports the most frequently identified occupation categories exposed to physical violence were as follows:

- Personal and Protective Services Workers; and
- Life Science and Health Associate Professionals.

The ESWC survey identified three occupation categories “Professionals”, “Technicians and associate professionals” and “Service workers and shop and market sales workers” with the highest percentage of respondents reporting exposure to physical violence in the workplace. All of these occupations reported a 6% response rate.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

It was reported in several national reports that they considered female employees to be more exposed to both physical violence and threats of violence in the workplace.

One Focal Point reported that the most serious psychosocial problem in the workplace for people below the age of 25 years was the risk of being subjected to physical violence. Varying degrees of permanent psychic injury are common after traumatic events at all ages. However, experience indicates that young people especially are more vulnerable.

Another Focal Point in their national report stated that since 1980 the number of violent incidents and threats of violence has tripled for women (typically in medical/nursing, social work and waitressing work). In male occupations (e.g. safety and defence) the threat of violence is an accepted part of the nature of the work. Violence towards bus and taxi drivers was considered to be an emerging risk to both female and male workers.

In one national report it was believed that individuals on fixed term contracts were more at risk because of their lack of training and awareness to be able to assess the situation and to react safely should a threat of violence suddenly emerge.

PREVENTING EXPOSURE

As commented in some national reports there are a number of measures that can be adopted to reduce the risk from physical violence in the workplace, these included:

- the need to provide specific training and information for workers;
- to provide counselling for victims;
- develop violence prevention strategies for the high-risk industries; and
- to encourage physical cases denunciation;

A number of preventive measures have already been implemented, including special programmes directed towards young people. In this field it was estimated that there will be a continuous need of follow-up programmes.

One Focal Point reported that this occupational risk was under review. This included a national campaign, during the autumn of 1999, against violence in part of the health care sector and part of the education sector. This campaign would involve both the National Board of Occupational Safety and Health and the Labour Inspectorate.

4.14.2 Physical violence – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
4	2	4

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers that, over the last 12 months, when at work, have been subjected to physical violence are:

	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
Yes	4	4	1	3	3	3	4	2	3	6	0	3	8	2	5	7

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria
EL – Greece
E – Spain

B – Belgium
NL – Netherlands
S – Sweden

DK – Denmark
IRL – Ireland
UK – United Kingdom

FIN – Finland
I – Italy

F – France
L – Luxembourg

D – Germany
P – Portugal

Percentage of workers that, over the last 12 months, when at work, have been subjected to physical violence by sector are:

	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Yes	4	4	1	1	1	5	4	2	2	4	6	6

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing

E: Electricity, Gas and Water Supply

G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods

H: Hotels and Restaurants

J: Financial Intermediation

L: Public Administration and Defence; Compulsory Social Security

C-D: Mining, Quarrying and Manufacturing

F: Construction

I: Transport, Storage and Communications

K: Real Estate, Renting and Business Activities

M-Q: Other Services

Percentage of workers that, over the last 12 months, when at work, have been subjected to physical violence by occupations are:

	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
Yes	4	3	6	6	1	6	2	1	1	3	3

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

3: Technicians and associate professionals

5: Service workers and shop and market sales workers

7: Craft and related trades workers

9: Elementary occupations

2: Professionals

4: Clerks

6: Skilled agricultural and fishery workers

8: Plant and machine operators and assemblers

0: Armed forces

4.14.3 Physical violence – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to physical violence in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1 "Are there differences between the national data and the data from European sources?"				Question 2 "Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				<input type="radio"/>				<input type="radio"/>
Belgium			<input type="radio"/>				<input type="radio"/>	
Denmark				<input type="radio"/>				<input type="radio"/>
Finland*				<input type="radio"/>	<input type="radio"/>			
France			<input type="radio"/>				<input type="radio"/>	
Germany			<input type="radio"/>				<input type="radio"/>	
Greece*		<input type="radio"/>					<input type="radio"/>	
Netherlands			<input type="radio"/>				<input type="radio"/>	
Ireland			<input type="radio"/>				<input type="radio"/>	
Italy			<input type="radio"/>				<input type="radio"/>	
Luxembourg	<input type="radio"/>						<input type="radio"/>	
Portugal			<input type="radio"/>				<input type="radio"/>	
Spain*				<input type="radio"/>	<input type="radio"/>			
Sweden*		<input type="radio"/>			<input type="radio"/>			
United Kingdom*	<input type="radio"/>				<input type="radio"/>			

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Finland: There are considerable differences in the question design between the national additional data and ESWC data. The sample size in the FQWLS is larger than in the ESWC. In the FQWLS those working as self-employed are not included. In the FQWLS data the reference period for experiencing physical violence at work is not restricted to 12 months like in ESWC data. Instead, in the FQWLS the respondent is asked about the *frequency* of physical violence at his/her work. Moreover, in the FQWLS experiencing physical violence is defined as whether the respondent has been subjected to *or* threatened by it, whereas in ESWC data only being actually subjected to physical violence is considered.

These differences in the question design lead to clear differences between the ESWC and the national data about the portion of persons exposed to physical violence at work. The portion of those who are *frequently* subjected to or threatened by physical violence is *smaller* in the FQWLS data than the portion of those in the ESWC data who have been subjected to physical violence over the past 12 months (2% / 3%). On the other hand, the portion of those who are *at least sometimes* subjected to or threatened by physical violence is much *greater* according to the FQWLS data than the portion of those who have been subjected to physical violence over the past 12 months in the ESWC data (14% / 3%).

Comparing the ESWC and FQWLS data also explains why in the ESWC data the proportion of those experiencing physical violence is greater for women than it is for men. The FQWLS data shows that although experiencing physical violence frequently is as usual for women as for men, experiencing physical violence sometimes is more common amongst women.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Luxembourg: The EU data points out:

F – Construction (5.95)

L – Public administration (6.15)

Sweden: The ESWC indicator is about "...been subjected to physical violence" and specifies the question "over the last 12 months". The Swedish indicator says more clearly that it is about being "exposed to violence or the threat of violence", which is a wider definition. An answering scale is used with "Every day"... "Once or twice during the last 12 months", "Never the last 12 months". The answering scale for ESWC is "Yes", "No". Even if we compare the proportion who have been subjected to violence during the last 12 months the indicators are not identical.

The Swedish Working Environment Survey is based on more than 10,000 respondents.

United Kingdom: The question on physical violence in the national survey is slightly different to the EU question. The national survey asks: *“Thinking about your current job have you ever been physically attacked by a member of the public (such as clients, customers, patients, etc.) while in your job?”*

A following question establishes whether the respondent was attacked in the previous 12 months.

The European question is more general (i.e. it does not ask about attacks by members of the public): *“Over the past 12 months, when at work, have you, or have you not, been subjected to physical violence?”*

A further question on violence was administered in the national survey, but is not comparable with any questions in the EU survey was: *“Thinking about your current job have you ever been threatened by physical violence by a member of the public (such as a client, customers, patients, etc.) while in your job?”*

A following question establishes whether the respondent was threatened in the previous 12 months.

Overall a higher proportion of people were physically attacked in the last 12 months in the EU survey (8.2%) compared to the national survey (4.2%).

Personal variables: In the EU survey a higher proportion of females (11.1%) reported physical violence at work in the last 12 months compared to females in the national survey (5%). A higher proportion of people in the middle age band (age 25-54) reported physical violence at work in the last 12 months in the EU survey (9.5%) compared to the national survey (4.6%).

Company size: Direct comparisons between the EU and national data cannot be made for companies with less than 100 employees. For companies with more than 100 employees there was a higher proportion of people reporting workplace violence in the EU survey compared to the national survey.

Sector: The main differences between the surveys by sector were:

In the public administration sector there was a higher proportion of workplace violence in the EU survey (16.9%) compared to the proportion in the national survey (7.3%).

In the financial intermediation sector there was a higher proportion of workplace violence in the EU survey (5.7%) compared to the national survey (0.6%).

The above comparisons should be viewed with caution since all the proportions are based on small sample numbers.

In the other services sector there was a higher proportion of workplace violence in the EU survey (14%) compared to the national survey (7.9%).

Occupation: The main differences between the surveys by occupation were:

For technicians and associate professionals there was a much higher proportion of workplace violence in the EU survey (19.4%) compared to the national survey (6.4%).

For professionals there was also a higher proportion of cases of workplace violence in the EU survey (17.3%) compared to the national survey (5.3%).

For Service workers, shop, market sales workers there was a higher proportion of workplace violence in the EU survey (13.9%) compared to the national survey (7.5%).

Employment status: No direct comparisons can be made between the national data and the EU data for employment status.

Austria, Belgium, Denmark, France, Germany, Netherlands, Ireland, Italy, Portugal and **Spain** provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: The national data highlights greater risks in:

Sectors:

85 – Health and Social work

52 – Retail trade, repairs

60, 61, and 62 – Land, water and air transport

Occupations:

22 – Life science and health professionals

Ireland: The national data highlights physical violence towards bus and taxi drivers, social workers and nursing professions which is not evident from the EU data.

Spain: The most important sectors in national data: Wholesale and retail trade and transport. Storage is the least sector in European data.

Sweden: The sectors highlighted in the EU data correspond roughly to the sectors highlighted in the Swedish data. The EU data indicate technicians and associated professionals to be the occupation with the clearly highest risk (together with armed forces – based on a very small sample of respondents). This is not the case with the Swedish data, where service workers, shop, market sales workers clearly show the highest risk.

United Kingdom: The national survey highlights the sector “Electricity, gas and water supply” as a sector which is amongst the five sectors with the highest proportion of cases of workplace violence. The five occupations with the highest proportion

of cases of workplace violence are the same for the EU survey and the national data with the exception of the armed forces but the proportions in this occupation are only based on a small number of cases.

Austria, Belgium, Denmark, France, Germany, Greece, Netherlands, Italy, Luxembourg and Portugal provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Netherlands: Most of the research carried out in the Netherlands concerns a few organisations only (case-studies) or is carried out in one specific branch. No data is available that gives information about the present state of the art on physical violence at the workplace (in e.g. sectors, related to occupations, etc.). Some of the research focuses at the consequences for employees and the organisation, as well as on measures taken to prevent violence at the workplace.

At the outset of 1995 the Netherlands Institute for the Working Environment surveyed 797 companies and institutions about the question of personnel being confronted with aggressive behaviour from the public and about which measures are being taken to protect personnel. The informants were at the level of managing director or higher executive staff (manager, head of personnel department). Research was undertaken to include aggression and violence under the Working Conditions Act, as an added risk to personnel. The research was commissioned by the Ministry of Social Affairs and Employment.

In 1999 there will be a sequel to the 1995 study. The aim of that study is to arrive at an updated “state of the art on violence at work”.

Portugal: The lack of information and data available highlights the need of a survey to cover this specific subject.

Spain: The Spanish data relates to the potential risk of violence.

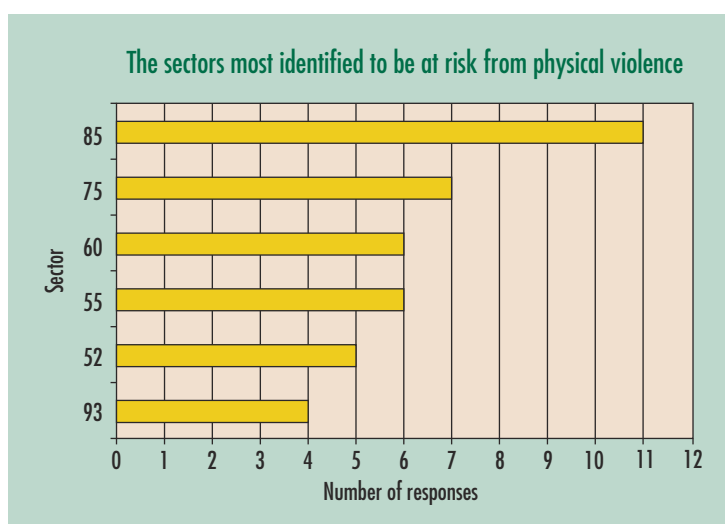
United Kingdom: The national data is from the survey of self-reported working conditions that was carried out in 1995 whilst the European data is based on a survey carried out in 1996.

4.14.4 Physical violence – sectors at risk

The six most frequently identified sectors which the Focal Points* considered to be most at risk from physical violence exposure are listed below:

- 85 Health and Social Work;
- 75 Public Administration and Defence; Compulsory Social Security;
- 60 Land Transport; Transport via Pipelines;
- 55 Hotels and Restaurants;
- 52 Retail Trade, except of Motor Vehicles and Motorcycles; Repair of Personal and Household Goods; and
- 93 Other Service activities.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹²¹ = 57

* The Focal Points used different approaches to identify the occupations to be considered most at risk from physical violence, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹²¹ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

As shown in the graph above the information contained in the national reports most frequently identified the sector category “Health and Social work” to be most exposed to physical violence at work. A total of eleven Focal Points reported this. The second most frequently identified sector category was the “Public administration and defence, compulsory social security” as recorded in seven national reports.

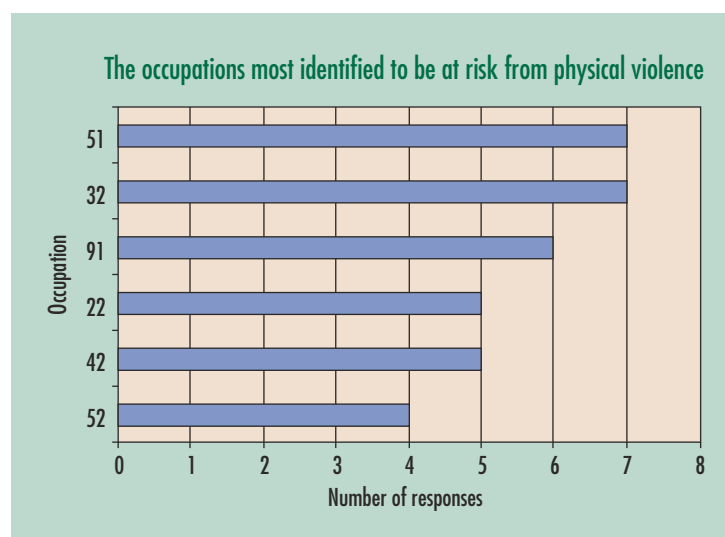
From the ESWC survey the following two sector categories “Public Administration and Defence” and “Other Services” were identified with the highest percentage of workers reporting exposure to physical violence in the workplace. Both of these sectors reported a 6% response rate.

4.14.5 Physical violence – occupations at risk

The six most frequently identified occupations which the Focal Points* considered to be most at risk from physical violence exposure are listed below:

- 51 Personal and protective services workers;
- 32 Life science and health associate professionals;
- 91 Sales and services elementary occupations;
- 22 Life science and health professionals;
- 42 Customer services clerks; and
- 52 Models, sales persons and demonstrators.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹²² = 49

The graph above illustrates the following two occupation categories were the most frequently identified, according to seven Focal Points, as being most exposed to physical violence in the workplace:

- Personal and Protective Services Workers; and
- Life Science and Health Associate Professionals.

The ESWC survey identified three occupation categories “Professionals”, “Technicians and associate professionals” and “Service Workers and Shop and Market Sales Workers” with the highest percentage of respondents reporting exposure to physical violence in the workplace. All of these occupations reported a 6% response rate.

4.14.6 Physical violence – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk from exposure to physical violence.”

* The Focal Points used different approaches to identify the occupations to be considered most at risk from physical violence, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹²² Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

Data provided by the Focal Points did not allow a European picture with regard to physical violence and company size to be given (see Appendix 5a for the number of responses).

4.14.7 Physical violence – gender at risk

Each Focal Point was asked to: *“State which gender category has a particular high risk from exposure to physical violence.”*

Data provided by the Focal Points did not allow a European picture with regard to physical violence and gender to be given (see Appendix 5b for the number of responses).

4.14.8 Physical violence – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk from exposure to physical violence.”*

Data provided by the Focal Points did not allow a European picture with regard to physical violence and age categories to be given (see Appendix 5c for the number of responses).

4.14.9 Physical violence – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to physical violence and employment status to be given (see Appendix 5d for the number of responses).

4.14.10 Physical violence – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to physical violence over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (1 Focal Point): **Greece**

Stable Trend (2 Focal Points): **Austria** and **Ireland**

Increased Trend (4 Focal Points): **Belgium, Finland, Netherlands** and **Sweden**

Category “Other” (8 Focal Points): **Denmark**, France, Germany, Italy, Luxembourg, Portugal, Spain** and **United Kingdom**

“Other Response” includes no response/unable to respond due to unavailability of national data/incompatibility of national data.

** Trend regarding the number of workers exposed over the last 3-5 years is unknown.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: The number of exposed employees has remained stable during the past five years.

Belgium: The risk is more related to customers, the civil order and public safety as it is related to the traditional workplaces.

Finland: Since 1980, the number of violent incidents and threat of violence has tripled for women. In the male risk occupations (e.g. safety and defence) the threat of violence is an accepted part of the nature of these occupations unlike in typical female risk occupations (e.g. medical and nursing work, social work and waitering work). Bus and taxi drivers is an emerging risk category for males and also for females as far as an increasing proportion of workers in these occupations will be females.

Netherlands: On the one hand it is possible that there is a degree of under-reporting of incidents at work that contain violence. On the other hand, the last few years there has been a public debate about violence at work. This has led to an increased attention to this “emerging” risk at work. Especially since violence at work in 1994, became part of the Working Conditions Act. The question is, is there an increase or not. Public impression is that there is an increase. Actual figures however are not available. Media attention is still increasing. Trade unions for example enter actively into the media debate.

The government as a large employer has acknowledged the problem of violence at work and is preparing adequate prevention/protection measures for the employees concerned.

Aggression and violence at work will be one of the major topics in the activities of the Labour Inspectorate in the years to come.

Ireland: The number of workers exposed has over the last 3 – 5 years remained stable due to an economic activity with improved controls.

Sweden: Indicators in the LFS/WES study were changed during this period, but there is a tendency that more violence or threat of violence is reported.

Denmark, France, Germany, Greece, Italy, Luxembourg, Portugal, Spain and **United Kingdom** provided no additional information in relation to the trends in the workplace.

4.14.11 Physical violence – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by one Focal Point: **Greece**

Development of additional preventive action was indicated by seven Focal Points: **Belgium, Denmark, Finland, Netherlands, Ireland, Spain** and **Sweden**

The category “Other” was indicated by two Focal Points: **Portugal** and **United Kingdom**

No response: **Austria, France, Italy** and **Luxembourg**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: The preventive actions should be in the first place addressed to particular target groups (bank offices, sales, service work). Campaigns should not cover all industries and in all sectors, only where certain types of work is being carried out. Information and training of the personnel in these sectors is a priority.

Denmark: The relationship between physical violence and stress reactions is rather well-known. In 1995 a little less than 2.5% of the Danish workers reported that they had been subjected to physical violence or threats at work.

The most serious psycho-social problem at the workplace for people below the age of 25 years is the risk of being subjected to physical violence. Varying degrees of permanent psychic injury are common after traumatic events at all ages. However, experience indicates that young people especially are vulnerable.

Physical violence is most frequently reported by people working in psychiatric wards, local social administrations, public transportation, shopping centres, petrol stations, restaurants, kiosks, discotheques, and first-aid units. A number of preventive measures have already been implemented, including special programmes directed towards young people. In this field it is estimated that there will be a continuous need of follow-up programmes.

Finland: Violence is increasing in many workplaces and occupations which have not been well prepared for violent situations. In the Finnish occupational safety research, violence is a relatively new topic. More information is needed on this complex problem. It is important to provide reliable data on the full extent of workplace violence and to develop violence prevention strategies for the high-risk industries as well as to conduct evaluation research to determine the effectiveness of these strategies. Collaboration is needed between different organisations. Workplaces should be supported with practical tools which can be used for developing and improving the violence prevention programme.

Netherlands: On the one hand it is possible that there is a degree of under-reporting of incidents at work that contain violence. On the other hand, the last few years there has been a public debate about violence at work. This has led to an increased attention to this “emerging” risk at work. Especially since violence at work in 1994, became part of the Working Conditions Act. The question is, is there an increase or not. Public impression is that there is an increase. Actual figures however are not available. Media attention is still increasing. Trade unions for example enter actively into the media debate. The government as a large employer has acknowledged the problem of violence at work and is preparing adequate prevention/protection measures for the employees concerned. Aggression and violence at work will be one of the major topics in the activities of the Labour Inspectorate in the years to come.

Ireland: There should be an extension of control measures and policies to small and medium enterprises.

Spain: Implementation of information and training to specific workers, to encourage physical cases denunciation.

Sweden: There is focus on these risks presently. For example during the autumn 1999 a national campaign against violence in part of the health care sector and part of the education sector is going to take place. In the campaign both the National Board of Occupational Safety and Health and the Labour Inspectorate will be engaged.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Austria: No data available.

Portugal: Need to carry out a survey in this subject.

United Kingdom: Subject under consideration.

4.15 BULLYING AND VICTIMISATION

4.15.1 Summary – bullying and victimisation

OVERVIEW

From a European picture, the ESWC-data shows that only 8% of workers interviewed reported exposure to bullying and victimisation in the workplace.

Seven Focal Points reported the need for the development of additional preventive actions to combat bullying and victimisation in the workplace. Only one Focal Point reported that their measures taken/planned were considered sufficient to deal with the exposure indicator. Seven Focal Points were unable to answer the question.

Although a limited response, no Focal Points reported a stable trend to bullying and victimisation whilst one Focal Point reported a decrease and six an increase in exposure to bullying and victimisation. Eight Focal Points were unable to establish any particular trend.

With regard to the trend of bullying and victimisation in the workplace over the past 3-5 years the Focal Points were almost evenly balanced between six Focal Points reported that it had increased. Only one Focal Point said the trend had decreased. A further eight Focal Points could not establish a particular trend pattern.

The comparison of ESWC-data and national data showed that two Focal Points identified differences and a further two reported that there were no differences between their national data and the data from European sources. Eleven Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

One Focal Point commented that further research on the causes of workplace bullying was needed in order to identify and construct guidelines that can be used as preventive measures. In one national report it is believed that an increase in the number of reported cases of bullying is due to victims feeling more confident in confronting the issues and more willing to make formal complaints.

In one national report bullying and victimisation was considered to be a growing phenomenon particularly in schools with young pupils. Educational staff are reported to be subjected to varying degrees of harassment and in some cases actual violence. This Focal Point identified the education sector and the teaching professional as most vulnerable.

Another comment from a Focal Point suggested that the relationship between bullying and victimising and the health effects were relatively unknown. In their experience the most exposed occupations were public school teachers, waitresses, receptionists, slaughters and policemen.

Several national reports commented on the lack of available data on this potential risk factor, particularly how to train, prepare and deal with the consequence should situations arise. One Focal Point made the point that this subject area required legislative measures.

Bullying and victimisation at work in the last few years has become a focus of public attention in one Member State. The available research information indicates that bullying and victimisation can have severe consequences for the victims. For this reason it has been identified, like the risk from physical violence, that information on “good safety and health practices” is urgently needed in relation to bullying and victimisation. Another Focal Point reported that their Authority was currently reviewing possible initiatives with regard to this workplace risk.

SECTORS AT RISK

From the ESWC survey the category “Public Administration and Defence, Compulsory Social Security” was the sector with the highest percentage of workers reporting exposure to bullying and victimisation in the workplace with a 13% response rate.

The information collected in the national reports as part of this project highlights the “Health and Social work” sector as being most at risk from bullying and victimisation in the workplace. This category was identified by five Focal Points.

OCCUPATIONS AT RISK

According to the ESWC-data the occupation category “Armed Forces” was the group with the highest percentage of workers exposed to bullying and victimisation in the workplace with a 20% response rate.

The findings from this project highlights three occupation categories most frequently identified in the national reports as being most at risk from bullying and victimisation, these include:

- Sales and services elementary occupations;
- Personal and protective services workers; and
- Customer service clerks.

Whilst the above occupations were only reported in four different national reports it should be borne in mind that only six Focal Points presented occupation categories considered to be at risk from bullying and victimisation in the workplace.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

One Focal Point made the comment that they considered female employees far more exposed to bullying and victimisation than male employees. They also said that the trend over the past five years has increased because of the worsening employment situation.

In one national report it identifies that there is a gradual increase in the percentage of workers exposed as the size of the company increase. However, their data indicates that a decrease in exposure occurs for companies with five hundred or more employees. Another reported that exposure to this risk was greater within small companies because of the lack of protection offered.

One Focal Point commented that in the opinion of their experts bullying and victimisation was far more prevalent in lower status jobs.

Information collected by one Focal Point indicated that amongst males there is a tendency for more bullying incidents to be reported. However, reported occupational injuries from bullying have increased amongst women, but not amongst men.

PREVENTING EXPOSURE

As commented in several national reports, there a number of measures that can be adopted and further developed to reduce the risk from bullying and victimisation in the workplace, some of these measures included:

- provision of training and preparation of methods for dealing with the consequences;
- the need to educate occupational health professionals, labour inspectors, social partners and also personnel at the workplaces on identifying workplace bullying and its victims;
- there is a need for developing knowledge concerning the connection between work environment factors and the searching for scapegoats;
- planning and designing the social relationships in the workplace;
- increase the authorities protection and surveillance actions; and
- provision of information and training for the workforce.

4.15.2 Bullying and victimisation – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
9	5	8

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers that, over the last 12 months, when at work, have been subjected to intimidation are:

	Total (%)	Member State															
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK	
Yes	8	7	4	6	9	9	8	5	7	8	4	7	5	5	10	16	

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria
EL – Greece
E – Spain
B – Belgium
NL – Netherlands
S – Sweden
DK – Denmark
IRL – Ireland
UK – United Kingdom
FIN – Finland
I – Italy
F – France
L – Luxembourg
D – Germany
P – Portugal

Percentage of workers that, over the last 12 months, when at work, have been subjected to intimidation by sector are:

	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Yes	8	9	6	5	5	8	8	8	10	9	13	10

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing
E: Electricity, Gas and Water Supply
G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
H: Hotels and Restaurants
J: Financial Intermediation
L: Public Administration and Defence; Compulsory Social Security
C-D: Mining, Quarrying and Manufacturing
F: Construction
I: Transport, Storage and Communications
K: Real Estate, Renting and Business Activities
M-Q: Other Services

Percentage of workers that, over the last 12 months, when at work, have been subjected to intimidation by occupations are:

	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
Yes	8	8	11	9	7	11	6	5	5	8	20

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers
3: Technicians and associate professionals
5: Service workers and shop and market sales workers
7: Craft and related trades workers
9: Elementary occupations
2: Professionals
4: Clerks
6: Skilled agricultural and fishery workers
8: Plant and machine operators and assemblers
0: Armed forces

4.15.3 Bullying and victimisation – comparison between European and national data

If a Focal Point presented national data on bullying and victimisation, then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to bullying and victimisation risks in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1			Question 2		
	"Are there differences between the national data and the data from European sources?"			"Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"		
	Yes	No	No comparison reported	Yes	No	No comparison reported
			Lack of National data Difficulty in comparability of data			Lack of National data Difficulty in comparability of data
Austria			<input type="radio"/>			<input type="radio"/>
Belgium			<input type="radio"/>			<input type="radio"/>
Denmark			<input type="radio"/>			<input type="radio"/>
Finland			<input type="radio"/>			<input type="radio"/>
France			<input type="radio"/>			<input type="radio"/>
Germany			<input type="radio"/>			<input type="radio"/>
Greece*		<input type="radio"/>				<input type="radio"/>
Netherlands*	<input type="radio"/>					<input type="radio"/>
Ireland			<input type="radio"/>			<input type="radio"/>
Italy			<input type="radio"/>			<input type="radio"/>
Luxembourg	<input type="radio"/>					<input type="radio"/>
Portugal			<input type="radio"/>			<input type="radio"/>
Spain			<input type="radio"/>			<input type="radio"/>
Sweden*		<input type="radio"/>		<input type="radio"/>		
United Kingdom			<input type="radio"/>			<input type="radio"/>

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Netherlands:

- overall, national data reveals 8% of workers exposed to bullying/victimising at work;
- this is approximately 1.5% more than the ESWC-data;
- the rates of exposed workers in the age-category <25 years are higher in the national data by 10%; and
- the medium sized firms (10-100 workers) show a higher average of exposed workers by approximately 4% more than the ESWC-data.

The overall evaluation seems to indicate few differences between the data sources. The national data contains slightly higher numbers of exposed workers, especially younger workers. Furthermore, it is noticeable that there is hardly any difference between the relative number of exposed male or female workers.

Luxembourg: The ESWC-data highlights sector H - Hotels and restaurants being at 12.5% more risk.

Sweden: The ESWC indicator is about "...been subjected to intimidation" and specifies the question "over the last 12 months". The Swedish indicator also avoids terms like "mobbing", "victimising" or "bullying". It gives a little description of what it is all about and who are pointed out as responsible. "Are you subjected to personal persecution in the form of unkind words or behaviour from your superiors or fellow workers?" This definition does not cover intimidation from for example clients. An answering scale is used with "Every day"... "Once or twice during the last 12 months", "Never the last 12

months". The answering scale for ESWC is "Yes", "No". Even if we compare the proportion who have been subjected to intimidation etc. during the last 12 months the indicators are not identical.

The Swedish Working Environment Survey is based on more than 10,000 respondents.

Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Portugal, Spain and **United Kingdom** provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Sweden: The sectors highlighted in the EU data correspond roughly to the sectors highlighted in the Swedish data. However, the Swedish data highlights also sector mining, quarrying and manufacturing, which is not highlighted in the EU data.

The Swedish data is comparatively homogenous with respect to different occupational groups. The differences between occupational groups in the EU data is much greater. Clerks is a low risk group according to the EU data, whereas this group is above the average in the Swedish data.

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain and **United Kingdom** provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

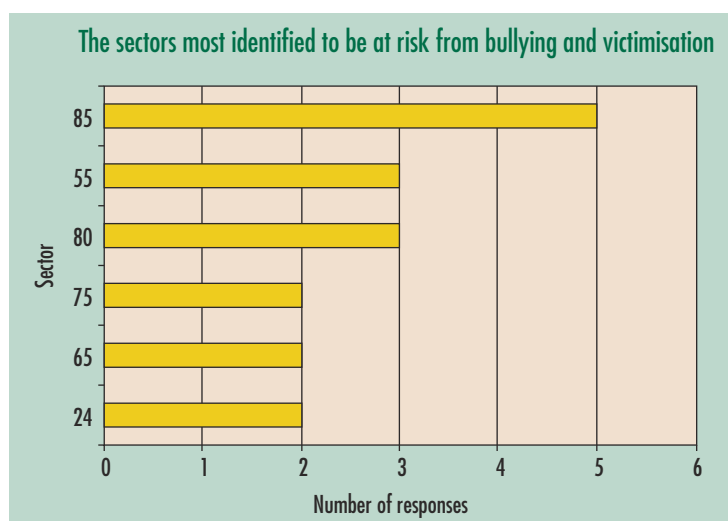
No additional comments were received.

4.15.4 Bullying and victimisation – sectors at risk

The six most frequently identified sectors which the Focal Points* considered to be most at risk from bullying and victimisation are listed below:

85 Health and Social Work;
55 Hotels and Restaurants;
80 Education;
75 Public Administration and Defence, Compulsory Social Security;
65 Financial Intermediation, except Insurance and Pension Funding; and
24 Manufacture of Chemicals and Chemical Products.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹²³ = 31

* The Focal Points used different approaches to identify the occupations to be considered most at risk from bullying and victimisation exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹²³ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

As illustrated in the graph on page 209 the information collected in the national reports highlighted the “Health and Social Work” sector as being most at risk from bullying and victimisation. This category was identified by all five Focal Points that reported sector categories at risk.

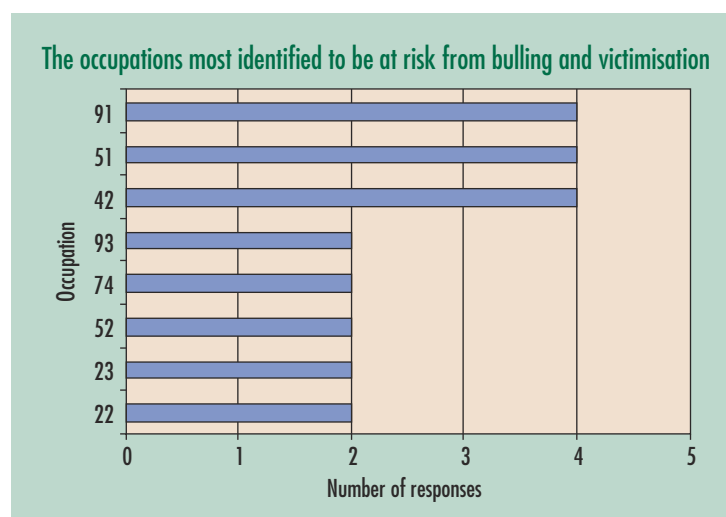
The ESWC survey identified the sector category “Public Administration and Defence, Compulsory Social Security” with the highest percentage of workers reporting exposure to bullying and victimisation in the workplace.

4.15.5 Bullying and victimisation – occupations at risk

The eight most frequently identified occupations which the Focal Points* considered to be most at risk from bullying and victimisation are listed below:

- 91 Sales and services elementary occupations;
- 51 Personal and protective services workers;
- 42 Customer services clerks;
- 93 Labourers in mining, construction, manufacturing and transport;
- 74 Other craft and related trades workers;
- 52 Models, sales persons and demonstrators;
- 23 Teaching professionals; and
- 22 Life science and health professionals.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹²⁴ = 31

According to the ESWC-data the occupation category “Armed Forces” was the group with the highest percentage of workers exposed to bullying and victimisation in the workplace. The findings from this project highlights three occupation categories most frequently identified in the national reports as being most at risk, these included:

- Sales and services elementary occupations ,
- Personal and protective services workers and
- Customer service clerks.

Whilst the above occupations were only reported in four different national reports it should be borne in mind that only six Focal Points presented occupation categories they considered to be most exposed.

4.15.6 Bullying and victimisation – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to exposure to bullying and victimisation”.

* The Focal Points used different approaches to identify the occupations to be considered most at risk from bullying and victimisation, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹²⁴ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

Data provided by the Focal Points did not allow a European picture with regard to bullying and victimisation and company size to be given (see Appendix 5a for the number of responses).

4.15.7 Bullying and victimisation – gender at risk

Each Focal Point was asked to: *“State which gender category has a particular high risk to exposure to bullying and victimisation”*.

Data provided by the Focal Points did not allow a European picture with regard to bullying and victimisation and gender to be given (see Appendix 5b for the number of responses).

4.15.8 Bullying and victimisation – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk to exposure to bullying and victimisation.”*

Data provided by the Focal Points did not allow a European picture with regard to bullying and victimisation and age categories to be given (see Appendix 5c for the number of responses).

4.15.9 Bullying and victimisation – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to bullying and victimisation and employment status to be given (see Appendix 5d for the number of responses).

4.15.10 Bullying and victimisation – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to bullying and victimisation over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (1 Focal Point): **Greece**

Stable Trend (0 Focal Point): -

Increased Trend (6 Focal Points): **Austria, Belgium, Netherlands, Ireland, Spain and Sweden**

Category “Other” (8 Focal Points): **Denmark**, Finland, France, Germany, Italy, Luxembourg, Portugal and United Kingdom**

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

*** Trend regarding the number of workers exposed over the last 3-5 years is unknown.*

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: The number of exposed employees has increased over the past five years and that this increase affects all sectors because of a worsening of the employment situation.

Belgium: Training and preparation are required as well as ways for dealing with the consequences. Very little is known about this phenomenon, so that research and exchange of research data are needed, as are legislative measures.

Germany: Bullying and victimisation is a topical subject that is just entering the public debate.

Sweden: Indicators in the LFS/WES study were changed during this period. For males, but not for females, there is a tendency that more bullying is reported. However reported occupational injuries from bullying have increased amongst women, but not amongst men.

Denmark, Finland, France, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain and United Kingdom provided no additional information in relation to the trends in the workplace.

4.15.11 Bullying and victimisation – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by one Focal Point: **Greece**

Development of additional preventive action was indicated by seven Focal Points: **Belgium, Denmark, Finland, Netherlands, Ireland, Spain and Sweden**

The category “Other” was indicated by two Focal Points: **Portugal and United Kingdom**

No response: **Austria, France, Italy and Luxembourg**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Training and preparation are required, as well as ways of dealing with the consequences. Very little is known about this phenomenon, so that research and exchange of research data are needed, as are legislative measures.

Denmark: The relation between bullying and victimising and health is rather unknown. Approximately 6% of the Danish workers report to have been subjected to bullying and victimisation at work. The mostly exposed occupations are public school teachers, waitresses, receptionists, slaughters and policemen.

In Denmark bullying and victimisation is mainly considered a problem, which should be dealt with locally. There is a need for actions which could make the problem more visible and a matter of every man, so that the problem is not only regarded as an individual one for those and by those who are the targets.

Finland: Educating occupational health professionals, labour inspectors, social partners and also personnel at the workplaces on noticing workplace bullying and its victims and what further actions they should take to solve the matter. Organising consultation and supporting activities for the victims of workplace bullying and work communities that are concerned with the problem.

Further research on the causes of workplace bullying needed in order to construct guidelines for preventive actions.

Ireland: The authority is at present reviewing possible initiatives with regard to this exposure.

Netherlands: Bullying and victimising at work, in the last few years has become a focus of public attention. The available (research) information indicates that bullying and victimising can have severe consequences for the victims. As in the section on physical violence at the workplace, information on “good safety and health practices” is urgently needed.

Spain: planning and designing the social relationship in the enterprise, to increase the authorities protection and surveillance, worker training and information.

Sweden: There is need for developing knowledge concerning the connection between work environment factors and the searching for scapegoats.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Austria: No data available.

Germany: There are a few non-representative studies available, which do not permit any generalisation to be made.

Portugal: Need to carry out a survey.

4.16 SEXUAL HARASSMENT

4.16.1 Summary – sexual harassment

OVERVIEW

From a European picture, the ESWC-data shows that only 2% of the workers interviewed in the survey reported exposure to sexual harassment in the workplace.

Only two Focal Points reported the need for the development of additional preventive actions to combat sexual harassment in the workplace whilst four considered their current measures taken/planned were sufficient to deal with the exposure indicator. Nine Focal Points were unable to evaluate the question.

With regard to the trend of sexual harassment in the workplace over the past 3-5 years no firm conclusions can be drawn. Four Focal Points reported a stable trend, two said the trend had increased and one said the trend had decreased. Eight Focal Points could not establish a particular trend pattern.

The comparison of ESWC-data and national data showed that three Focal Points identified differences and a further three reported that there were no differences between their national data and the data from European sources. Nine Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

One Focal Point reported that the combination of recent legislation together with changing attitudes and awareness would probably have a positive influence on this problem in the workplace.

SECTORS AT RISK

The ESWC survey identified the sector category “Hotels and Restaurants” with the highest percentage of workers, 6% response rate, reporting exposure to sexual harassment in the workplace.

In this project only six national reports were able to identify and report sectors most at risk from sexual harassment. From these reports the most frequently identified sectors were “Hotel and Restaurants” and “Health and Social Work”.

OCCUPATIONS AT RISK

From the ESWC-data the occupation category “Professionals” was the group with the highest percentage of workers reporting exposure to sexual harassment with a response rate of 5% of the interviewees.

In this project, the six national reports that recorded an occupation most frequently identified “Personal and Protective Services Workers” as the category with the greatest exposure to the risk from sexual harassment in the workplace.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

In one national report the Focal Point reported that the trend over the last five years to sexual harassment was stable and that they anticipated a future decrease because of the heightened awareness and discussions of this risk in the workplace. Another national report attributed an increase in the number of cases to the fact that individuals are more confident in confronting the issue and more willing to make formal complaints.

Several recent studies in one particular Member State identified sexual harassment in the Health and Social work and Education sectors. It was reported that these studies highlight individual or lone workers (e.g. night shifts in health care) are more vulnerable to the exposure. This exposure is more pronounced for personal care services that are delivered to a client's home. These employees were considered to lack social support.

The Focal Points more frequently discussed females as being far more exposed and vulnerable to sexual harassment in the workplace. One Focal Point specifically reported that in particular young women, women from minority groups and women returning back to work were vulnerable. Also, women on temporary work contracts were identified as being most exposed to the risk of sexual harassment.

Whilst one Focal Point identified women to be at the greatest risk, they reported that the number of cases in which men had reported sexual harassment rose from 5% to 13% during the period 1994-1998.

In total, eight Focal Points identified the female gender as being most at risk from sexual harassment in the workplace.

PREVENTING EXPOSURE

As commented in a number of national reports there are a number of measures that can be adopted to reduce the risk from sexual harassment in the workplace:

- there is a need for training and information of workers;
- there is a need to improve the social defence and to encourage denunciations; and
- inspection activities should involve assessing an organisation's policy to control and (if applicable) reduce sexual harassment.

4.16.2 Sexual harassment – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
2	2	2

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers that, over the last 12 months, when at work, have been subjected to unwanted sexual attention are:

	Total (%)	Member State														
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK
Yes	2	4	1	2	2	2	3	2	1	2	1	1	1	1	2	4

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

Percentage of workers that, over the last 12 months, when at work, have been subjected to unwanted sexual attention by sector are:

	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Yes	2	1	2	1	0	3	6	2	2	3	3	3

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing C-D: Mining, Quarrying and Manufacturing
 E: Electricity, Gas and Water Supply F: Construction
 G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
 H: Hotels and Restaurants I: Transport, Storage and Communications
 J: Financial Intermediation K: Real Estate, Renting and Business Activities
 L: Public Administration and Defence; Compulsory Social Security M-Q: Other Services

Percentage of workers that, over the last 12 months, when at work, have been subjected to unwanted sexual attention by occupations are:

	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
Yes	2	2	5	2	2	3	1	1	1	2	2

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers 2: Professionals
 3: Technicians and associate professionals 4: Clerks
 5: Service workers and shop and market sales workers 6: Skilled agricultural and fishery workers
 7: Craft and related trades workers 8: Plant and machine operators and assemblers
 9: Elementary occupations 0: Armed forces

4.16.3 Sexual harassment – comparison between European and national data

If a Focal Point presented national data on sexual harassment, then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to sexual harassment in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1 "Are there differences between the national data and the data from European sources?"				Question 2 "Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				○				○
Belgium			○				○	
Denmark*		○				○		
Finland			○				○	
France			○				○	
Germany	○				○			
Greece*		○					○	
Netherlands*	○				○			
Ireland			○				○	
Italy			○				○	
Luxembourg	○						○	
Portugal			○				○	
Spain			○				○	
Sweden*		○				○		
United Kingdom				○			○	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Denmark: The ESWC-data and national data do not differ significantly with regard to gender, age or company size. No valid data on exposure to sexual harassment are available. Hence it is neither possible to calculate any sector-related or occupation related risk.

Germany: The ESWC-data refers to the preceding year whereas, the national data refers to the entire working life.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Netherlands:

- the national data shows that 3.5% of workers are exposed to sexual harassment work;
- this is approximately 2% more than the ESWC-data;
- there is a substantial difference between the gender categories both in the national data and in the ESWC-data. There are 3% more exposed females in the national data than in the ESWC-data;
- data on occupations is limited, both in the national source as well as in the ESWC-data. In general the national data suggest higher numbers of exposed workers for practically all occupations; and
- larger companies (>100 workers) show a considerably higher average number of exposed workers (approximately 6%) than the ESWC-data.

The overall evaluation seems to indicate substantial differences between the data sources: the national data contains higher numbers of exposed workers, especially workers in larger companies (see also "other comments").

Ireland: There are no obvious differences.

Luxembourg: The ESWC-data highlights risks in the following sector: H - Hotels and restaurants (6.3%).

Sweden: The ESWC indicator of sexual harassment is about “...been subjected to unwanted sexual attention” and specifies the question “over the last 12 months”. The answering scale is “Yes”, “No”.

The Swedish Working Environment Survey uses two indicators of sexual harassment and before them there is a short definition: “Sexual harassment is undesirable advances or offensive allusions to things generally associated with sex”. The two Swedish indicators differ between who is responsible for harassment. “Are you exposed to sexual harassment from your superiors or fellow workers?” “Are you exposed to sexual harassment from other persons at your workplace (e.g. patients, clients, passengers)?” An answering scale is used with “Every day”... “Once or twice during the last 12 months”, “Never the last 12 months”. Although the ESWC indicator and the two Swedish indicators are similar their differences will make a precise comparison difficult.

The Swedish Working Environment Survey is based on more than 10,000 respondents.

Austria, Belgium, Finland, France, Italy, Portugal, Spain and **United Kingdom** provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Denmark: The ESWC-data and national data do not differ significantly.

Germany: In general, occupations dominated by men such as the police and occupations solely practised by women such as kindergarten teachers were affected.

Netherlands: No data available on sectors. As an average, most occupations show higher numbers of exposed workers (as far as data is available in both data sources). In particular the comparison suggests that the occupations: Professionals, Technicians and elementary occupations show substantially higher numbers of exposed workers in the national data.

Sweden: The sectors highlighted in the EU data correspond roughly to the sectors highlighted in the Swedish data. The sector financial intermediation, which is highlighted in the EU data, is not highlighted in the Swedish data, though. However, there is a small number of respondents in the EU data for this sector and the difference may be due to statistical instability in this estimate.

The occupations highlighted in the EU data correspond roughly to the occupations highlighted in the Swedish data.

Austria, Belgium, Finland, France, Greece, Ireland, Italy, Luxembourg, Portugal, Spain and **United Kingdom** provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Netherlands: There are some differences between the questions used in the research. In the national study the question used, is much more openly put and without a time limitation, compared to the one used in the ESWC. There is no generalised data available on age categories in the national data. However data on age categories are available on gender-level: especially young female workers (25-34 years) reported exposure to sexual harassment (9%). In 1999 a new study will be conducted in order to describe the “state of affairs” of sexual harassment at work (Dutch Ministry of Social Affairs and Employment).

Ireland: Details provided by the Labour Relations Commission indicate that they dealt with only eleven cases during 1998. Of these eleven cases only three of these claimants won their case. No details were supplied by the Labour Relations Commission as to the proportion of cases investigated by either gender.

4.16.4 Sexual harassment – sectors at risk

The five most frequently identified sectors which the Focal Points* considered to be most at risk from sexual harassment are listed below:

- 55 Hotels and Restaurants;
- 85 Health and Social Work;
- 52 Retail Trade, except of Motor Vehicles and Motorcycles; Repair of Personal and Household Goods;
- 80 Education; and
- 51 Wholesale Trade and Commission trade, except of Motor Vehicles and Motorcycles.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.

* The Focal Points used different approaches to identify the occupations to be considered most at risk from sexual harassment, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.



Total Number of Responses¹²⁵ = 26

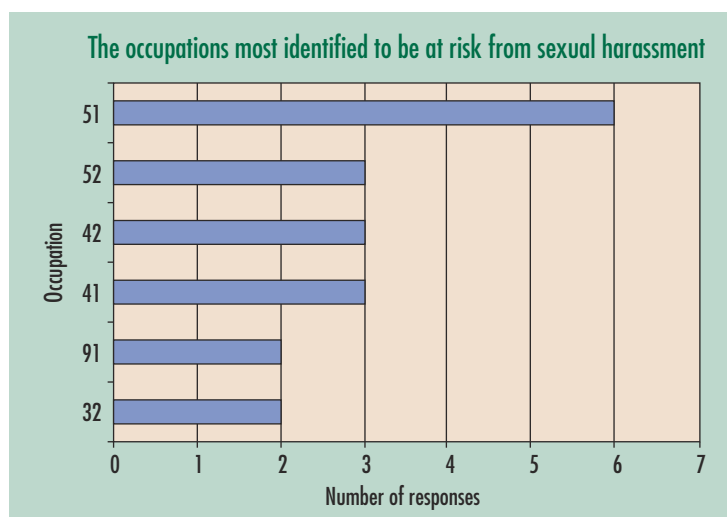
As illustrated in the graph above only six national reports were able to identify and report sectors most at risk from sexual harassment. From these reports the most frequently identified sectors were “Hotel and restaurants” and “Health and Social Work”. The ESWC survey highlights the sector category “Hotels and Restaurants” with the highest percentage of workers, 6% of the respondents, reporting exposure to sexual harassment in the workplace.

4.16.5 Sexual harassment – occupations at risk

The six most frequently identified occupations which the Focal Points* considered to be most at risk from sexual harassment are listed below:

- 51 Personal and protective services workers;
- 52 Models, sales persons and demonstrators;
- 42 Customer services clerks;
- 41 Office clerks;
- 91 Sales and services elementary occupations; and
- 32 Life science and health associate professionals.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹²⁶ = 25

¹²⁵ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

* The Focal Points used different approaches to identify the occupations to be considered most at risk from sexual harassment, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹²⁶ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

The graph on page 217 illustrates that from the national reports that recorded an occupation at risk from sexual harassment in the workplace the most frequently identified category was “Personal and Protective Services Workers”. This occupation was reported by six Focal Points.

From the ESWC-data only the occupation the category “Professionals” was the group with the highest percentage of workers being exposed to sexual harassment with a response rate of 5% of the interviewees.

4.16.6 Sexual harassment – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk from exposure to sexual harassment”.

Data provided by the Focal Points did not allow a European picture with regard to sexual harassment and company size to be given (see Appendix 5a for the number of responses).

4.16.7 Sexual harassment – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk from exposure to sexual harassment”.

The following results were received:

Gender category most at risk	Number of Focal Point responses
Female	8
Male	0
No response	7

All of the eight Focal Points that recorded a gender identified females to be most at risk from sexual harassment. Seven Focal Points were unable to establish the gender most at risk.

4.16.8 Sexual harassment – age category at risk

Each Focal Point was asked to: “State which age category has a particular high risk from exposure to sexual harassment”.

Data provided by the Focal Points did not allow a European picture with regard to sexual harassment and age categories to be given (see Appendix 5c for the number of responses).

4.16.9 Sexual harassment – employment status at risk

Each Focal Point was asked to: “State if the employment status is of importance.”

Data provided by the Focal Points did not allow a European picture with regard to sexual harassment and employment status to be given (see Appendix 5d for the number of responses).

4.16.10 Sexual harassment – trend in the number of workers exposed

Each Focal Point was asked to: “Consider if the number of workers exposed to sexual harassment over the last 3 – 5 years has decreased, remained stable or increased.”

The following responses were received:

Decreased Trend (1 Focal Point): **Greece**

Stable Trend (4 Focal Points): **Austria, Belgium, Denmark and Netherlands**

Increased Trend (2 Focal Points): **Ireland and Spain**

Category “Other” (8 Focal Points): **Finland, France, Germany, Italy, Luxembourg, Portugal, Sweden and United Kingdom**

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

Furthermore, the Focal Points were asked to identify: “Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: The number of exposed employees has remained stable during the past five years. A decline in this trend is likely because of the increased discussion and information.

Denmark: The number of workers exposed to sexual harassment has remained stable over the past five years. Data from earlier surveys are not available for sector and occupation due to different classifications incompatible with NACE and ISCO-88.

Germany: Sexual harassment is a topical subject which is just entering the public debate. A statement about trends is not possible.

Ireland: The number of reports of sexual harassment appears to have increased. It is felt that this is mainly because people are becoming more confident in confronting the issue and are more willing to make complaints.

Sweden: Indicators in the LFS/WES survey were changed during this period. There is no obvious change of reported sexual harassment.

Belgium, Finland, France, Greece, Netherlands, Italy, Luxembourg, Portugal, Spain and United Kingdom provided no additional information in relation to the trends in the workplace.

4.16.11 Sexual harassment – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by four Focal Points: **Belgium, Greece, Netherlands and Ireland**

Development of additional preventive action was indicated by two Focal Points: **Denmark and Spain**

The category “Other” was indicated by one Focal Point: **Sweden**

No response: **Austria, Finland, France, Italy, Luxembourg, Portugal and United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Denmark: Sexual harassment is mainly considered a problem, which should be dealt with locally. There is a need for actions which could make the problem more visible and a matter for every man, so that the problem is not only regarded as an individual one for those and by those who are the targets.

Spain: Training and information for workers, improve the social defence and to encourage denunciations.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Austria: In the Austrian legal system sexual harassment in the workplace is part of contractual labour law but not part of occupational safety and health at work. Existing data is therefore not presented here.

Netherlands: The Labour Inspectorate includes actions related to sexual harassment in the inspection programmes. In focus in the inspection activities is whether an organisation has a policy to control and (if applicable) reduce sexual harassment. The companies themselves have to pay attention to sexual harassment in their risk assessment and evaluation survey. In 35% of the companies a confidential committee or person has been appointed. Employees that have encountered acts of sexual harassment can address to the person/committee.

Related to physical violence, statements in collective labour agreements have been mentioned in par. 2.5.4. There is a parallel development in regard to sexual harassment. In a number of collective labour agreements, statements related to the control and reduction of sexual harassment are included (in 60 out of a sample of 131 agreements that have been investigated by the Labour Inspectorate). So far there is no (evaluation) information on the effect of such statements in the sectors concerned.

The Dutch government provides brochures that contain information and directives on handling/prevention of incidents of sexual harassment.

Sweden: Recent legislation together with changing attitudes and awareness will probably have a positive influence on this problem.

4.17

MONOTONOUS WORK

4.17.1 Summary – monotonous work

OVERVIEW

From a European picture, the ESWC-data shows that 45% of all workers interviewed reported exposure to monotonous work in the workplace.

Six Focal Points reported the need for the development of additional actions to combat monotonous work whereas two reported their current measures taken/planned were sufficient to deal with the exposure. Seven Focal Points were unable to evaluate the question.

With regard to the trend of monotonous work in the workplace over the past 3-5 years no firm conclusions can be drawn. Three Focal Points reported the trend had remained stable, two said it had decreased and two said it had increased. Eight further Focal Points could not establish a particular trend pattern.

The comparison of ESWC-data and national data showed that four Focal Points identified differences and a further two reported that there were no differences between their national data and the data from European sources. Nine Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

One Focal Point reported a decrease in exposure due to the change of service-oriented jobs and the almost total disappearance of, for example, women's industrial work - especially highly Tayloristically organised jobs. However, mass production and its associated production techniques can lead to an increase in monotonous work if it is not properly managed.

In one national report the Focal Point commented that monotonous work was frequently related to repetitive piece-paid work and that a programme aimed at reducing this sort of work has been negotiated and accepted by the Social Partners. However, the tradition of payment by the piece has constituted a barrier for obtaining success with the programme.

Assembly workers, unskilled metalworkers, slaughters and workers in the fish industry were still considered to have a working environment characterised by repetitive and monotonous work at high speed, reported one Focal Point. Consequently, there is still a need for a programme to reduce exposure to such work.

SECTORS AT RISK

From the ESWC survey "Agriculture, Hunting, Forestry and Fishing" was the sector category identified with the highest percentage of workers reporting exposure to monotonous work with a 56% response rate.

From the information collected in the national reports the following three sector categories were most frequently identified by the Focal Points as being at risk from monotonous work:

- Tanning and Dressing of Leather; Manufacture of Luggage, Handbags, Saddlery, Harness and Footwear;
- Manufacture of Textiles; and
- Manufacture of Food Products and Beverages.

OCCUPATIONS AT RISK

From the ESWC survey the data highlights two occupation categories most at risk from monotonous work these included “Elementary Occupations” and “Plant and Machine Operators and Assemblers”. Both of these occupations had 60% of the respondents reporting exposure to monotonous work.

In the information collated in the national reports the Focal Points most frequently identified two occupation categories at risk from monotonous work, these included:

- Machine operators and assemblers; and
- Sales and services elementary occupations.

Of the eleven Focal Points who presented occupations at risk seven identified each of the above occupations.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

One Focal Point reported that they considered the middle to larger organisations to be more susceptible to monotonous work because they are more likely to automated manufacturing and production facilities.

In general terms females were frequently considered exposed to monotonous work because predominately they have been employed in the sectors and occupations identified to be at risk from monotonous work.

In one national report it was commented that a smaller proportion of people experience monotony in companies with less than fifty employees.

In establishing the age group most exposed to monotonous work, one Focal Point reported that amongst males it was the youngest age group that more often describe their tasks as repetitive. With female workers it was first the youngest age category and secondly the oldest that are most exposed to repetitive tasks.

PREVENTING EXPOSURE

As commented in several national reports there a number of measures that can be adopted and further developed to reduce the risk from monotonous in the workplace, these included:

- need for task enrichment and job rotation within the workplace;
- introduction of new ways of work organisation which include participation of workers; and
- provision of training and information for the workforce.

4.17.2 Monotonous work – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
46	39	45

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose job involves monotonous tasks are:

	Total (%)	Member State															
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK	
Yes	45	29	36	39	47	48	32	59	32	43	41	36	43	61	27	67	

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

Percentage of workers whose job involves monotonous tasks by sector are:

	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Yes	45	56	49	38	43	44	52	52	38	47	38	40

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing

E: Electricity, Gas and Water Supply

G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods

H: Hotels and Restaurants

J: Financial Intermediation

L: Public Administration and Defence; Compny Social Security

C-D: Mining, Quarrying and Manufacturing

F: Construction

I: Transport, Storage and Communications

K: Real Estate, Renting and Business Activities

M-Q: Other Services

Percentage of workers whose job involves monotonous tasks by occupations are:

	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
Yes	45	43	33	33	48	39	57	46	60	60	46

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

3: Technicians and associate professionals

5: Service workers and shop and market sales workers

7: Craft and related trades workers

9: Elementary occupations

2: Professionals

4: Clerks

6: Skilled agricultural and fishery workers

8: Plant and machine operators and assemblers

0: Armed forces

4.17.3 Monotonous work – comparison between European and national data

If a Focal Point presented national data on monotonous work, then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to risks from monotonous work in the workplace.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1 "Are there differences between the national data and the data from European sources?"				Question 2 "Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				<input type="radio"/>				<input type="radio"/>
Belgium			<input type="radio"/>				<input type="radio"/>	
Denmark				<input type="radio"/>				<input type="radio"/>
Finland*				<input type="radio"/>	<input type="radio"/>			
France			<input type="radio"/>				<input type="radio"/>	
Germany*	<input type="radio"/>				<input type="radio"/>			
Greece*		<input type="radio"/>					<input type="radio"/>	
Netherlands*	<input type="radio"/>						<input type="radio"/>	
Ireland			<input type="radio"/>				<input type="radio"/>	
Italy			<input type="radio"/>				<input type="radio"/>	
Luxembourg	<input type="radio"/>						<input type="radio"/>	
Portugal			<input type="radio"/>				<input type="radio"/>	
Spain*	<input type="radio"/>							<input type="radio"/>
Sweden*		<input type="radio"/>				<input type="radio"/>		
United Kingdom*			<input type="radio"/>				<input type="radio"/>	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Finland: The FQWLS data are based on a larger sample although self employed people like farmers are not included. The question about monotonous of work is different. The FQWLS asks about the whole work if it is monotonous or varied. The ESWC asks about monotonous tasks. This explains why overall figures are so different in these two surveys.

Germany: The national study reports a 15% higher exposure risk. The BIBB/IAB survey showed women to be particularly affected.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Netherlands:

- POLS shows 13.2% of workers with exposure to monotonous work;
- this is approximately 20% less than the ESWC-data;
- this substantial difference can be found in both gender and age characteristics. However the division between age categories is more marked in the national data: workers younger than 25 years appear to report relatively higher averages than the other age categories.
- for most sectors the difference between the data sources ranges from 10% to 30%. In all sectors the POLS data contains more workers exposed to monotonous work.
- in general the POLS data suggests lower numbers of exposed workers for practically all occupations. The differences range from 10% to 30%.
- Employed workers on a permanent basis as well as self-employed workers show a 20% higher average exposure in the ESWC data than in the POLS data.

The overall evaluation indicates substantial differences between the data sources: the national data contains much lower numbers of exposed workers. In the national study the question used is much more limited, compared to the one in the ESWC-data. The probability of finding larger exposed groups by using the question from the ESWC-data is therefore higher.

Luxembourg: The EU-data highlights “Monotonous work” in:

Sectors:

C-D - Mining, quarrying and manufacturing (50.0%);

F – Construction (48.4%); and

I – Transport and communication (44.4%).

Occupations:

5 - Service workers, shop, market sales workers (46.7%)

7 - Craft related trade workers (54.2%); and

8 - Plant and machine operators, assemblers (47.4)

Spain: The ESWC-data highlights risks in: elementary occupations, clerks, plant and machine operators and assemblers.

Sweden: The ESWC indicator is “Does your main paid job involve or not monotonous tasks?” The answering scale is “Yes”, “No”. Two Swedish indicators are reported here. The first is very general and contains two extremes with “Monotonous work” and “Varied work”. We use the format “agree fully” or “agree to some extent” that the work is monotonous. That is not the same thing as a “yes” answer to the ESWC indicator. We also want to refer to a more descriptive indicator already presented in 2.2.2. about “tasks repeated several times per hour” “at least half the working time”.

The Swedish Working Environment Survey is based on more than 10,000 respondents.

Austria, Belgium, France, Denmark, Italy, Ireland, Portugal and **United Kingdom** provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: There are big differences according to sector. In the occupational classification differences come out especially in industrial work which has the highest risk for monotonous work in the Finnish data. On the other hand, for both data sources common that agricultural work is experienced monotonous.

Germany:

The EU data highlights risks:

Sector	Occupation
Mining	Elementary occupations

National data highlights risks:

Sector	Occupation
Hotel	Plant and machine operators
Transport & communications	Craft and related trades workers

Netherlands: Due to the extensive differences between the data sources for all characteristics, it is not useful to zoom in on specific sectors or occupations.

Sweden: The sectors highlighted in the EU data correspond roughly to the sectors highlighted in the Swedish data. The occupations highlighted in the EU data correspond roughly to the occupations highlighted in the Swedish data.

Austria, Belgium, Denmark, France, Greece, Italy, Ireland, Luxembourg, Portugal and **United Kingdom** provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Finland: EU data shows no apparent differences according to age and employment status. The Finnish data emphasises young age groups and fixed term contracts as monotonous.

Germany: The possibilities for answering the question posed in German are more precise and cannot be directly compared to the ESWC question. The data for the national study originates from the 1985/86 survey and does not necessarily reflect the current situation.

Ireland: No studies are available in relation to this topic. This lack of information highlights the need for a survey in this area.

Portugal: The lack of information and quantitative data highlights the need to carry out a survey covering this specific subject.

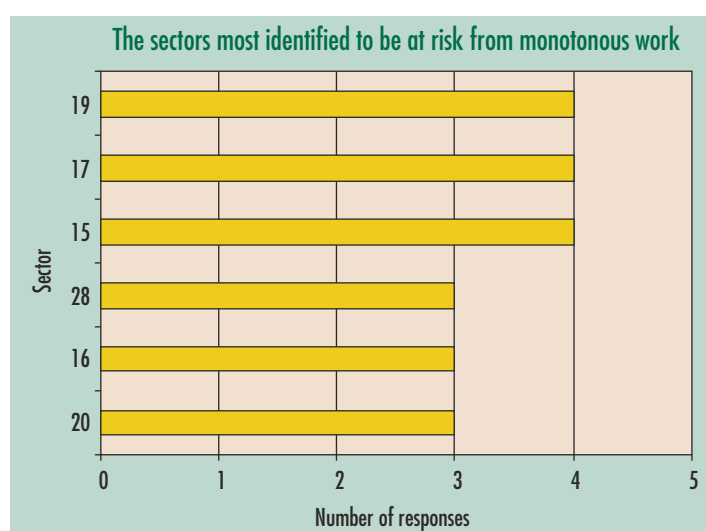
Spain: There are categories in this question. European question is focused on monotonous tasks whereas the Spanish question is a general subject perception of monotonous work.

4.17.4 Monotonous work – sectors at risk

The six most frequently identified sectors which the Focal Points* considered to be most at risk from monotonous work exposure are listed below:

- 19 Tanning and Dressing of Leather; Manufacture of Luggage, Handbags, Saddlery, Harness and Footwear;
- 17 Manufacture of Textiles;
- 15 Manufacture of Food Products and Beverages;
- 28 Manufacture of fabricated Metal Products, except Machinery and Equipment;
- 16 Manufacture of Tobacco Products; and
- 20 Manufacture of Wood and of Products of Wood and Cork, except Furniture; Manufacture of Articles of Straw and Plaiting Materials.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹²⁷ = 57

As illustrated in the graph above there were three sector categories that were most frequently identified by the Focal Points as being at risk from monotonous work, these included:

- Tanning and Dressing of Leather; Manufacture of Luggage, Handbags, Saddlery, Harness and Footwear;
- Manufacture of Textiles; and
- Manufacture of Food Products and Beverages.

From the ESWC survey the sector category “Agriculture, Hunting, Forestry and Fishing” was identified as the one with the highest percentage of workers reporting exposure to monotonous work.

4.17.5 Monotonous work – occupations at risk

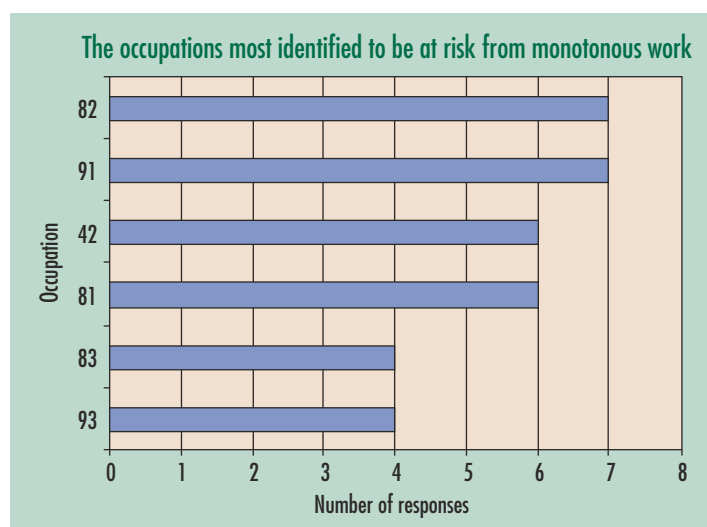
The six most frequently identified occupations which the Focal Points* considered to be most at risk from monotonous work exposure are listed below:

- 82 Machine operators and assemblers;
- 91 Sales and services elementary occupations;
- 42 Customer services clerks;
- 81 Stationary-plant and related operators;
- 83 Drivers and mobile plant operators; and
- 93 Labourers in mining, construction, manufacturing and transport.

* The Focal Points used different approaches to identify the occupations to be considered most at risk from monotonous work exposure, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹²⁷ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹²⁸ = 52

From a European picture, the ESWC-data shows two occupation categories to be most at risk from monotonous work and these included "Elementary Occupations and Plant" and "Machine Operators and Assemblers".

From collating the information in the national reports two occupation categories were most frequently identified as being at risk from monotonous work, these included:

- Machine operators and assemblers; and
- Sales and services elementary occupations.

Of the eleven Focal Points who presented occupations at risk seven identified each of the above two occupations.

4.17.6 Monotonous work – company size at risk

Each Focal Point was asked to: 'Indicate, in general terms, the size of company with the highest risk to exposure to monotonous work'.

Data provided by the Focal Points did not allow a European picture with regard to monotonous work and company size to be given (see Appendix 5a for the number of responses).

4.17.7 Monotonous work – gender at risk

Each Focal Point was asked to: "State which gender category has a particular high risk to exposure to monotonous work."

Data provided by the Focal Points did not allow a European picture with regard to monotonous work and gender to be given (see Appendix 5b for the number of responses).

4.17.8 Monotonous work – age category at risk

Each Focal Point was asked to: "State which age category has a particular high risk to exposure to monotonous work".

Data provided by the Focal Points did not allow a European picture with regard to monotonous work and age categories to be given (see Appendix 5c for the number of responses).

4.17.9 Monotonous work – employment status at risk

Each Focal Point was asked to: "State if the employment status is of importance."

Data provided by the Focal Points did not allow a European picture with regard to monotonous work and employment status to be given (see Appendix 5d for the number of responses).

¹²⁸ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

4.17.10 Monotonous work – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers exposed to monotonous work over the last 3 – 5 years has decreased, remained stable or increase.”*

The following responses were received:

Decreased Trend (2 Focal Points): **Finland** and **Germany**

Stable Trend (3 Focal Points): **Greece, Netherlands** and **Spain**

Increased Trend (2 Focal Points): **Belgium** and **Sweden***

Category “Other” (8 Focal Points): **Austria, Denmark, France, Ireland, Italy, Luxembourg, Portugal** and **United Kingdom**

“Other Response” include: no response/unable to respond due unavailability of national data/incompatibility of national data.

*This trend is based on “Monotonous work” Male (1991 – 15.3%; 1997 – 19.7%) and Female (1991 – 17.2%; 1997 – 18.6%)

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: No data available regarding the number of exposed workers.

Finland: As late as a couple of decades ago it was quite common in Finland for women’s work to be very monotonous. Almost one third of Finnish women regarded their work as monotonous, while under one fifth of Finnish men thought this of their work. However, the situation has changed quite rapidly and there is no difference between the sexes in this respect today. An explanation to the change is the increased prevalence of service-oriented jobs and the almost total disappearance of, for example, women’s industrial work - especially highly Tayloristically organised jobs.

Netherlands: The number of workers exposed has over the last 3-5 years remained stable according to monitor data over the period 1994-1997.

Belgium, Denmark, France, Germany, Greece, Italy, Ireland, Luxembourg, Portugal, Spain, Sweden and **United Kingdom** provided no additional information in relation to the trends in the workplace.

4.17.11 Monotonous work – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by two Focal Points: **Greece** and **Netherlands**

Development of additional preventive action was indicated by six Focal Points: **Austria, Belgium, Denmark, Finland, Spain** and **Sweden**

The category “Other” was indicated by one Focal Point: **Portugal**

No response: **France, Ireland, Italy, Luxembourg** and **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany’s point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Austria: Development of additional preventive action is necessary. Possibility of employees changing their workplace within the operational site.

Denmark: Monotonous work is frequently related to repetitive monotonous piece-paid work. A programme aiming at a reduction of this sort of work is negotiated and accepted by the Social Partners. However, the tradition of payment by the piece has constituted a barrier for obtaining success with the programme. Assembly workers, unskilled metalworkers,

slaughters and workers in the fish industry still have a working environment characterised by repetitive monotonous work at high speed. Consequently, there is still a need for a programme for the reduction of such work.

Finland: In spite of the decrease in monotonous work there is still a continuous need for measures to develop the organising of work.

Spain: task enrichment and work place rotation, new ways of work organisation including worker participation, training and information for workers.

Sweden: There is a better ground for actions from the Labour Inspectorate as a result of the new provisions on ergonomics for the protection of musculoskeletal disorders (Ordinance AFS 1998:1 from the Swedish National Board of Occupational Safety and Health). This ordinance does not apply to work that is mentally monotonous, though.

Belgium provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

Additional comments submitted by the Focal Points:

Netherlands: Monotonous work is seen as an indicator of job proficiency. Other indicators used in Dutch monitors are: deficient fit of job and education/experience, deficient possibilities for development in the job, deficient pleasure in work. These indicators are seen as important to workers motivation. Over the last three years, the number of workers that are exposed to these deficiencies has remained more or less stable.

1997 data for these questions: deficient fit job/education-experience: 28% of workers; deficient possibilities development: 26%; deficient pleasure in work: 9% (POLS, 1997).

4.18

USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

4.18.1 Summary – personal protective equipment

OVERVIEW

From a European picture, the ESWC-data shows that 25% of the interviewees reported wearing some form of personal protection at some time in the course of their work activities.

Six Focal Points reported a need for the development of additional preventive actions to facilitate the appropriate use of PPE in the workplace. Three Focal Points reported that their preventive measures taken/planned were sufficient to deal with the exposure indicator. Six Focal Points were unable to evaluate the question.

With regard to the trend of the use of PPE in the workplace over the past 3-5 years five Focal Points reported a stable trend, one reported a decrease and two an increase. Seven further Focal Points could not establish a particular trend pattern.

The comparison of ESWC-data and national data showed that one Focal Point identified differences and a further three reported that there were no differences between their national data and the data from European sources. Eleven Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

In one national report the Focal Point reported that the trend of using PEE has remained stable over the past five years. This was attributed to better design resulting in increased comfort to the wearer and also improved employee training in relation to wearing and using personal protective equipment.

The use of PPE should be a last form of protection after other organisational and technical measures have been implemented. Several national reports made the comment that the provision of personal safety equipment is at the bottom of the hierarchy of prevention measures that should be implemented to reduce the level of risk. One Focal Point reported that there are regulations in place, which places a requirement on employers to follow such a hierarchy when applying preventive measures. Such hierarchy systems typically implement risk reduction by: elimination, substitution, separation and

protection. This means that only when all of the organisational measures and technical measures have been implemented should personal protective equipment be considered and provided.

According to one national report the influence of European legislation on the use and commercialisation of personal protective equipment has resulted in PPE being worn more often and more effectively. The national report highlighted that awareness campaigns were still required to target different groups especially young workers and temporary workers. The report also suggested that promotional campaigns should address company policy and culture towards PPE.

Several national reports commented on the need for continued training and the provision of information to workers in relation to the use of personal protective equipment.

One Focal Point identified that they had insufficient information in relation to the use of personal protective equipment and there was a need to conduct a survey to collate relevant data.

SECTORS AT RISK

From the European data of the ESWC survey the “Electricity, Gas and Water” sector category had the highest percentage of workers (49%) reporting wearing some form of personal protection in the course of their work activities. This sector was closely followed by the construction sector with 47% of interviewees reporting the use of PPE at work.

In this project the Focal Points most frequently identified the “Construction” sector as the category with the highest application of PPE. This was by far the most frequently identified sector with eleven Focal Points out of twelve that reported sector categories using PPE, identifying it in their national report. The second most frequently identified sector, as reported in five national reports, was the “Manufacture of fabricated metal products, except machinery”.

In one national report they commented that in the “Agriculture and Construction” sectors there is a higher than average proportion of workers reporting that PPE is either missing or is not used on a regular basis. Also, in these sectors as well as the mining sector the use of multiple PPE may be causing problems for individuals. In the Health and Social work sector, where PPE is readily available and regularly used, latex gloves which may pose a health issue to the wearer.

In one national report reference was made to an investigation conducted by the Labour Inspectorate of some 1,500 companies with respect to the use of PPE. The data gathered was scaled to give a national picture. The scaled data showed that almost 50% of companies used PPE for hand/arm protection, 38% for protecting feet and legs and 32% worn some form of hearing protection.

OCCUPATIONS AT RISK

From the European ESWC survey the data highlights “Craft and Related Trades Workers” as the occupation category with the highest percentage of workers reporting the use of PPE, with 49% of the respondents. This was closely followed by the occupation “Plant and machine operators and assemblers” with a 42% response rate.

In this project the Focal Points most frequently identified “Extraction and Building Trades Workers” as the occupation category which uses PPE. This was reported in seven out of ten national reports that presented occupations using PPE in the workplace. The second most frequently identified occupation using PPE was “Metal, machinery and related trade workers”. This was reported in five national reports.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

One Focal Point commented that the wearing of PPE depended strongly on both the attitude of the company and that of the individual employee. They considered this to be a particular problem for temporary workers as different organisations have different policies with regard to the wearing and enforcing the use of PPE. Also, the comment was made that young workers were not keen to wear PPE.

REDUCING RISK

As commented in a number of national reports there are a number of measures that can be adopted and further improved to reduce the risk from workplace injuries by encouraging employees to wear the appropriate PPE, these measures include:

- the need for information campaigns, brochures;
- improved technical and organisational measures for using PPE;
- greater worker participation particularly in the selection of PPE;
- provision of better training and information of workers;
- improve the ergonomic design of PPE; and
- better organisational systems to ensure PPE is regularly worn, inspected and updated.

4.18.2 PPE – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
26	8	25

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose job involves wearing PPE are:

Time period	Total (%)	Member State															
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK	
① All or almost all the time	16	14	15	9	19	16	18	11	18	17	9	11	10	16	13	23	
② Around ¾ or ½ the time	4	5	3	3	8	2	4	2	2	5	2	5	3	4	3	6	
③ Around ¼ of the time	5	4	3	6	11	4	4	5	3	9	4	4	3	3	5	7	
Total ①+②+③	25	23	21	18	38	22	26	18	23	31	15	20	16	23	21	36	

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria
EL – Greece
E – Spain
B – Belgium
NL – Netherlands
S – Sweden
DK – Denmark
IRL – Ireland
UK – United Kingdom
FIN – Finland
I – Italy
F – France
L – Luxembourg
D – Germany
P – Portugal

Percentage of workers whose job involves wearing PPE by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M
① All or almost all the time	16	17	27	27	33	11	11	13	2	8	10	11
② Around ¾ or ½ the time	4	6	5	14	6	3	2	4	0	2	4	3
③ Around ¼ of the time	5	10	5	8	8	1	3	4	1	2	6	4
Total ①+②+③	25	33	37	49	47	15	16	21	3	12	20	18

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing
E: Electricity, Gas and Water Supply
G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
H: Hotels and Restaurants
J: Financial Intermediation
L: Public Administration and Defence; Compulsory Social Security
C-D: Mining, Quarrying and Manufacturing
F: Construction
I: Transport, Storage and Communications
K: Real Estate, Renting and Business Activities
M-Q: Other Services

Percentage of whose job involves wearing PPE by occupations are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① All or almost all the time	16	7	7	11	2	11	13	34	34	25	15
② Around ¾ or ½ the time	4	3	4	4	0	3	8	7	4	3	4
③ Around ¼ of the time	5	5	3	5	1	3	10	8	4	3	18
Total ①+②+③	25	15	14	20	3	17	31	49	42	31	37

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers
3: Technicians and associate professionals
5: Service workers and shop and market sales workers
7: Craft and related trades workers
9: Elementary occupations
2: Professionals
4: Clerks
6: Skilled agricultural and fishery workers
8: Plant and machine operators and assemblers
0: Armed forces

4.18.3 PPE – Comparison between European and national data

If a Focal Point presented national data then, they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to Personal Protective Equipment.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1 "Are there differences between the national data and the data from European sources?"				Question 2 "Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				○				○
Belgium			○				○	
Denmark				○				○
Finland*				○	○			
France*				○				○
Germany			○				○	
Greece*		○					○	
Netherlands*			○				○	
Ireland			○				○	
Italy			○				○	
Luxembourg	○						○	
Portugal			○				○	
Spain*		○						○
Sweden			○				○	
United Kingdom				○			○	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Finland: The FIOH data are based on a larger sample although the sample was restricted to population between 25 and 64 years of age. The particular question asks about the need to use protective equipment. Furthermore, respondents were asked about specific protective equipment. These design aspects probably explain why overall figures are so different from the EU data.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Luxembourg: The ESWC-data highlights the sector: construction. With 54.5% of never wearing personal protective equipment.

Spain: A direct comparison reveals no relevant differences.

Austria, Belgium, Denmark, France, Germany, Netherlands, Ireland, Italy, Portugal, Spain, Sweden and United Kingdom provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: the national data highlights:

Sector:

N - Health and Social work.

Occupations:

22 - Life science and health professionals

32 - Life science and health associate professionals

51 - Personal and protective services workers

91 – Sales and services elementary occupations

93 – Labouring in mining, construction, manufacture and transport

Austria, Belgium, Denmark, France, Germany, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden and **United Kingdom** provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Ireland: To date there are no studies relating to this topic. The lack of information highlights the need to conduct a survey in this area. The Focal Point is supportive of such an initiative in this area.

Luxembourg: For indoor occupations, PPE is an entire part of the working clothes. For outdoor occupations, PPE use is not so evident but followed up by a majority of workers (construction).

Spain: There are no categories in national data to this question.

4.18.4 PPE – Sectors at risk

The five most frequently identified sectors which the Focal Points^{*} regarded were the main users of PPE are listed below:

45 Construction;

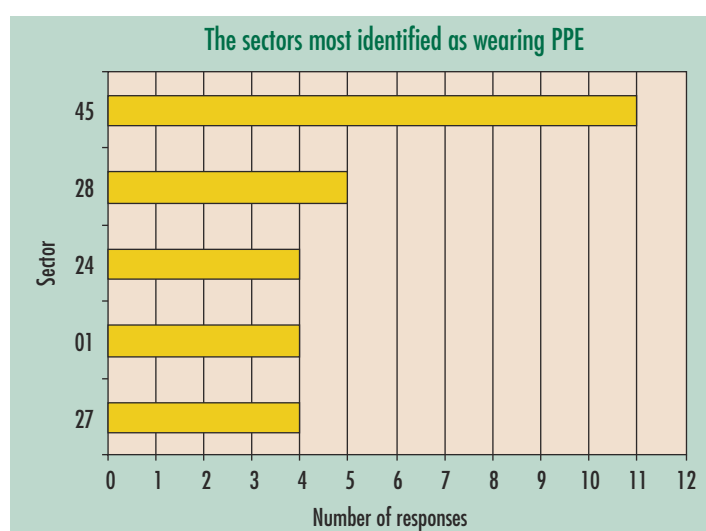
28 Manufacture of fabricated Metal Products, except Machinery and Equipment;

24 Manufacture of Chemicals and Chemical Products;

01 Agriculture, Hunting and related service activities; and

27 Manufacture of Basic Metals.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹²⁹ = 55

As illustrated in the graph above the Focal Points most frequently identified the “Construction” sector as the category with the highest application of PPE. As illustrated in the graph above this was by far the most frequently identified sector with eleven out of the twelve Focal Points that reported sector categories using PPE, identifying it in their national report. The second most frequently identified sector was “Manufacture of fabricated metal products, except machinery and equipment” which was reported in five national reports.

^{*} The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹²⁹ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

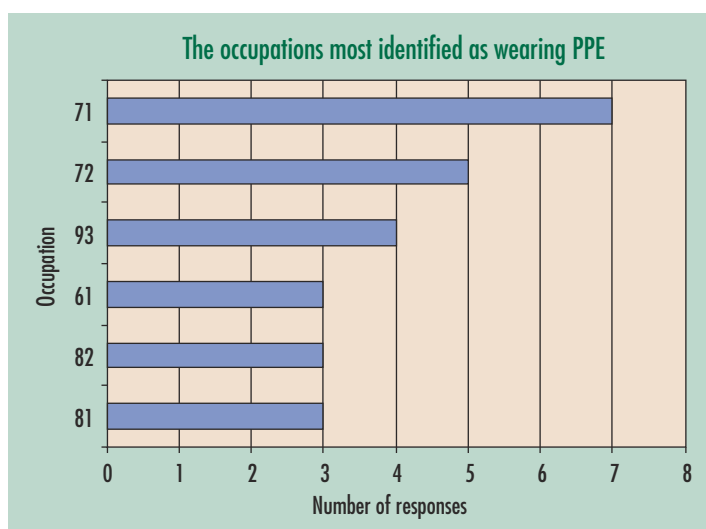
From the European ESWC survey “Electricity, Gas and Water” was the sector category with the highest percentage of workers (49%) reporting the use of PPE which was closely followed by the “Construction” sector with (47%).

4.18.5 PPE – Occupations at risk

The six most frequently identified occupations which the Focal Points^{*} regarded were the main users of PPE are listed below:

- 71 Extraction and building trades workers;
- 72 Metal, machinery and related trades workers;
- 93 Labourers in mining, construction, manufacturing and transport;
- 61 Skilled agricultural and fishery workers;
- 82 Machine operators and assemblers; and
- 81 Stationary-plant and related operators.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹³⁰ = 37

From the European ESWC survey the data highlights “Craft and Related Trades Workers” as the occupation category with the highest percentage of workers reporting the use of PPE. This was closely followed by the occupation “Plant and machine operators and assemblers” with a 42% response rate.

In this project the Focal Points most frequently identified “Extraction and Building Trades Workers” as the occupation category with a high use of PPE. The above graph shows that this occupation was reported in seven out of ten reports that recorded occupations using PPE. The second most frequently identified occupation using PPE was “Metal, machinery and related trade workers”. This was reported in five national reports.

4.18.6 PPE – The extent of use in the workplace

To determine the extent to which PPE is being used throughout the EU each Focal Point was asked to: “Consider if the number who have used PPE over the last 3 – 5 years has decreased, remained stable or increased.”

The following responses were received:

Decreased Trend (1 Focal Point): **Germany**

Stable Trend (5 Focal Points): **Austria, Finland, Greece, Spain and Sweden**

Increased Trend (2 Focal Points): **Belgium and Portugal**

Category “Other” (7 Focal Points): **Denmark, France, Netherlands, Ireland, Italy, Luxembourg and United Kingdom**

“Other Response” includes no response/unable to respond due to unavailability of national data/incompatibility of national data.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹³⁰ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: The number of exposed employees has remained stable during the past five years. Improved comfort and better employee training has ensured the trend is stable in the affected sectors.

Belgium: The provision of personal safety equipment is at the bottom of the hierarchy of safety and prevention measures to be taken. Various legal texts, such as the Royal Decree of 11 January 1999 place the requirement on employers to follow this hierarchy when applying preventive measures. This means that only when the organisational measures and technical measures (collective safety equipment) guarantee an inadequate level of safety, is personal safety equipment then provided.

The wearing of PPE depends strongly on the company and on individual attitude. This is a problem for temporary workers. Each company has a different policy with regard to the wearing of PPE. Especially the young workers are not keen to wear PPE, as long as they had no occupational accident.

Germany: Wearing of PPE is finding an increased acceptance amongst these workers who are obliged to wear PPE because other measures to reduce the risk were insufficient.

Denmark, Finland, France, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden and United Kingdom provided no additional information in relation to the trends in the workplace.

4.18.7 PPE – evaluation of preventive actions

To evaluate the use of PPE throughout the European Union each Focal Point was asked to indicate if:

“The preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by three Focal Points: **Austria, Denmark and Greece**

Development of additional preventive action was indicated by six Focal Points: **Belgium, Finland, Italy, Luxembourg, Portugal and Spain**

The category “Other” was indicated by four Focal Points: **France, Netherlands, Ireland and Sweden**

No response: **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Under the influence of European legislation on the use and commercialisation of personal safety equipment, PPE is now worn more often and more effectively. The employer is legally required to deal with the purchase of PPE. When making the purchase in particular, the employer conducts a workstation or task analysis in order to examine the risks to the health and safety of the employees. The choice of appropriate personal safety equipment has to be based on the results of the analysis.

Regulations also enable suppliers of PPE to conduct awareness and promotion campaigns regarding their activities and products in the form of information campaigns, brochures, training sessions and seminars.

Awareness campaigns need to be addressed to different target groups; especially the young workers and the temporary workers.

Promotion campaigns should also be addressed to the companies in order to change the company culture. The policy statement and the regulations should impose the wearing of PPE. Control is necessary.

Finland: There is a continuous need to improve prevention, including the use of PPE. The situations where PPE are not used although necessary or desirable should be specifically identified by the type of PPE. The legal basis for requiring use of PPE is sufficient.

Italy: Improvement of the technical and organisational measures, training.

Luxembourg: Requirement for global and basic information.

Spain: Further preventive action should include:

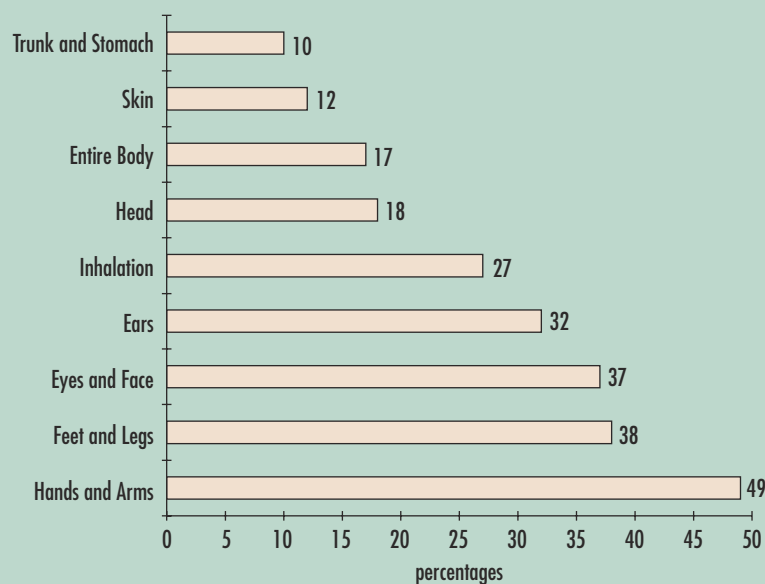
workers training and information;
personal protective equipment using control and suitable updating;
workers participation in equipment selection; and
investigation into more ergonomic personal protective equipment.

Portugal provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

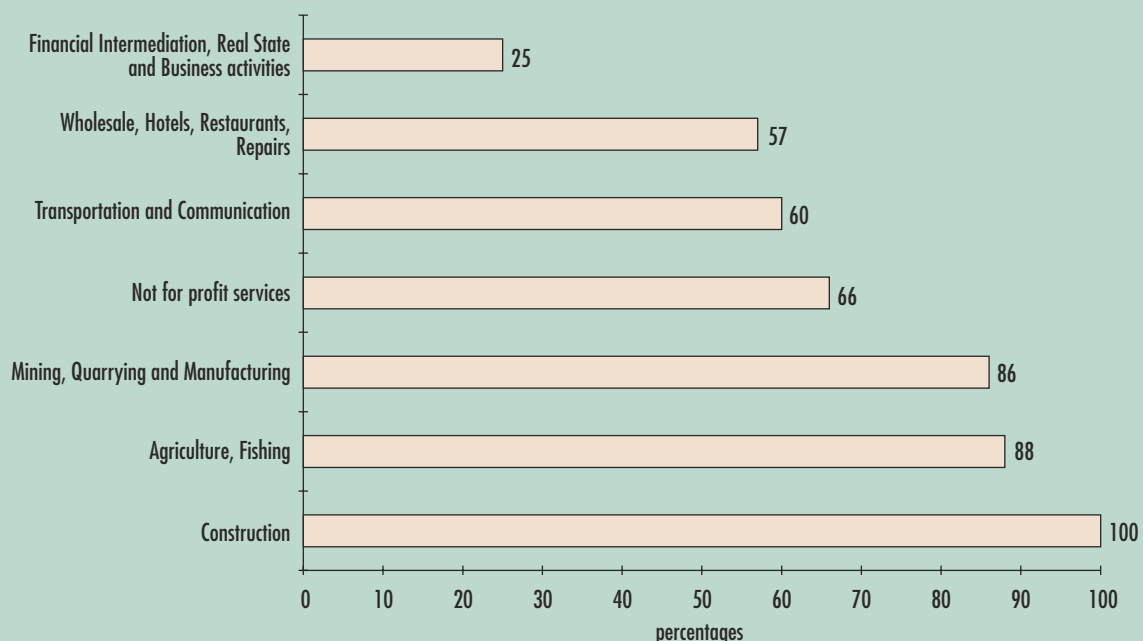
ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Netherlands: The Labour Inspectorate has investigated the use of personal protective equipment in companies. Main objective was to find out in what economic sectors PPE's are used and for what purposes. There also was a number of related questions, e.g. information to employees, control on the actual use of the PPE's, risk assessment and the use of PPE's, etc. A questionnaire was sent out to 1500 companies. Data of the questionnaire have been "recalculated" to represent the situation in the population of companies in the Netherlands. Information is on economic sectors and on company size; no information is available on occupations.

Percentage of companies that use PPE's to protect various parts of the body is shown below



Percentage of companies within economic sectors that use PPE's are shown below



Ireland: The lack of information highlights the need to conduct a survey in this area. The Focal Point is supportive of such an initiative in this area.

4.19 INFORMATION GIVEN ABOUT RISKS AT WORK

From a European picture, the ESWC-data shows that 71% of all workers interviewed reported being provided with information about risks in the workplace. According to the ESWC-data “Electricity, Gas and Water” was the sector category and “Craft and related trades workers” the occupation category highlighted with the highest percentage of workers being provided information about risks.

The comparison of ESWC-data and national data showed that one Focal Point identified differences and a further two reported that there were no differences between their national data and the data from European sources. A total of twelve Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

It was not possible to identify additional information from the national reports in relation to the sectors and occupations Focal Points considered were informed about workplace risks because of the lack of national data.

There was a general lack of available information for determining whether workers consider themselves as being well informed, or not, by their employers with regard to particular risks they face whilst at work. One Focal Point recognised this deficiency in information and identified the need to conduct a survey in this area to collect data.

One Focal Point reported that the statistical material collected by the authorities during and after various information campaigns (hospitals, sexual harassment, tobacco smoke, etc.) indicates that such publicity always has a favourable influence on the working environment. However, a similar survey has not been conducted to ascertain the effect of the campaigns on the accident rates. It is hoped that this will be conducted in the future.

In one Member State survey collection schemes are undertaken. One in particular involved the distribution of approximately 13,000 questionnaires to employees. In this questionnaire was a question addressing training and schooling provided/paid for by the employer during the last 12 months. Responses are focused on job training, training on information technology, PC-training, communication and social skills, managerial training. In a second question employees are asked whether in their judgement, on one or more of these areas extra training is necessary.

4.19.1 Information about risk – a European picture

This section provides a European picture using the ESWC-data.

Work category		
Employed (%)	Self employed (%)	All workers (%)
74	71	72

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers who are informed about risks resulting from the use of materials, instruments or products they handle in their job by sector are:

	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
① Very well informed	36	30	39	41	31	36	32	36	31	33	38	39
② Quite well informed	35	44	40	43	44	34	39	39	32	25	29	30
Total ①+②+③	71	74	79	84	75	70	71	75	63	58	67	69

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing

E: Electricity, Gas and Water Supply

G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods

H: Hotels and Restaurants

J: Financial Intermediation

L: Public Administration and Defence; Compulsory Social Security

C-D: Mining, Quarrying and Manufacturing

F: Construction

I: Transport, Storage and Communications

K: Real Estate, Renting and Business Activities

M-Q: Other Services

Percentage of workers who are informed about risks resulting from the use of materials, instruments or products they handle in their job by occupations are:

	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
① Very well informed	36	45	39	41	32	37	27	37	35	28	50
② Quite well informed	35	28	30	28	31	32	46	46	40	42	24
Total ①+②+③ (well informed)	71	73	69	69	63	69	73	83	75	70	74

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

3: Technicians and associate professionals

5: Service workers and shop and market sales workers

7: Craft and related trades workers

9: Elementary occupations

2: Professionals

4: Clerks

6: Skilled agricultural and fishery workers

8: Plant and machine operators and assemblers

0: Armed forces

4.19.2 Information about risks – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to information given about risks at work.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1				Question 2			
	“Are there differences between the national data and the data from European sources?”				“Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?”			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of Data
Austria								
Belgium								
Denmark								
Finland*								
France								
Germany								
Greece*								
Netherlands								
Ireland								
Italy								
Luxembourg*								
Portugal								
Spain								
Sweden								
United Kingdom								

* - Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Finland: The FIOH data are based on a smaller number of respondents because the particular question was restricted to those with reported use of chemicals at work. The question also excluded risks resulting from the use of instruments. In addition, response options deviated from those used in the EU data.

Greece: There were some minor differences that did not change the general image because the order of the percentage for every factor remained the same.

Luxembourg:

EU source:

In general 50% of the informed workers are “very well” informed.

Apprenticeship or other training scheme 14.3%, “very badly” informed.

National data:

In a specific company workers are “Best” informed = 100%.

Austria, Belgium, Denmark, France, Germany, Greece, Netherlands, Ireland, Italy, Portugal, Spain, Sweden and United Kingdom provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland:

Sectors:

F – Construction

K – Real estate and business activities

N – Health and Social work

O – Other community, social and personal services

Occupation:

91 – Sales and services elementary occupations

Austria, Belgium, Denmark, France, Germany, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden and United Kingdom provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Belgium: The statistical material collected by the authorities during and after various information campaigns (hospitals, sexual harassment, tobacco smoke, etc.) shows that they always have a favourable influence on the flow of information to employers and employees.

However, to date the authorities have never scientifically investigated the effect of the campaigns on the accident rates. The authorities hope to be able to do this in the future through co-operative links with institutions such as the Industrial Accidents Fund whose computer resources are steadily improving, thus providing further possibilities for combining data.

Denmark: The preventive actions taken or planned are considered sufficient to deal with the existing problems.

Netherlands: In 1999 results will become available of the data collected by means of the SZW-Employers Panel (SZW is the acronym for the Ministry of Social Affairs and Employment). In this panel 3,600 companies participated; the panel is representative for the population of companies/institutions (a few sectors are not included e.g. educational institutions). Panel data includes an inventory of a number of risks at work (work pressure, lifting/physical load, repetitive movements/RSI, VDU-work, physical working conditions), an inventory of complaints of employees regarding these risks and data on preventive actions taken.

Parallel to the information collection from the employers a questionnaire has been distributed to employees. Results will be available from appr. 13,000 employees. In the employee questionnaire there is a question on training and schooling provided/paid for by the employer in the last 12 months. Answers do concern: job training, training on information technology, PC-training, communication and social skills, managerial training. In a second question employees are asked whether in their judgement, on one or more of these areas extra training is necessary.

Ireland: There are no studies available relating to this topic. The lack of information highlights the need for a survey in this area. The Focal Point is supportive of such an initiative in this area.

Luxembourg:

Sector 23/25.

By the hierarchical structure, the information about risks at work is communicated to the whole staff. This is done from the very first beginning and then as an ongoing repetitive documented procedure in accordance to national and EU legislation as well as by the corporate policy with the goal "zero accident and zero occupational health illness."

Sector 28.

"ESPRIT 2000" is an on going project similar to the philosophy established by Du Pont de Nemours ("zero accident").

Sector 45.

Interactive CD-ROM introduced to the key holders by the Labour Inspectorate with the topics:

- Creation of safety plans
- Creation of control documents
- Calls of safety regulations

Directorate-General V initiated this project.

Craftsmanship elaborated the task.

Portugal: There is no sufficient data information at national level. However, there has been an increasing interest by the employees, social partners and government institutions in promoting information about risks and its causes at the workplace. Several preventive actions were taken, namely through the publication of preventive technical manuals, sectorial seminars, workshops, sectorial campaigns, etc.

4.20

TRAINING PROVIDED BY EMPLOYERS

According to the ESWC-data, 71 % of all workers interviewed had not received any corporate training over the last 12 months. Access to training was lowest for older workers, unskilled workers, and temporary workers. Professionals and employees in large companies benefit most from training.

The comparison of ESWC-data and national data showed that one Focal Point identified differences and a further two reported that there were no differences between their national data and the data from European sources. A total of twelve Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

It was not possible to identify additional information from the national reports in relation to the sectors and occupations Focal Points considered regarding training over the last twelve months because of the lack of national data.

There was generally a lack of available information in the national reports in relation to training provided by employers. One Focal Point recognised this deficiency in information and identified the need to conduct a survey in this area to collect data.

One Focal Point reported there was no precise data on the effectiveness of training activities. However, in their strategic planning they were considering incorporating health and safety training in education. They also commented on the need for additional research into the effectiveness of new training aids such as multimedia techniques.

According to the one survey conducted in a Member State, participation in training paid for by employer has increased over the past two decades. In another national report the Focal Point reported that nation-wide the number of training initiatives has substantially improved mainly because of the quality certification/accreditation requires training action in safety and health.

In one Member State survey collection schemes are undertaken, one in particular involved the distribution of approximately 13,000 questionnaires to employees. In this questionnaire was a question addressing training and schooling provided/paid for by the employer during the last twelve months.

One national report identified that in-house training was more frequent for women than men. However, in another national report the Focal Point commented that more males received training in the past twelve months, but they were more likely to receive no training whatsoever in the same period.

Opportunities for in in-house training were closely tied to employment position. Data presented in one national report showed that whilst 70% of upper salaried employees have participated in in-house training, only 28% of blue-collar employee received such training. In government establishments the level it was reported that 63% of employees had received in-house training whereas, in the private sector the corresponding figure was 43%.

One Focal Point reported that least is invested on the training of young employees, of those in the age category 15 to 24 years old, only 22 % received training. There may be a link between the age of the employee and the amount of training they receive through employment status. Workers on temporary contracts are unlikely to be afforded the same level of training as a permanent employed person. Also, employers are often cautious about giving training to young workers because of their tendency to change jobs.

Several comments were made to indicate that the larger the size of organisation the higher the proportion of individuals will receive training.

4.20.1 Training – comparison between European and national data

When comparing EU and National Data, the following responses were interpreted from the Focal Points' submissions:

Member State	Question 1 "Are there differences between the national data and the data from European sources?"				Question 2 "Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria			<input type="radio"/>				<input type="radio"/>	
Belgium			<input type="radio"/>				<input type="radio"/>	
Denmark				<input type="radio"/>				<input type="radio"/>
Finland*			<input type="radio"/>		<input type="radio"/>			
France			<input type="radio"/>				<input type="radio"/>	
Germany			<input type="radio"/>				<input type="radio"/>	
Greece*		<input type="radio"/>				<input type="radio"/>		
Netherlands			<input type="radio"/>				<input type="radio"/>	
Ireland			<input type="radio"/>				<input type="radio"/>	
Italy			<input type="radio"/>				<input type="radio"/>	
Luxembourg*			<input type="radio"/>				<input type="radio"/>	
Portugal			<input type="radio"/>				<input type="radio"/>	
Spain*	<input type="radio"/>							<input type="radio"/>
Sweden*		<input type="radio"/>				<input type="radio"/>		
United Kingdom			<input type="radio"/>				<input type="radio"/>	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Finland: The questions are quite similar, but the Finnish Quality of Work Life Survey is based on a larger sample. There are also long time series for the Finnish figures. The same question about training provided by employer has been in FQWL surveys from 1977 to 1997.

Self employed persons are not included in the Finnish survey. Still, the figures in national and EU-data are quite near each other: in the Finnish data 47 per cent of employees have got some training, in EU-data 54 per cent of all employed. There are no big differences in distributions according to age and gender. In both surveys men and younger age groups have got less training provided by employers.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Spain: A greater number of workers are trained according to the national data, especially in the Services and Financial intermediation sectors.

Sweden: The ESWC indicator and the Swedish counterpart are very much alike although the wording is somewhat different. The ESWC indicator says "*training to improve your skills*" while the Swedish indicator does not have that specification. The answers are in both cases given as the number of days for training. The indicators in this case ought to be comparable.

The Swedish Working Environment Survey is based on more than 10,000 respondents.

Austria, Belgium, Denmark, France, Germany, Netherlands, Ireland, Italy, Luxembourg, Portugal and **United Kingdom** provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: Both in the Finnish and EU-data the sectoral and occupational distributions are quite similar. The Finnish occupational classification shows that occupations with the least training are: 40-44 agricultural work, 54 road transport work, 62, 78 building construction and painting work, 77 wood work, 82 food and beverage manufacturing work and 92 waitering work.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Spain: Training is more important in medium and large companies.

Sweden: The sectors highlighted in the EU data correspond roughly to the sectors highlighted in the Swedish data. The occupations highlighted in the EU data correspond roughly to the occupations highlighted in the Swedish data.

Austria, Belgium, Denmark, France, Germany, Greece, Netherlands, Ireland, Italy, Luxembourg, Portugal and United Kingdom provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Belgium:

Comment on Effectiveness of Training:

No precise data is known on the effectiveness of training activities. The results are still measured using traditional indicators (frequency and severity) of the industrial accidents and occupational diseases. Over the years these indicators have shown a slight fall in the frequency of industrial accidents but an increase in the severity of them.

Training at a relatively late stage of life, for example at work, provides lower results.

Training in Education

The *Ministry of Employment and Labour* took the initiative in 1992 for all education networks to sign a joint declaration on the inclusion of health and safety in education (training and retraining of instructors, teachers and lecturers, syllabuses and teaching material, action programmes, etc.).

Legislation:

The new *Well-being at Work Act* provides for an extension of its application to apprentices and students who are subject to the same risks at the workplace. This will be further developed. The *Well-being at Work Act* emphasises that physical safety measures must be taken when there is a risk of serious injury. Physical safety measures being replaced by training must be avoided.

Training for Safety Officers:

Training here will increasingly have to be oriented towards a multidisciplinary approach to health and safety in the company. Retraining will have to be given to those whose training under the former system no longer satisfies the requirements under the new approach.

There is a trend of more resources being provided for self-training.

Distance learning is another application that offers a number of economic benefits and also allows international and trans-European projects to be set up.

Denmark: The preventive actions taken or planned are considered sufficient to deal with the existing problems.

Finland: According to the Quality of Work Life Surveys, participation in training paid for by employer has increased clearly in Finland over the past two decades. At the same time, the difference in the entire wage and salary earning population between women and men has also reversed. Early on, participation in in-house training was more typical of men but is today more typical of women. The differences are, however, quite small.

Opportunities for participation in in-house training are closely tied to position: while 70 % of upper salaried employees had participated in it, in the blue-collar employee group the proportion was only 28 %.

Here the public sector excels, for of all those working for the government 63 % had received in-house training in the last 12 months, while in the private sector the corresponding proportion was only 43 %. An examination by age group shows that the least is invested in the very young: in respect of 15 to 24-years-old employees the proportion was only 22 %. There is most probably a link between this and temporary employment relationships, and occupations, or position at the workplace in general.

Netherlands: In 1999, results will become available of the data collected by the SZW (Ministry of Social Affairs and Employment) in which 3,600 companies participated (educational institutions excluded). Panel data included an inventory of a number of risks at work (work pressure, lifting/physical load, repetitive movements/RSI, VDU-work, physical working conditions), an inventory of complaints of employees regarding these risks and data on preventive actions taken.

Employee Survey:

Parallel to the information collected from the employers a questionnaire was distributed to approximately 13,000 employees. In this questionnaire there is a question on training and schooling provided/paid for by the employer in the last 12 months, relating to: job training, training on information technology, PC (Personal Computer)-training, communication and social skills, managerial training. A second question asked employees whether in their judgment extra training is necessary.

Ireland: There are no studies available relating to this topic. The lack of information highlights the need for a survey in this area. The Focal Point is supportive of such an initiative in this area.

Portugal: There is insufficient data available. However, nationwide the number of training actions has improved substantially, mainly because of the quality certification/accreditation requires training actions across safety and health. Also, the social partners and the government promote either financial and technical training actions.

Sweden:Company Size:

The larger the company the higher proportion of employees receive training on company time.

Gender:

More males have received at least one week of training during the last twelve months. However, males more often than females have had no training at all in that period.

Age Category:

Males aged between 25-54 years have had training during the last 12 months.

Females in the middle age group more often receive training. Second to this category come the oldest while young female employees come far behind.

Employment Status:

Employees with permanent contracts received more training over the last twelve months than those on fixed-term or temporary contracts.

5.



OCCUPATIONAL SAFETY AND HEALTH OUTCOMES

- 5.1 OCCUPATIONAL SAFETY AND HEALTH OUTCOMES ASSESSED
- 5.2 ACCIDENTS AT WORK WITH MORE THEN 3 DAYS ABSENCE
- 5.3 FATAL ACCIDENTS AT WORK
- 5.4 WORK-INDUCED MUSCULOSKELETAL DISORDERS
- 5.5 STRESS
- 5.6 OCCUPATIONAL SICKNESS ABSENCE
- 5.7 OCCUPATIONAL DISEASES

OCCUPATIONAL SAFETY AND HEALTH OUTCOMES

This section contains qualitative and quantitative information about the occupational health and safety (OSH) outcomes in the Member States.

In collating and presenting the following information, it must be appreciated that the method by which each Focal Point derived responses to particular questions was different. In many cases statistical data was not available. The information provided by individual Focal Points merely represents their expert opinion after relevant consultation with identified experts.

The consolidation data can, therefore, only be interpreted as a collation of expert opinion.

5.1

OCCUPATIONAL SAFETY AND HEALTH OUTCOMES ASSESSED

Information about the following OSH outcomes were collected:

- Accidents At Work With More Than 3 Days Absence;
- Fatal Accidents at Work;
- Occupational Sickness Absence
- Stress;
- Work-induced Musculoskeletal Disorders; and
- Occupational Diseases.

5.1.1 Risk categories assessed

For each of the above OSH outcomes, the Focal Points were asked to identify trends, the highest incidences of exposure and to comment on the exposure and trend for each of the following risk categories:

- sectors;
- occupation;
- company size;
- gender;
- age and
- employment status.

A list of all sectors and occupations are presented in Appendices 1 and 2.

The information presented within each of the following sections of this chapter is in a predefined format, as agreed by the Focal Points, and consists of:

- a summary of the information contained within the particular section;
- tables providing a synopsis of relevant data from the ESWC-data which was used by the Focal Points as the source of ESWC-data when making comparisons with national data if ESWC-data was available for the individual OSH outcome (only for occupational sickness absence, stress and work-induced musculoskeletal disorders; for accidents at work with more than 3 days absence and fatal accidents Eurostat data is presented); and
- consolidation of the collective responses to the questions for each of the outcomes and risk categories provided by the Focal Points.

5.2 ACCIDENTS AT WORK WITH MORE THAN 3 DAYS ABSENCE

5.2.1 Summary – accidents at work with more than 3 days absence

OVERVIEW

According to Eurostat¹³¹, in the two-year period 1994 and 1996, the risk of work related accidents resulting in more than three days absence fell by 3,3% in the EU. In 1996 the number of working days lost was equivalent to one working day per year for each person in employment. In 1996, 4,757,611 accidents resulted in more than three days' absence in the EU. Relating this figure to the number of persons in employment, the number of accidents per 100,000 workers was 4,229 in 1996, representing a drop of 7% compared with the 1994 data.

From the findings in this project the "Construction" sector was the most frequently identified sector considered at risk from accidents, which result in three days or more absence from work. This sector was recorded in eleven national reports. "Machine Operators and Assemblers" was the occupation category most frequently reported as being most at risk from three days or more accidents at work.

In all seven Focal Points reported the need for the development of additional actions to combat *more than three days accidents at work*. Three Focal Points said that their current measures were sufficient and the remaining five were unable to evaluate the question.

Four national reports identified a stable trend to more than three days accidents at work whilst nine Focal Points reported a decrease and two Focal Points reported an increase.

Slips, trips and falls were identified in the national reports as the main causes of accidents which resulted in more than three days absence from work.

One Member State's activity programme for 1997-1999 set a number of objectives which included reducing the number of reported accidents caused by dangerous machinery by 20 % and to reduce the number of people injured in serious accidents by 20 %. In another national report high risk industries, such as agriculture, mining, construction, were targeted through prioritised inspection and for a wide programme of initiatives under the Authorities strategic themes for 1999-2002.

Another Focal Point reported that the prevention of accidents in the workplace was one of the key areas for which their current action programme for an improved working environment by year 2005 will address. This has already seen residential institutions being tackled in 1999 and in 2000 the metal industry will receive special attention. Equipment identified for special attention includes: cranes, elevators and forklift trucks.

One national report stated that accidents involving machinery have declined. However, in their experience accidents involving transport equipment, handling and lifting have increased. Injuries involving hands and fingers were reported to have declined, while back-injuries and injuries to lower limbs (legs) have increased.

A number of Focal Points raised the general issue that they recognised that reporting of accidents at work is subject to a degree of under reporting. In one national report they estimated that this under reporting accounted for about 55%, on the basis of surveys and data supplied by first-aid clinics. However, it is primarily accidents with a less serious consequence, which tend not to be reported.

It was commented in one national report that outsourcing of labour increases the risk of accidents for two reasons. Firstly, subcontractors are not always under their employer's direct supervision. Secondly, subcontractors often service several contracts at the same time. These jobs are often of a short duration leaving little time for an individual to become familiar with the work surroundings. Such unfamiliarity can increase the chance of mistakes as well as increasing the level of mental stress. Both of these factors will increase the likelihood of an accident occurring.

SECTORS AT RISK

The "Construction" sector was the most frequently identified sector, reported by eleven Focal Points, as being at the greatest risk from accidents that result in three days or more absence from work. The second most popular sector identified in the national reports was "Manufacture of fabricated metal products" which was identified by total eight Focal Points.

¹³¹ Eurostat, Statistics in focus, Population and social conditions, No4. "Accidents at work in the EU in 1996"

One Focal Point commented that there were sectors, such as agriculture, for which little information on three day or more absence from work was available.

OCCUPATIONS AT RISK

The occupation most frequently identified by the Focal Points as being at risk from accidents with more than three days absence was “Machine Operators and Assemblers”. This occupation was highlighted in nine of the thirteen national reports that recorded an occupation at risk. The second most popular occupation recorded vulnerable to three day or more accidents from work was “Metal, machinery and related trades workers”. This occupation was recorded in eight national reports.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

Thirteen Focal Points reported the male gender to be most at risk from accidents involving more than three days absence from work. In one national report data showed that the percentage of males absent from work was much higher than for females, 82% for males compared with 17.3% for females.

Although a limited response, six Focal Points identified the age category “less than 25” years old to be most at risk from accidents with more than three days absence. This is in agreement with the Eurostat’s findings.

One Focal Point commented that the risk of accidents with more than three days absence has decreased significantly among 15 - 25 year old employees during the last few years. One Focal Point reported that young people below the age of 25 years have a significantly higher risk of being a victim of workplace injuries than any other age category. One factor for this was considered to be their lack of experience. For this reason accident prevention among young workers will be especially important in the future.

Although a limited response, five Focal Points identified companies with less than forty nine employees to be most vulnerable to accidents which incur three days or more absence from work. One Focal Point said that both the frequency and severity of this type of accident were substantially higher for smaller companies, although this was not the case across all sectors.

5.2.2 European data

According to Eurostat¹, in the two-year period 1994 and 1996, the risk of work related accidents resulting in more than three days absence fell by 3,3% in the EU. In 1996 the number of working days lost was equivalent to one working day per year for each person in employment.

In 1996, 4, 757 611 accidents resulted in more than three days’ absence occurred in the EU. Relating this figure to the number of persons in employment, the number of accidents per 100,000 workers was 4,229 in 1996, representing a drop of 7% compared with the 1994 data.

The risk was considerably higher (2.5 times the EU average) for the following industries:

- wood;
- auxiliary transport services (handling and storage);
- metallurgy; and
- construction.

In absolute terms, the highest number of accidents was registered in the “Manufacturing” and “Construction” sectors with 29% and 17% of the total, respectively.

Considering all sectors together, Eurostat reported that the risk of accidents at work which result in more than three days absence in the EU is higher for men than women. For young people in the age category 18 to 24 years, the risk was reported to be 35% higher than the EU average. In enterprises with more than 250 employees the risk of an accident was 30% lower than the average.

5.2.3 Accidents at work with more than 3 days absence – sectors at risk

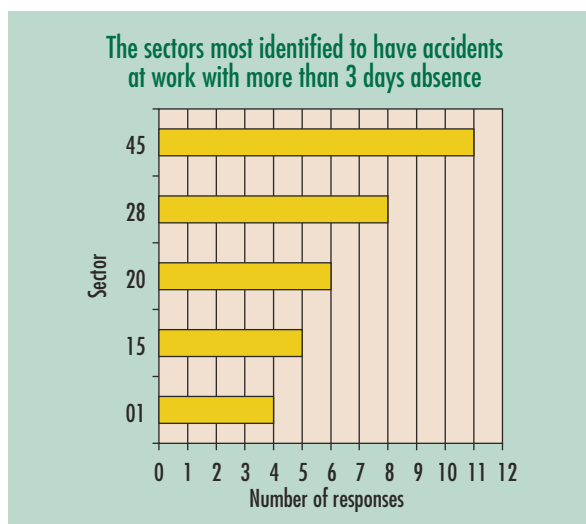
The five most frequently identified sectors which the Focal Points* considered to be most at risk from accidents at work with more than three days absence are listed below:

- 45 Construction;
- 28 Manufacture of fabricated Metal Products, except Machinery and Equipment;
- 20 Manufacture of Wood and of Products of Wood and Cork, except Furniture;
Manufacture of articles of Straw and Plaiting Materials;
- 15 Manufacture of Food Products and Beverages; and
- 01 Agriculture, Hunting and related service activities.

¹ Eurostat, Statistics in focus, Population and social conditions, No4. “Accidents at work in the EU in 1996”

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹³² = 69

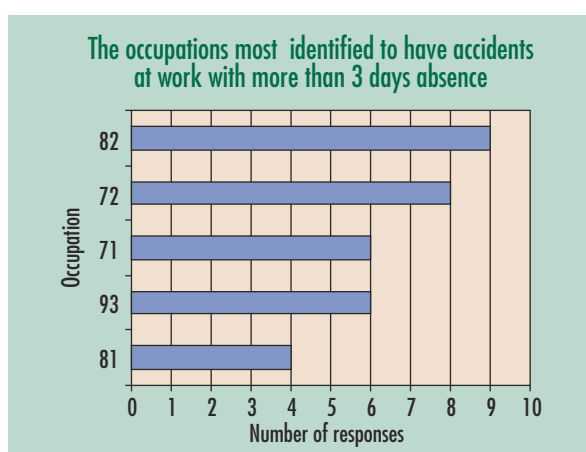
As illustrated in the graph above the “Construction” sector was the most frequently identified sector, reported by eleven Focal Points, as being at the greatest risk from accidents which incur three days or more absence from work. The second most popular sector identified in the national reports was “Manufacture of fabricated metal products”, for eight Focal Points recorded this in their reports.

5.2.4 Accidents at work with more than 3 days absence – occupations at risk

The five most frequently identified occupations which the Focal Points* considered to be most at risk from accidents at work which incur more than three days absence are listed below:

- 82 Machine operators and assemblers;
- 72 Metal, machinery and related trades workers;
- 71 Extraction and building trades workers;
- 93 Labourers in mining, construction, manufacturing and transport; and
- 81 Stationary-plant and related operators.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹³³ = 47

¹³² Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

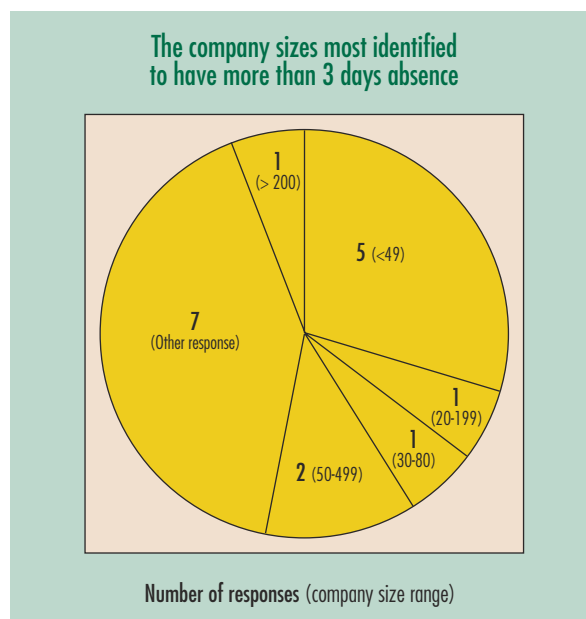
¹³³ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

As illustrated above the occupation most frequently identified by the Focal Points as being at risk from accidents which incur more than three days absence from work was “Machine Operators and Assemblers”. This occupation was highlighted in nine of the thirteen national reports that recorded an occupation at risk. The second most popular occupation considered vulnerable to three day or more accidents “Metal, machinery and related trades workers”. This occupation category was recorded in eight national reports.

5.2.5 Accidents at work with more than 3 days absence – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to accidents at work with more than three days absence.”

The following responses were received:



Total Number of Responses¹³⁴ = 17

The above graph illustrates a fairly wide distribution of Focal Point responses to the company size most vulnerable to accidents which result in more than 3 days absence from work. Five Focal Points reported that companies with less than 49 employees were most at risk. A total of seven Focal Points were unable to establish company size most at risk.

5.2.6 Accidents at work with more than 3 days absence – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk to accidents at work with more than three days absence.”

The following responses were received:

Gender category most at risk	Number of Focal Point responses
Female	0
Male	13
No response	2

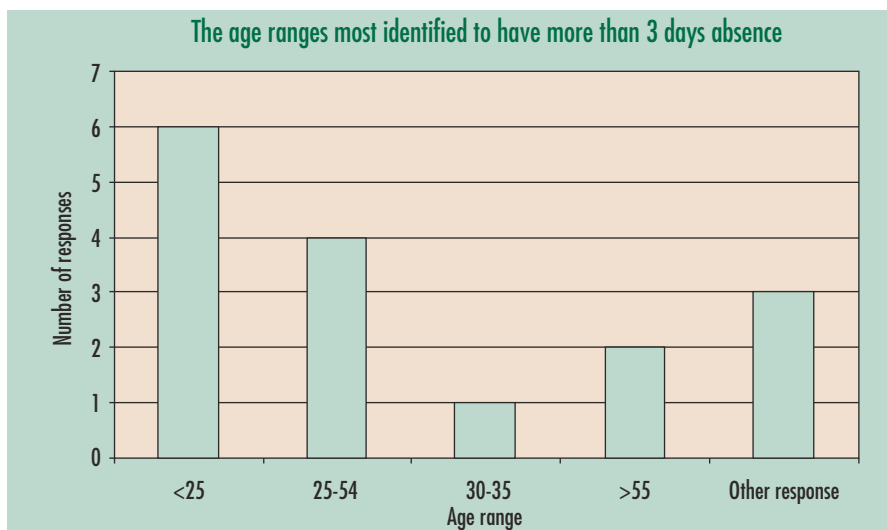
The above table clearly shows that males were identified as being more vulnerable to accidents in the work place which resulted in more than three days absence. Only two Focal Points were unable to identify a gender most at risk.

¹³⁴ Although each of the 15 Focal Points was asked to indicate 1 category (maximum of 15 responses), in practice, some Focal Points indicated more than 1.

5.2.7 Accidents at work with more than 3 days absence – age category at risk

Each Focal Point was asked to: “State which age category has a particular high risk to accidents at work with more than three days absence.”

The following responses were received:



Total Number of Responses¹³⁵ = 16

From the national reports six Focal Points identified the age category less than 25 years as being most at risk to accidents at work which result in more than 3 days absence. The next most vulnerable age category was 25-54 age range as identified by four Focal Points. Only three Focal Points were unable to identify the age category most at risk.

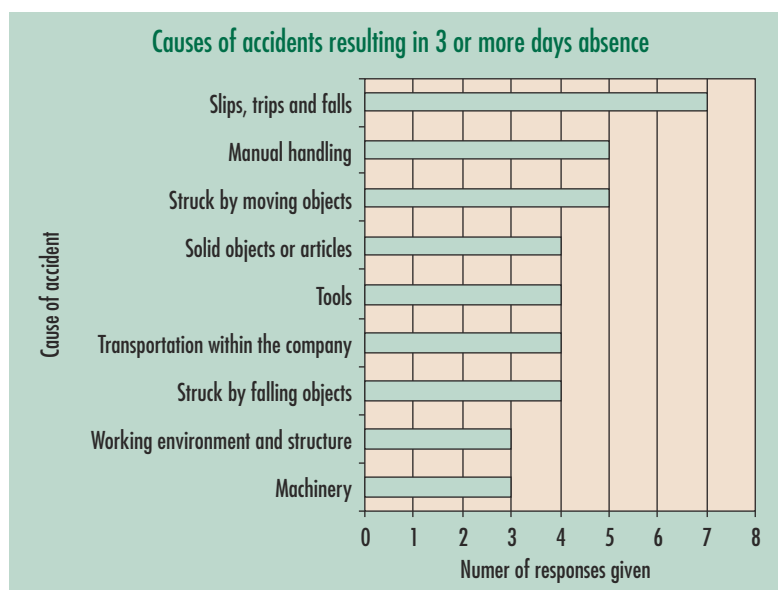
5.2.8 Accidents at work with more than 3 days absence – employment status at risk

Each Focal Point was asked to: “State if the employment status is of importance.”

Data provided by the Focal Points did not allow a European picture with regard to accidents at work with more than 3 days absence and employment status to be given (see Appendix 5d for the number of responses).

5.2.9 Accidents at work with more than 3 days absence – causes of accidents

Each Focal Point was asked to indicate the five major causes of workplace accidents which result in more than three days absence. The following graph provides an objective overview of the overall opinion of the fifteen Focal Points.



¹³⁵ Although each of the 15 Focal Points was asked to indicate 1 category (maximum of 15 responses), in practice, some Focal Points indicated more than 1.

As illustrated on page 251 seven Focal Points most frequently identified slips, trips and falls as a major cause of accidents that result in three or more days absence. The second most frequently reported accident cause was manual handling and individuals being struck by moving objects. Both of these categories were reported in five national reports.

5.2.10 Accidents at work with more than 3 days absence – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of accidents at work with more than three days absence, over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (9 Focal Points): **Austria, France, Germany, Greece, Netherlands, Italy, Portugal, Sweden and United Kingdom**

Stable Trend (4 Focal Points): **Denmark, Finland, Ireland and Luxembourg**

Increased Trend (2 Focal Points): **Belgium*** and **Spain**

Category “Other” (0 Focal Point): -

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

* For the year 1997

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Austria: The number of workers affected has decreased over the last five years. Besides the indicated trend no further information can be provided due to the lack of specific data.

Belgium: The degree of frequency and the actual degree of severity has decreased over the years 1994-1997. The total degree of severity has slightly increased in 1997.

Denmark: The general trend of reported accidents in the period from 1993 to 1997 indicates no significant change. Actually, the situation has more or less been stable for the last 20 years. However, changes at sector level and in certain occupations have been observed.

Especially type of accident has changed. Accidents with machinery have declined. Instead accidents with transport equipment, handling and lifting have increased. This has lead to, probably, that injured part of body and type of injury has changed. Injuries involving fingers and hands have declined while back-injuries and legs have increased.

The Danish Working Environment Authority in collaboration with the Social Partners have initiated a large programme for prevention of accidents at work. Special focus will be directed to this subject for the next two to three years. A special amount of financial resources is allocated for initiatives that can stimulate accident prevention.

This initiative is rather different than earlier campaigns on accident prevention and the industry's interest is estimated to be considerably higher to collaborate than earlier. For that reason it is expected to see a significant decline in accidents within the next couple of years.

Finland: The risk for accidents with more than 3 days absence has *decreased significantly* among 15 - 25 year old employees during the last few years.

The risk has *increased* in the following sectors:

(45) Construction, (20) Manufacture of Wood, Articles of Straw etc., (25) Manufacture of Rubber and Plastic Products, (27) Manufacture of Basic Metals, (28) Manufacture of Fabricated Metal Products, except Machinery and Equipment and (29) Manufacture of Machinery and Equipment NEC.

The risk has *decreased* in the following sectors:

(15) Manufacture of Food Products and Beverages, (17) Manufacture of Textiles, (18) Manufacture of Wearing Apparel; Dressing and Dyeing of Fur and (21) Manufacture of Paper and Paper Products.

Source: Expert panel discussion 8.2.1999

Greece: There are some minor differences which do not change the general image, since the order of the percentages for every factor remains the same.

Netherlands: Because of the lack of reliable data there is no conclusive evidence of trends in occupational accidents. Some registrations indicate a decrease but this may be artificial because of under registration problems. There is no indication for an increase.

Italy: There are no deviations.

Luxembourg: The number of workers affected over the last 3–5 years has remained stable. During last 5 years labour force increased by 4%.

Sweden:

Sector:

There are no increases since 1993 among *men* and *total*. Among *women* there are 4 sectors that have increased the relative number of accidents at work since 1993:

20 Manufacturing of wood and products of wood and cork, except furniture

25 Manufacturing of chemicals and chemical products

34–35 Manufacturing of transport equipment

85311 Care for residents in service homes and homes

85313 for the aged, day care activities for the aged and handicapped

Occupation:

Because of the introduction of the new standard of occupational classification (ISCO-88) in Sweden 1997 comparisons with earlier years are not possible.

Age & Gender:

The number of accidents at work are increasing with *age*, but the age related increase is smaller 1997 than in 1993. Accidents at work are more common among *men* than among *women* both 1993 and 1997, but the difference between the sexes has decreased during the period 1993-1997.

United Kingdom: Trends are stable in some service sector industries.

France, Germany, Ireland, Portugal and **Spain** provided no additional information in relation to the trends in the workplace.

5.2.11 Accidents at work with more than 3 days absence – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by three Focal Points: **Austria, Denmark, Greece**

Development of additional preventive action was indicated by seven Focal Points: **Belgium, Finland, Ireland, Italy, Luxembourg, Portugal** and **Spain**

The category “Other” was indicated by three Focal Points: **France, Netherlands** and **Sweden**

No response: **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: The total cost of industrial accidents is an upward slope for the period 1990-1997, despite the falling number of accidents. In 1996 the average cost per accident was BEF 172.6 (4278 euros).

Finland: The legal basis for preventive action is sufficient. Number and severity of accidents at work continue to be an essential criteria in directing national labour inspection activities.

Outsourcing is becoming into wider use in Finland. Outsourcing tends to increase the risk of accidents for two reasons. (1) Subcontractors employees are not under their employer's direct supervision. (2) Subcontractor serves several contractors. Therefore their employees often have jobs which take them only for a short time to a location. Thus the employees have to cope with unfamiliar work situations, which is well known to increase the risk of mistakes and the level of mental stress.

It also may happen that agreements between the partners do not include all functions and tasks necessary for safety. The provision of scaffolding in the construction industry, and in maintenance service jobs are typical examples. Without sufficient scaffolding, the employees are tempted to take shortcuts thereby endangering themselves.

One cannot say that preventive actions are sufficient as long as there are accidents. In Finland, regulations and authorities function well. The main need is to initiate improvement in safety culture in the society at large. People should not accept risks as readily as they do today. Especially, the management should become more committed to a higher level of safety.

Small companies, between 20-100 employees, have many accidents when comparing to large companies in the same type of business. Small companies cannot have own OHS professionals. Special services should exist for these companies. Consulting business in the area of occupational safety is not well developed and governmental or other specialist organisations do not provide such services sufficiently.

One more weakly developed area is the safety promotion of employees outside company area either on business or for leisure. Occupational safety organisations could provide information and equipment for employees to protect them in traffic and in free time activities.

Ireland: The Authority is at present reviewing possible initiatives with regard to this exposure.

Italy: The L.D 626/94 (the enforcement of the EC directive related to the occupational health and safety) is not totally applied. Moreover, the agriculture sector is still little understood.

Luxembourg: Co-ordination of the on-going efforts and general improvement and involvement.

Portugal: There is a national need to train and inform health practitioners, towards the accidents with more than 3 days absence. The lack of information highlights the need for a survey in this specific area.

Spain: Further preventive action required should include: control of follow-up of applicable legislation; workers training and information; increase investigation activities about new preventive means, work place evaluations and specific prevention plans.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Denmark: Compared to other Member States of the European Union Denmark has a relatively low frequency of accidents resulting in more than 3 days absence. However, the total number of reported accidents at work has remained rather stable during the past 20 years. The Danish Working Environment Authority uses information from its own database of reported accidents and data from first-aid clinics and surveys.

It is recognised that the reporting of accidents at work is subjected to under reporting. The under reporting is estimated to be approximate 55% on the basis of surveys and data supplied by first-aid clinics. It is primarily accidents with a less serious outcome which are not reported.

The three sources of data are considered useable for prioritising with respect to prevention.

Prevention of accidents at work is one of the key areas of the current action programme for an improved working environment by year 2005.

In 1998 a new long-term comprehensive prevention programme was established. The new programme will be carried out by the Danish Working Environment Authority and the Social Partners in collaboration. It includes documentation, research, and further development of means of prevention, and is addressed to employers, employees, consultants, and industrial designers.

Currently, detailed plans have been set up for 1999 and 2000. At the same time specific campaigns are run for the sectors producing the highest frequency of accidents at work, with special attention to the jobs at highest risk and the equipment which is most often involved in the accidents.

In 1999, residential institutions are in focus, and in 2000 the metal industry will receive special attention. Equipment in special focus are cranes, elevators, forklifts, etc.

Sweden: In the activity programme 1997-1999 for The Swedish Occupational Safety and Health Administration five prioritised supervision areas are identified. Among them are: dangerous machinery and serious accidents

Our objectives for these areas 1997-1999 are:

Dangerous machinery: The number of reported accidents caused by machinery shall be reduced by 20 %.

Serious accidents: The number of people injured in serious accidents shall be reduced by 20 %.

Employers who conduct activities where there is a risk of serious accidents or violent occurrences shall regularly examine and analyse the risk and events that have occurred, using methods that take into consideration technical as well as psychological and organisational aspects.

United Kingdom: High risk industries (agriculture, mining, construction) are targeted through prioritised inspection and for a wide programme of initiatives under the Health and Safety Commission's strategic themes 1999-2002.

5.3

FATAL ACCIDENTS AT WORK

5.3.1 Summary – fatal accidents at work

OVERVIEW

According to Eurostat¹, in the two-year period 1994 and 1996, the risk of fatal accidents in the workplace fell by more than 13% in the EU. Eurostat reported that more than half of the fatal accidents that occurred in the workplace were due to transport.

From the information collated in the national reports as part of this project the “Construction” sector was the most frequently identified sector considered to be at risk from fatal accidents.

The following occupation categories were identified from the national reports as being most a risk to fatal accidents at work:

- Labourers in Mining Construction Manufacturing and Transport;
- Drivers and Mobile Plant Operators; and
- Extraction and Building Trades Workers.

One Focal Point reported that accidents with machinery have declined. However, accidents involving transport equipment, handling and lifting had increased.

One Focal Point reported that in collaboration with their Social Partners the Authority has initiated a large programme for the prevention of accidents at work. Special focus will be directed to this subject for the next two to three years. This initiative was said to be different than earlier campaigns on accident prevention and industry's interest in collaborating is estimated to be considerably higher. A significant decline in accidents is expected within the next couple of years.

One national report detailed how in 1999 residential institutions were selected for particular attention and that in 2000 this attention will be shown to the metal industry. Equipment likely to come under close scrutiny included: cranes, elevators and forklift trucks.

One Member State's Ministry of Social Affairs and Employment has started, in co-operation with the Central Bureau of Statistics, an accident registration using a large sample size. Questions embodied will bring out accident data that is comparable to data currently available on other Member States. Tests of the questionnaire were conducted in 1999 and the first data collection is expected in 2000 with the presentation of the results in 2001. Data will serve as an input to policy development for the prevention of accidents at work.

In all, six Focal Points reported the need for the development of additional actions to combat fatal accidents at work.

A total of six Focal Points reported a stable trend in fatal accidents at work whilst seven Focal Points reported a decrease and the remaining two reported an increase.

Accidents with vehicles was identified as the main cause of fatal accidents at work. This is in agreement with the Eurostat data.

SECTORS AT RISK

From the information collated in the national reports the “Construction” sector was the most frequently identified sector considered at risk from fatal accidents. A total of eleven out of the fifteen Focal Points identified this sector.

OCCUPATIONS AT RISK

The following three occupation categories were most frequently identified from the national reports as being most a risk to fatal accidents at work:

- Labourers in Mining Construction Manufacturing and Transport;
- Drivers and Mobile Plant Operators; and
- Extraction and Building Trades Workers.

Each of the above occupation categories was reported in six national reports.

¹ Eurostat, Statistics in focus, Population and social conditions, No4. “Accidents at work in the EU in 1996”

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

Although a limited response, five Focal Points identified the age category “greater than 55 years” to be most at risk to fatal accidents in the work place.

From the national reports a total of twelve Focal Points identified male workers to be most at risk from fatal accidents at work. One national report reported that the risk of a fatal accident to males was much higher than that for females, 96.7% for men compared to 3.1% for women. One Focal Point reported that males were involved in 96% of all work place fatal accidents.

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

In one national report the Focal Point reports that in 1997 the highest number of fatal accidents occurred in companies with between 1 – 49 employees. However, in another report it stated that there was a 10% higher than average chance of a fatal accident in companies with between 50 – 499 employees.

It was stated by one Focal Point that the rate of fatal injuries in the manufacturing sector was highest among the smallest of organisations.

PREVENTING EXPOSURE

As commented in a number of national reports there a number of further measures that need to be improved upon to further reduce the risk of fatal accidents in the workplace, including:

- there is a need for training and informing health and safety practitioners towards the fatal accidents;
- there is a need for control and follow up of applicable legislation;
- there is a need for training and information, particularly for safety practitioners; and
- there is a need for thorough investigations on the causes of fatal accidents, information gained should be used to minimise the risk of further accidents.

EUROPEAN DATA

According to Eurostat¹, in the two-year period 1994-1996, the risk of fatal accidents in the workplace fell by more than 13% in the EU. Eurostat reported that more than half of the fatal accidents that occurred in the workplace were related to transport.

Eurostat reported that fatal accidents at work fell from 6,423 in 1994 to 5,549 in 1996. Traffic and transport accidents during work related activities led to 1,847 deaths in 1996.

5.3.2 Fatal accidents at work – sectors at risk

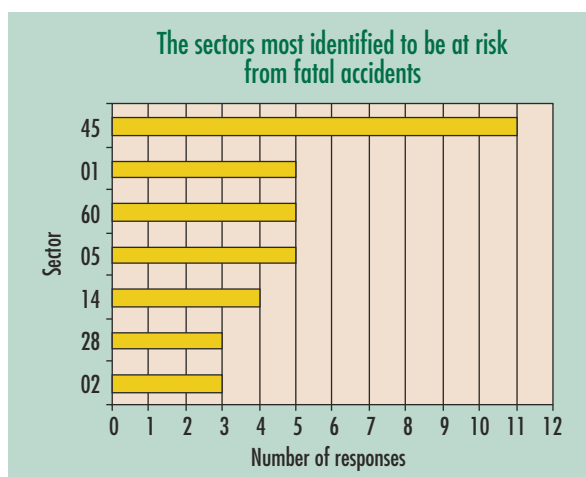
The seven most frequently identified sectors which the Focal Points* considered to be most at risk from fatal accidents at work are listed below:

- 45 Construction;
- 01 Agriculture, Hunting and related service activities;
- 60 Land Transport; Transport via Pipelines;
- 05 Fishing, Operation of Fish Hatcheries and Fish Farms; Service activities incidental to Fishing;
- 14 Other Mining and Quarrying;
- 28 Manufacture of fabricated Metal Products, except Machinery and Equipment; and
- 02 Forestry, Logging and related service activities.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.

¹ Eurostat, Statistics in focus, Population and social conditions, No4. “Accidents at work in the EU in 1996”

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.



Total Number of Responses¹³⁶ = 55

From the information collated in the national reports the “Construction” sector was the most frequently identified sector considered to be at risk from fatal accidents. It can be seen from the above graph that a total of eleven out of fifteen Focal Points identified the construction sector. The second most frequently identified sectors at risk from fatal accidents in the workplace were:

- Agriculture, hunting and related service activities;
- Land transport, transport via pipelines; and
- Fishing, operation of fish hatcheries and fish farms.

Each of the above sectors was identified in five national reports.

5.3.3 Fatal accidents at work – occupations at risk

The five most frequently identified occupations which the Focal Points* considered to be most at risk from fatal accidents at work are listed below:

93 Labourers in mining, construction, manufacturing and transport;

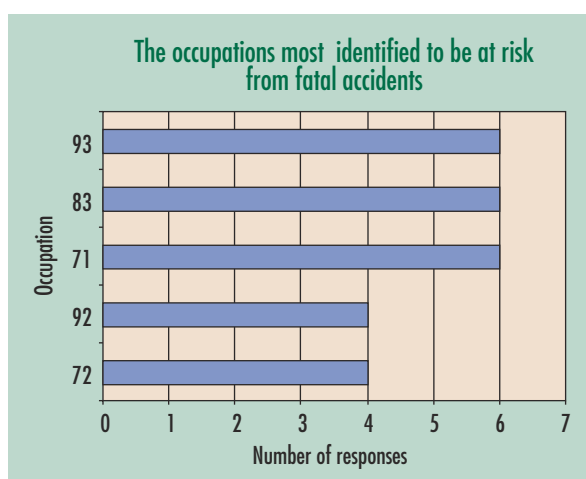
83 Drivers and mobile plant operators

71 Extraction and building trades workers;

92 Agricultural, fishery and related labourers; and

72 Metal, machinery and related trades workers

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹³⁷ = 43

¹³⁶ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹³⁷ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

The following three occupation categories were identified from the national reports as being most at risk from fatal accidents at work:

- Labourers in Mining, Construction, Manufacturing and Transport;
- Drivers and Mobile Plant Operators; and
- Extraction and Building Trades Workers.

Each of the above occupation categories was reported in six national reports.

5.3.4 Fatal accidents at work – company size at risk

Each Focal Point was asked to: *“Indicate, in general terms, the size of company with the highest risk to fatal accidents at work.”*

Data provided by the Focal Points did not allow a European picture with regard to fatal accidents and company size to be given (see Appendix 5a for the number of responses).

5.3.5 Fatal accidents at work – gender at risk

Each Focal Point was asked to: *“State which gender category has a particular high risk to fatal accidents at work.”*

The following results were received:

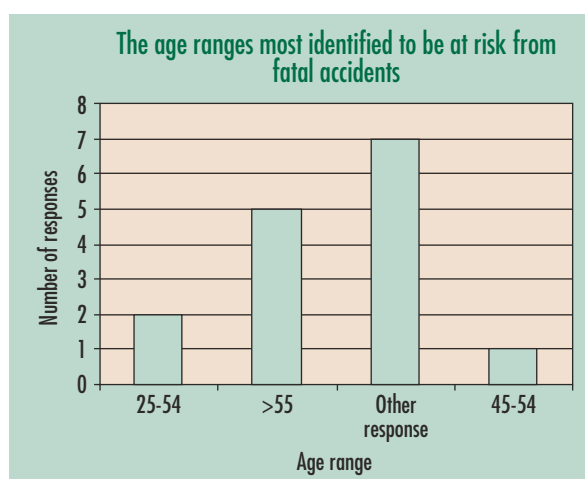
Gender category most at risk	Number of Focal Point responses
Female	0
Male	12
No response	3

The above table clearly indicates that males were considered most at risk to fatal accidents at work. All twelve Focal Points that recorded a gender identified males most at risk. Only three Focal Points were unable to establish a gender at risk.

5.3.6 Fatal accidents at work – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk to fatal accidents at work.”*

The following responses were received:



The above graph shows that five Focal Points identified the age category “greater than 55” years as most at risk to fatal accidents at work with two identifying the category “25-54” and one identifying “45-54”. Seven Focal Points recorded “other response”.

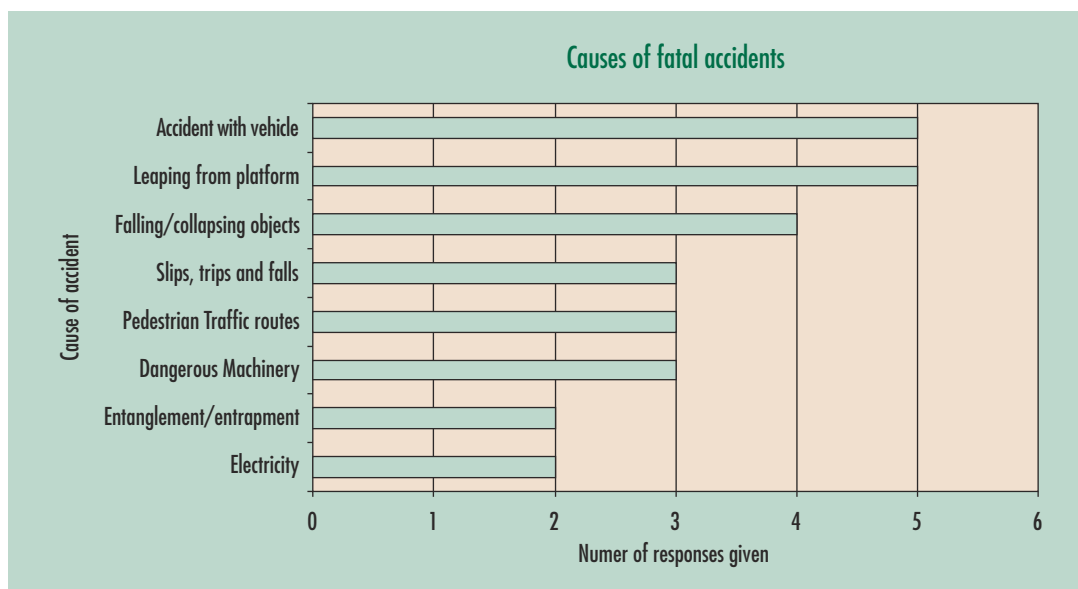
5.3.7 Fatal accidents at work – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to fatal accidents and employment status to be given (see Appendix 5d for the number of responses).

5.3.8 Fatal accidents at work – causes of accidents

Each Focal Point was asked to indicate the five major causes of fatal accidents at work. The following graph provides an objective overview of the overall opinion of the fifteen Focal Points.



The above graph illustrates the most frequent causes of fatal accidents reported by the Focal Points. Accidents involving vehicles and leaping from platform were the most frequently reported causes, both of which were recorded in five national reports. The second most frequently reported cause of fatal accidents was falling/collapsing objects. The European data reported that traffic and transport related fatal accidents led to 1,850 deaths in 1996. This cause was the single biggest contributing factor to fatal accidents in the workplace. More than half of fatal work related accidents were reported to be due to transport.

5.3.9 Fatal accidents at work – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number fatal accidents at work, over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (7 Focal Points): **Austria, France, Germany, Portugal, Spain, Sweden and United Kingdom**

Stable Trend (6 Focal Points): **Denmark, Finland, Greece, Ireland, Italy and Luxembourg**

Increased Trend (2 Focal Points): **Belgium and Netherlands**

Category “Other” (0 Focal Point): -

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Denmark: The general trend of reported accidents in the period from 1993 to 1997 indicates no significant change. Actually, the situation has more or less been stable for the last 20 years. However, changes at sector level and in certain occupations have been observed.

Especially type of accident has changed. Accidents with machinery have declined. Instead accidents with transport equipment, handling and lifting have increased.

In collaboration with the Social Partners the Danish Working Environment Authority has initiated a large programme for prevention of accidents at work. Special focus will be directed to this subject for the next two to three years. A special amount of financial resources is allocated for initiatives that can stimulate accident prevention.

This initiative is rather different from earlier campaigns on accident prevention and the industry's interest is estimated to be considerably higher to collaborate than earlier. For that reason it is expected to see a significant decline in accidents within the next couple of years.

Greece: There are some minor differences which do not change the general image, since the order of the percentages for every factor remains the same.

Netherlands: Numbers of reported fatal accidents at work in the Netherlands are: 1993 - 56; 1994 - 70; 1995 - 94; 1996 - 115; 1997 - 128. Under reporting is a possibility. There are no indications that the under reporting has decreased over the period.

Italy: The agriculture sector could have had an decrease in fatal accidents.

Luxembourg: In the metallurgical sector: in 1970 – 1 fatal accident per month; in 1990 – 1 fatal accident per year.

Sweden: In the long run the number of fatal accidents at work is decreasing. 153 fatal accidents at work occurred in 1977 compared with 101 fatal working accidents 1987. During the period 1980-1989 there occurred on average 112 fatal accidents at work per year. The same number for the period 1990-1998 is 73 fatal accidents at work per year. Over the last four years the number of fatal accidents at work has remained stable between 63 -65 fatal accidents.

United Kingdom: The number of workers affected over the last 3 – 5 years has decreased. However, the agriculture sector remained stable.

Austria, Belgium, Finland, France, Germany, Ireland, Portugal and Spain provided no additional information in relation to the trends in the workplace.

5.3.10 Fatal accidents at work – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by three Focal Points: **Austria, Denmark, and Greece**

Development of additional preventive action was indicated by six Focal Points: **Belgium, Finland, Ireland, Italy, Portugal and Spain**

The category “Other” was indicated by three Focal Points: **France, Netherlands and Sweden**

No response: **Luxembourg and United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: The total cost of industrial accidents is an upward slope for the period 1990-1997, despite the falling number of accidents. In 1996 the average cost per accident was BEF 172.6 (4,278 euros).

Finland: There is a continuous need for thorough investigation on the causes of fatal accidents. Information provided by these investigations should be used to minimise the risks of any further accidents.

Ireland: The Authority is at present reviewing possible initiatives with regard to this exposure.

Italy: The L.D. 626/94 (the enforcement of the EC directive related to the occupational health and safety) is not totally applied. Moreover, the agriculture sector is still little understood.

Portugal: There is a national need to train and inform the health practitioners towards fatal accidents. The lack of information highlights the need for a survey in this specific subject.

Spain: control and follow up: legislation, preventive measures and plans adopted by the enterprise; workers training and information; increase investigation activities about new preventive means, work place evaluations and specific prevention plans.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Denmark: Compared to other Member States of the European Union Denmark has a relatively low frequency of fatal accidents. However, the number of reported fatal accidents at work has remained rather stable during the past 20 years. The Danish Working Environment Authority uses information from its own database of reported accidents and data from the insurance system. These sources of information cover 100% of the fatal accidents in Denmark, thus constituting a valuable tool for the prioritising of campaigns, etc.

Detailed analyses of accident frequency, groups at risk and course of events have been made for many years. However, because of the relatively small numbers, the number of fatal accidents is often analysed in combination with other serious accidents reported to the Authority in order to obtain more statistical power of the analyses. This combination of the two categories of accidents is based on the assumption that it is often a fortuitousness, or series of fortuitousness', that determine whether an accident becomes fatal or "just" leads to serious injury.

Prevention of accidents at work is one of the key areas of the current action programme for an improved working environment by year 2005.

In 1998 a new long-term comprehensive prevention programme was established. The new programme will be carried out by the Danish Working Environment Authority and the Social Partners in collaboration. It includes documentation, research, and further development of means of prevention, and is addressed to employers, employees, consultants, and industrial designers.

Currently, detailed plans have been set up for 1999 and 2000. At the same time specific campaigns are run for the sectors producing the highest frequency of accidents at work, with special attention to the jobs at highest risk and the equipment which is most often involved in the accidents.

In 1999, residential institutions are in focus, and in 2000 the metal industry will receive special attention. Equipment in special focus are cranes, elevators, forklifts, etc.

Netherlands: Serious accidents and fatal accidents at work have to be reported to the Labour Inspectorate; presumably also in these categories there is an under registration. Early in 1997 activities on two accident data bases have started (commissioned by the central government). One of these is a continuous person questionnaire; first results will be available in 1999. The second concerns a Injury Information System with data on accident victims from emergency rooms of 16 hospitals. First data have become available in 1998. Both the data bases however, present insufficient detailed information on the prevalence of accidents at work in relation to sector and occupation information. Estimates from the Injury Information System are that in 1997, there have been appr. 110.000 accidents at work in which hospital emergency rooms have been involved. In approximately 4,000 accidents at work, hospitalisation of workers involved was necessary.

The Ministry of Social Affairs and Employment therefore started, in a co-operation with the Central Bureau of Statistics, an accident registration (based on person questionnaire) using a larger sample size. Questions embodied will bring out accident data that is comparable to data in the EU Member States. Tests of the questionnaire will be in 1999; first data collection in 2000 and data presentation in 2001.

Data will serve as an input to policy development regarding the prevention of accidents at work.

Sweden: In the activity programme 1997-1999 for The Swedish Occupational Safety and Health Administration five prioritised supervision areas are identified. Among them are dangerous machinery and serious accidents.

Objectives for these areas 1997-1999 are:

Dangerous machinery:

The number of reported accidents caused by machinery shall be reduced by 20 %.

Serious accidents:

The number of people injured in serious accidents shall be reduced by 20 %.

Employers who conduct activities where there is a risk of serious accidents or violent occurrences shall regularly examine and analyse the risk and events that have occurred, using methods that take in consideration technical as well as psychological and organisational aspects.

United Kingdom: High risk industries (agriculture, mining, construction) are targeted through prioritised inspection and for a wide programme of initiatives under the Health and Safety Commission's strategic themes 1999-2002. In addition the main field inspectorate is making a study into the causes of vehicle and transport injuries in order to develop guidance and measures for the control of vehicle injuries.

5.4

WORK-INDUCED MUSCULOSKELETAL DISORDERS

5.4.1 Summary – work-induced musculoskeletal disorders

OVERVIEW

From a European picture, the ESWC-data highlights that 17% of the workers interviewed reported experiencing musculoskeletal disorders whilst at work.

The information collected in this project highlighted eight Focal Points reporting a need for the development of additional preventive actions to combat musculoskeletal disorders in the workplace. Only two Focal Points reported that their preventive measures taken/planned were considered sufficient to deal with the exposure indicator. Five Focal Points were unable to answer the question.

Six Focal Points reported a stable trend to musculoskeletal disorders whilst one Focal Point reported a decrease and five Focal Points reported an increase. In preparing their national report one Focal Point could not identify a trend regarding the exposure to musculoskeletal disorders and commented that more attention has to be given to this potential occupational risk.

The comparison of ESWC-data and national data showed that two Focal Points identified differences and a further one reported that there were no differences between their national data and the data from European sources. A total of twelve Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

Musculoskeletal disorders are a major source of occupational injuries in the working environment. Data in one national reports suggests that 50% of all work related diseases were associated with musculoskeletal disorders. Also, another Focal Point reported that musculoskeletal disorders continue to be a large public health problem despite the reduction of the workforce in traditional high risk occupations such as agricultural and manufacturing.

Occupational exposure to musculoskeletal disorders is one potential source that can result in an injury. Current lifestyles including healthy living, recreational and sporting activities also have a much more important causal connection, thereby contributing to the difficulty in establishing those that are solely attributable to workplace conditions.

One Focal Point reported that during July 1999 a TV campaign was initiated to promote good practice with the health topic musculoskeletal disorders. Information from these presentations will also be available on the Internet.

Repetition and monotony combined with working conditions such as low individual control of the work and high workplace can also lead to an increase in the risk of musculoskeletal disorders.

The positive technological development, which has reduced the lifting of heavy loads, has not had the expected decrease in the number of back disorders incidents amongst workers in the highest risk groups nor for the general working population as a whole, according to the comments made in one national report.

It is expected that still more and better mechanical lifting aids will be developed in the future. The introduction of CEN Standards, among other things, including the requirements for ergonomics and design of machinery, will promote this development. Furthermore, it is expected that the use of the technical aids will increase especially within larger and medium size companies reported one Focal Point.

It was highlighted in one national report the need for more knowledge about the combinations of different factors that may increase the risk of developing back disorders, e.g. lifting of heavy loads, awkward working postures, whole body vibrations, sudden movements etc. This additional knowledge is required in order to may improve prevention measures in the future.

Risk evaluation can be costly and time consuming activity particularly for small and medium sized organisations. In order to undertake concrete and immediate preventive actions one Focal Point suggested a participative approach to help such organisations.

Two Focal Points reported a lack of national data and the need to conduct surveys to collect such information.

SECTORS AT RISK

The European ESWC-data highlighted “Agriculture, Hunting, Forestry and Fishing” as the sector category with the highest percentage (35%) of workers reporting exposure to musculoskeletal disorders. From the information in their national reports the Focal Points most frequently identified the “Construction” sector considered at risk from musculoskeletal disorders in the workplace. Seven Focal Points recorded this sector category.

OCCUPATIONS AT RISK

The European ESWC-data highlighted “Skilled Agricultural and Fishery Workers” as the occupation category with the highest percentage (41%) of workers at risk to musculoskeletal disorders.

From the information collected in the national reports the occupation category most frequently identified by the Focal Points was “Labourers in Mining, Construction, Manufacturing and Transport”, as recorded in seven national reports.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

The ageing of the labour force combined with a gradual reduction in the level of fitness with age increases the need for technical aids together with new methods. These are especially required within the Health and Social work sector because of its relatively high number of elderly women employees and also within the building other heavy engineering related industries.

The prevalence of musculoskeletal disorders among the active and younger age categories does not reflect the impact of work related symptoms in the oldest age group.

PREVENTING EXPOSURE

As commented in several national reports there a number of measures that can be adopted and further developed to reduce the risk from musculoskeletal disorders in the workplace, including:

- further technical development of equipment;
- the need for evaluating methods for determining physical strain;
- improved ergonomic design of working equipment;
- improved training, information and supervision;
- improved work organisation with the emphasis on variation in loading and rest periods suitable for the individual;
- continued education during the whole working life of an individual;
- further research into the relationship between load and the risk of contracting an occupational disease; and
- preventive measures should also be focused on attitude and behaviour.

5.4.2 Work-induced musculoskeletal disorders – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
16	20	17

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose work causes muscular pains in the arms and legs are:

	Total (%)	Member State															
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK	
Yes	17	14	9	24	29	19	13	37	10	6	19	13	31	24	24	11	

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria
EL – Greece
E – Spain

B – Belgium
NL – Netherlands
S – Sweden

DK – Denmark
IRL – Ireland
UK – United Kingdom

FIN – Finland
I – Italy

F – France
L – Luxembourg

D – Germany
P – Portugal

Percentage of workers whose work causes muscular pains in the arms and legs by sector are:

	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Yes	17	35	18	10	28	15	20	18	6	10	13	13

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing

C-D: Mining, Quarrying and Manufacturing

E: Electricity, Gas and Water Supply

F: Construction

G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods

H: Hotels and Restaurants

I: Transport, Storage and Communications

J: Financial Intermediation

K: Real Estate, Renting and Business Activities

L: Public Administration and Defence; Compulsory Social Security

M-Q: Other Services

Percentage of workers whose work causes muscular pains in the arms and legs by occupations are:

	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
Yes	17	9	6	9	7	16	41	26	28	23	29

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

2: Professionals

3: Technicians and associate professionals

4: Clerks

5: Service workers and shop and market sales workers

6: Skilled agricultural and fishery workers

7: Craft and related trades workers

8: Plant and machine operators and assemblers

9: Elementary occupations

0: Armed forces

5.4.3 Work-induced musculoskeletal disorders – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to work-induced musculoskeletal disorders.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1 "Are there differences between the national data and the data from European sources?"				Question 2 "Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				<input type="radio"/>				<input type="radio"/>
Belgium*				<input type="radio"/>			<input type="radio"/>	
Denmark				<input type="radio"/>				<input type="radio"/>
Finland				<input type="radio"/>	<input type="radio"/>			
France			<input type="radio"/>				<input type="radio"/>	
Germany*	<input type="radio"/>							<input type="radio"/>
Greece*		<input type="radio"/>					<input type="radio"/>	
Netherlands*	<input type="radio"/>							<input type="radio"/>
Ireland			<input type="radio"/>				<input type="radio"/>	
Italy			<input type="radio"/>				<input type="radio"/>	
Luxembourg*				<input type="radio"/>	<input type="radio"/>			
Portugal			<input type="radio"/>				<input type="radio"/>	
Spain*			<input type="radio"/>				<input type="radio"/>	
Sweden*				<input type="radio"/>		<input type="radio"/>		
United Kingdom*				<input type="radio"/>			<input type="radio"/>	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Belgium: The figures are not comparable. In Belgium, to obtain benefit payments as a result of an occupational disease, an application has to be submitted to the Occupational Diseases Fund who will then examine whether or not the condition can be recognised as an occupational disease. It can only be recognised if the disease appears on a list of occupational diseases (closed system) or if the person concerned can demonstrate a causal link between the condition and the occupational activity (open system). The person concerned then has to provide proof of exposure to the risk cited, proof of the disease, and proof of the casual link between the exposure and the condition. Together they are referred to as the "mixed system".

Finland: No detailed additional national data available.

1997 Survey:

Musculoskeletal disorders were assessed in the *Work and Health Interview Survey of the FIOH in 1997* (Reference 14). The exact question was "During the last six months, have you had persistent or reoccurring psychological or physical symptoms or ailments which, in your view, are caused or made worse by your work?" Answers were coded using the *International Classification of Primary Care (1987)* (Reference 15), respondents reported:

- 4.3 % having had work-related problems of the lower back (L02, L03);
- 7.6 % with work-related problems of neck/shoulder (L01);
- 2.0 % with work-related problems of arm/hand (L09-12, L93); and
- 26% of respondents reported having re-occurring low back pain (work-related or not) which is less than the 33.7% who reported that work affected their low back in the ESWC-data.

These differences underline the importance of methodological differences in questionnaire.

Germany: The national data of 1997 reports a higher risk in the age category >55 years.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Netherlands: The overall average in the national data LFS is 33.1% of workers with complaints of musculoskeletal disorders. On average the POLS data tends to be higher than the ESWC-data concerning musculoskeletal problems.

Luxembourg: National data: The specifications Neck/shoulder and Arm/hand are treated in one column and not separated as two different locations. EU-data is based on the random principle. National data is focused on the concerned population. For that reason there is no comparison between the two sources.

Sweden: In the ESWC the following indicator construction was used: *"Does your work effect your health?"* Answers could be *"Yes"* for *"backache"* or *"muscular pain in arms and legs"*. The Swedish Working Environment Survey has several questions for the same problem area. The respondents are asked if they have pain in certain parts of the body after work: *"lower parts of your back"*, *"upper parts of your back and neck"*, *"shoulders or arms"*, *"wrists or hands"*, *"hips, legs, knees or feet"*. For every part of the body the respondents are asked how often the eventual pain appears. *"Every day"* and so on. The Swedish questions specify the part of the body and offer a time scale for the respondent to make his statement more precise. These indicators do not however let the respondent connect pain to the working environment. The only reference to the job is *"after work"*. (That is intentional. The connection between exposures and for example pain is studied statistically.) It is important to notice and respect that the answer *"Yes"* for backache is not equal to the sum of all those responses that say they at some time experience pain in the back. They may have answered *"No"* rather than *"Yes"* to the question if their health is affected by the job.

United Kingdom: There is no comparable data for work-related musculoskeletal disorders. The national data on work-related musculoskeletal disorders is from the survey of Self-reported work-related illness which asks: *"In a few words, how would you describe the illness or physical problem that was caused or made worse by your work?"* The responses to this question were then coded into different disease groups. The data in the national table shows the percentage of cases with a work-related illness whose back was affected, upper limbs or neck were affected and those whose lower limbs were affected. An individual could report up to four different work-related illnesses.

The EU corresponding question in the EU survey asks: Does your work affect your health? Answer: Yes, backache. Yes, muscular pain in arms or legs?

Austria, Denmark, France, Ireland, Italy, Portugal and Spain provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: the *Work and Health Interview Survey* (Reference 17) identified the following differences in:

Sectors:

D - Manufacturing (neck/shoulder); and hotels and restaurants (neck/shoulder); and

H – Hotels and restaurants (neck/shoulder)

Occupations:

24 - Other professionals (neck/shoulder);

32 - Life science and health associate;

51 - Personal and protective service workers (neck/shoulder);

52 - Models, sales persons and demonstrators (lower back);

74 - Precision, handicraft, craft printing and related (arm/hand); and

73 - Other craft and related trades workers.

Sweden: The sectors highlighted in the EU data correspond roughly to the sectors highlighted in the Swedish data. The occupations highlighted in the EU data correspond roughly to the occupations highlighted in the Swedish data.

Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and United Kingdom provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Finland: Aggregation of arm and leg symptoms in the EU data is problematic because these problems occur in different types of occupations.

Netherlands: Although both sources (POLS and ESWC) refer to the same physical problem, it is probably not justified to compare the data as they are. The ESWC-data refer to specific disorders (backache and muscular pain in the arms or legs and neck/shoulder problems are not included) and the data from the POLS refer to general musculoskeletal complaints.

Ireland: To date there are no studies available relating to this topic. The lack of information highlights the need for a survey in this area. The Focal Point is supportive of such an initiative.

Luxembourg: The state of Occupational Health (OH) report 1998, analyse from the several activity reports or yearly reports from the Labour Inspectorate, the Occupational Accidents Insurance (AAA), the Health insurance pension fund, the Social Insurances, the Health Ministry, the Social Ministry and the Stated/Eurostat publications, did not bring significant and comparable data for use in the financial sector.

Sector 27/28: The trend as well as the exposed population are decreasing

1998: 896 illness cases

1997: 1128 cases

1996: 1418 cases

1989: 2166 cases

The rate days/case remains almost stable 17,85 days/case

The rigorous tracking of the state of occupational safety and health by the company's own integrated medical department shows that with accurate and complete data, the target groups are located and that preventive actions are successful.

Portugal: The lack of information on this subject highlights the need to carry out a national survey covering this topic.

5.4.4 Work-induced musculoskeletal disorders – sectors at risk

The six most frequently identified sectors which the Focal Points* considered to be most at risk from work-induced musculoskeletal disorders are listed below:

45 Construction;

01 Agriculture, Hunting and related service activities;

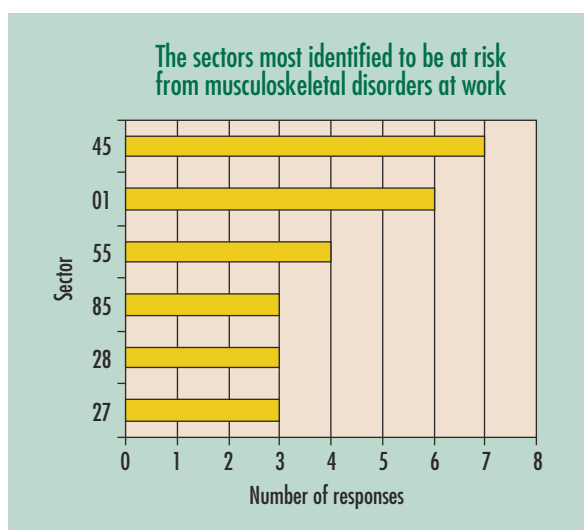
55 Hotels and Restaurants;

85 Health and Social Work;

28 Manufacture of fabricated Metal Products, except Machinery and Equipment; and

27 Manufacture of Basic Metals.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹³⁸ = 57

From the information in their national reports the above graph illustrates that the Focal Points most frequently identified the "Construction" sector as being risk from musculoskeletal disorders in the work place. Seven Focal Points recorded this sector category. The second most frequently identified sector was "Agriculture, hunting and related services activities".

The European ESWC-data highlights the "Agriculture, Hunting, Forestry and Fishing" sector category with the highest percentage of workers most at risk to musculoskeletal disorders.

5.4.5 Work-induced musculoskeletal disorders – occupations at risk

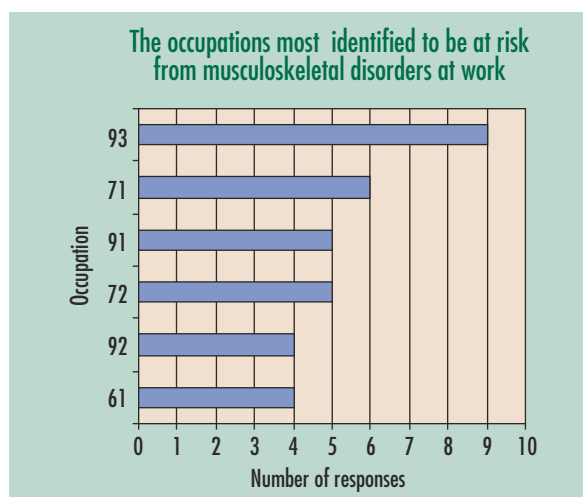
The six most frequently identified occupations which the Focal Points* considered to be most at risk to work-induced musculoskeletal disorders are listed below:

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹³⁸ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

93 Labourers in mining, construction, manufacturing and transport;
71 Extraction and building trades workers;
91 Sales and services elementary occupations;
72 Metal, machinery and related trades workers;
92 Agricultural, fishery and related labourers; and
61 Skilled agricultural and fishery workers.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹³⁹ = 47

The European ESWC-data highlighted “Skilled Agricultural and Fishery Workers” as the occupation category with the highest percentage of workers at risk to musculoskeletal disorders.

From the information collected in the national reports, the occupation category most frequently identified by the Focal Points was “Labourers in Mining, Construction, Manufacturing and Transport”, as recorded in seven national reports.

5.4.6 Work-induced musculoskeletal disorders – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to musculoskeletal disorders in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to musculoskeletal disorders and company size to be given (see Appendix 5a for the number of responses).

5.4.7 Work-induced musculoskeletal disorders – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk to musculoskeletal disorders.”

Data provided by the Focal Points did not allow a European picture with regard to musculoskeletal disorders and gender to be given (see Appendix 5a for the number of responses).

5.4.8 Work-induced musculoskeletal disorders – age category at risk

Each Focal Point was asked to: “State which age category has a particular high risk to musculoskeletal disorders in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to musculoskeletal disorders and age categories to be given (see Appendix 5c for the number of responses).

5.4.9 Work-induced musculoskeletal disorders – employment status at risk

Each Focal Point was asked to: “State if the employment status is of importance.”

Data provided by the Focal Points did not allow a European picture with regard to musculoskeletal disorders and employment status to be given (see Appendix 5d for the number of responses).

¹³⁹ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

5.4.10 Work-induced musculoskeletal disorders – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of musculoskeletal disorders over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (1 Focal Point): **Luxembourg**

Stable Trend (6 Focal Points): **Austria, Belgium, Denmark, Finland, Greece and Netherlands***

Increased Trend (5 Focal Points): **France, Germany, Portugal, Spain and Sweden**

Category “Other” (3 Focal Points): **Ireland, Italy and United Kingdom**

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

*This trend is based on data collected 1996-1997.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Belgium: There is no trend with regard to the exposure, but more attention has been given to the subject.

Denmark:

Trends: Lifting heavy loads

Unfortunately, the positive technological development, which has reduced the lifting of heavy loads, has neither implied the expected decrease in incidence of back disorders among workers in the highest risk groups nor for the working population as a whole. Actually, the amount of reported cases of back disorders has been stable for the latest six years. A similar tendency is observed from other data sources, for example the registry of early retirement due to health reasons.

The absence of success with prevention of back disorders emphasises the need to view the problem from a wider angle, i.e. the preventive measures should include more factors than just the load of the burden. It goes especially for prevention of back disorders in the health sector.

It is expected that still more and still better technical aids will be developed in the future. The introduction of CEN Standards, among other things including requirements for ergonomics and design of machinery, will promote this development. Further it is expected that the use of the technical aids will increase especially within larger and medium size enterprises.

The ageing of the labour force and basic fitness diminishing increase the need for technical aids combined with new methods especially within the Health and Social Work Sector (with its relatively high number of elderly women employees) and within the building industry and other heavy industries.

More knowledge about combinations of different factors that may increase the risk for developing back disorders, e.g. lifting of heavy loads, awkward working postures, whole body vibrations, etc. may improve prevention in the future.

Trends: Repetitive work

Repetitive work is primarily related to an increased risk of disorders in the overloaded part of the body, most frequently in shoulders, arms and back. All types of repetitive work include repetition of the same movements within at relatively short period of time. The hazard of repetitive work is determined by how often the same movements are done and under which circumstances they are done. Particular problems occur when the work at the same time includes short cycle repetition and is force requiring. Repetition and monotony combined with working conditions like low individual control of the work, high workpace also increase the risk.

The risk for musculoskeletal disorders by repetitive monotonous work can be reduced by a combination of:

- Technological development;
- Ergonomics design of working equipment;
- Improved work organisation with emphasis on variation in loading and rest periods suitable for the individual workers capacity; and
- Education during the whole work life.

More research is needed. Research of specific occupational groups has provided a highly relevant knowledge about risk occupations and risk factors, but the relationship between load and the risk of contracting an occupational disease is less well elucidated.

Development of further preventive action is necessary, especially in relation to work involving intensive use of computer mouse. In the future it is expected that too little physical use of the body will raise significant problems, problems which should be taken into account when planning future work involving VDUs.

Germany: Musculoskeletal disorders are particularly important on account of their high morbidity rate and also on account of the high economic costs. Preventive measures must be aimed at attitude as well as behaviour.

Sweden:

Lower part of back:	Male. 1991 19,7% 1997 21,6%.	Female. 1991 22,5% 1997 25,8%.
Upper part of back, neck:	Male. 1991 18,7% 1997 22,0%.	Female. 1991 32,3% 1997 38,1%.
Shoulders, arms	Male. 1991 19,2% 1997 21,4%.	Female. 1991 30,0% 1997 34,5%.
Wrists, hands	Male. 1991 8,7% 1997 10,1%.	Female. 1991 13,7% 1997 17,7%.
Hips, legs, knees, feet	Male. 1991 18,9% 1997 20,2%.	Female. 1991 21,2% 1997 24,3%.

Austria, Finland, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and **United Kingdom** provided no additional information in relation to the trends in the workplace.

5.4.11 Work-induced musculoskeletal disorders – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by two Focal Points: **Greece** and **Netherlands**

Development of additional preventive action was indicated by eight Focal Points: **Austria, Belgium, Denmark, Finland, Luxembourg, Portugal, Spain** and **Sweden**

The category “Other” was indicated by no Focal Points: -

No response: **France, Ireland, Italy** and **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Risk evaluation is a costly and time-consuming activity in small and medium sized enterprises. In order to undertake concrete and immediate action preventive actions are recommended in a participative approach with the help of the employees. Employees are best aware of the risks and the possible preventive measures to be taken.

The preventive actions should be focussed on the causes of the problems. Occupational exposure is only one of the elements that can cause problems. It is expected that a healthy living, sports and leisure activities have a much more important causal connection.

Denmark: About 50% of all work related diseases reported to the National Working Environment Authority are musculoskeletal disorders. In absolute figures, this disease category counts for about 7,000 to 8,000 cases per year. This number has been relatively constant during the latest 6 years.

Between 5,000 to 6,000 cases per year report heavy work/lifting heavy loads as the exposure. For 3,500 to 4,500 cases repetitive work is reported as exposure. In many cases both factors together with strenuous postures are mentioned. About 40 % of the work related musculoskeletal diseases reported to the National Working Environment Authority are located to hand/arm, about 27 % to the back, 24 % to shoulder/neck, 5 % to legs and hip, and 4 % to other parts of the body e.g. the head or are unknown.

About 16 % of all accidents at work reported annually (N = approx. 55.,000) are related to sudden lifting. Most of these accidents result in low back pain.

Actions taken to reduce Work Related Musculoskeletal Disorders

The Social Partners, the National Working Environment Authority, and working environment professionals together with the local safety organisation and the enterprises attempt to improve the working environment at the workplaces and reduce the risk for musculoskeletal disorders. The recent obligation to do a Work Place Assessment (APV) is considered a key point to achieve this goal.

The strategy is following:

- Collection of knowledge from legislation, research and practice
- Transformation of knowledge to operational information
- Distribution of information to user groups

- Special efforts within selected sectors with a high rate of musculoskeletal problems
- Special efforts to manufactures of technical equipment e.g. cleaning wagons
- General inspection by labour inspectors

In 1998 and 1999 special effort has been made within the following sectors:

- Health and Social work (heavy lifting of persons)
- Foundries (heavy lifting and heavy work)
- Laundries (heavy lifting and repetitive work)
- Cleaning (heavy lifting and repetitive work)
- Transportation (heavy lifting and heavy work)
- Fish industry (heavy lifting and repetitive work)
- Processing of meat (repetitive work)
- Processing of preserving and food products (heavy lifting, working postures and repetitive work)

The effort within the fish industries and meat processing industry is established on initiatives from the Ministry of Labour.

In the nearest future special attention on musculoskeletal problems are planned to comprise the metal industry, the chemical industry, and work at VDU units.

The Labour inspectors have in the period 1995 – 1998 given almost 900 improvement notices and almost 1,100 information notices about lifting heavy loads/heavy work. For strenuous working postures the corresponding numbers are 788 and 990, respectively, and for repetitive work 58 improvements notices and 240 information notices, respectively.

Finland: Musculoskeletal disorders continue to be a large public health problem in Finland despite the reduction of workforce in traditional high-risk occupations, e.g., agricultural work and manufacturing. Musculoskeletal disorders have many contributing factors and preventive action must therefore be broad-based, including working conditions, early detection and treatment, and life style. Examples in the first category include reduction of heavy lifts and promotion of safe working practices through information. Important life style factors include exercise patterns and body weight.

Luxembourg: In general, there should be an improvement of Public Health and this from the days of youth on. During July 1999, a TV campaign will be initiated in Luxembourg where six PR-TV spots on models of good practice (MOGP) with the topic work health promotion related to musculoskeletal disorders will be presented during a week. The presentations of these forms will also be available on the Internet.

Sector 27/28

The traditional instruction revealed as not adapted to the needs, no relevant outcome had been noticed and this for a period over 25 years. The new approach is formation on site assumed by a qualified instructor in a common dialog with the worker himself. This is the basic structure that might be extended to about eight OSH specialists:

- trade union representative
- hierarchical superior
- safety manager
- occupational psychologist
- ergonomist
- occupational health (OH) physician

Portugal: A detailed study on the subject is needed in order to identify the causes and adequate preventive measures.

Spain: Preventive actions should include:

Ergonomic designs: work places, machines and tools
 Workers training and information
 Re-designs: tasks, rotation and breaks implementation
 Evaluation methods of physical strain

Sweden: The implementation of the new provisions on ergonomics for the protection of musculoskeletal disorders (Ordinance AFS 1998:1 from the Swedish National Board of Occupational Safety and Health) calls for more distinct supervision activities. Action against musculoskeletal disorders is included in the prioritised supervision areas in the plan of activities for the Swedish Occupational Safety and Health administration for the period 1997-1999.

Austria provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Netherlands: Prevention of physical exertion/musculoskeletal disorders in the health care services will be in focus in the next years.

5.5

STRESS

5.5.1 Summary – stress

OVERVIEW

From a European picture, the ESWC-data reports 28% of the workers interviewed in the survey reported experiencing stress at work.

A total of ten Focal Points reported the need for the development of additional actions to combat stress at work. One Focal Point reported a stable trend to stress whilst nine said that the trend of workers suffering stress in the workplace had increased. The remaining five Focal Points were unable to establish a particular trend.

The comparison of ESWC-data and national data showed that three Focal Points identified differences and a further two reported that there were no differences between their national data and the data from European sources. A total of ten Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

One Focal Point commented how stress at work was often considered to be a white-collar phenomenon. However, causes of stress can be found in purely physical working conditions brought on by the environmental conditions such as noise, toxic vapours, heat, or even difficult working postures. It has long been known that shift work is particularly vulnerable to stress. Job insecurity can also add to stress problems. This was also supported in another national report where the comment was made that personnel rearrangements reflecting the macro-economic depression and competition create insecurity and risk of stress among employees. This national report suggested that serious reconsideration of work life arrangements and work organisation was needed.

In one national report, studies have shown that stress played a part in one out of three cases of long term occupational sickness cases. Research showed that “pure” stress, without any other compliant, was the fourth largest cause of occupational sick leave.

According to one national report, stress has increased because work in factories, offices and institutions had changed substantially over the past few years. Work is becoming more varied but also at the same time more demanding.

One Focal Point reported a need for a national initiative on stress at work, which would include an awareness programme, policy development, research, development of tools and pilot implementation of stress prevention programmes.

Exposure to stress and its consequences has been included in one national programme for a clean working environment by the year 2005. Also, improved methods for a better and more valid overview of the incidences of stress reactions as well as a more cause-seeking study are under consideration.

SECTORS AT RISK

From the ESWC survey, “Hotels and Restaurants” was the sector category identified with the highest percentage (34%) of workers reporting stress at work.

From the information collected in the national reports as part of this study, the Focal Points most frequently identified the following two sector categories as being at risk to stress in the workplace:

- Health and Social Work; and
- Education.

Both of these sectors were identified in seven of the ten national reports that presented sectors at risk from stress.

OCCUPATIONS AT RISK

From the European survey the ESWC-data highlights the occupation category “Professionals” as being most at risk from stress at work with a response rate of 39%. The findings from this project shows that the most frequently identified occupation in the national reports was “Life Science and Health Professionals”. This occupation was identified by seven of the ten Focal Points that reported an occupation category most at risk.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

One Focal Point was able to identify specific age categories most at risk but commented that stress frequently affects young workers because they have to prove themselves and likewise it affects the older workers because they have to demonstrate they can still cope at work.

PREVENTING EXPOSURE

As commented in several national reports there are a number of measures that can be adopted and further developed to reduce the risk from stress at work, these measures include:

- implement work organisation procedures;
- promote worker participation;
- introduce job rotation work, regular breaks; and
- provision of training and information to workers about relaxation techniques to reduce stress.

The comment was made by one Focal Point that some of the new employment categories such as telework and temporary work could be a more effective preventive solution than traditional stress management techniques.

One national report said that action against stress and stress related disorders was included in their plan of prioritised activities for administration in the period 1997-1999. Another national report stated that a campaign addressing stress issues in the work place will commence during 2000/2001.

5.5.2 Stress – a European picture

This section provides a European picture using the ESWC-data.

Work category

Employed (%)	Self employed (%)	All workers (%)
27	33	28

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers whose work causes stress problem are:

	Total (%)	Member State															
		A	B	DK	FIN	F	D	EL	NL	IRL	I	L	P	E	S	UK	
Yes	28	27	23	25	34	24	24	50	38	12	41	38	26	22	38	27	

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

Percentage of workers whose work causes stress problems by sector are:

	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Yes	28	27	27	25	27	23	34	27	31	31	29	30

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing C-D: Mining, Quarrying and Manufacturing
 E: Electricity, Gas and Water Supply F: Construction
 G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods
 H: Hotels and Restaurants I: Transport, Storage and Communications
 J: Financial Intermediation K: Real Estate, Renting and Business Activities
 L: Public Administration and Defence; Compulsory Social Security M-Q: Other Services

Percentage of workers whose work causes stress problems by occupations are:

	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
Yes	28	37	39	29	22	28	28	24	28	21	27

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

2: Professionals

3: Technicians and associate professionals

4: Clerks

5: Service workers and shop and market sales workers

6: Skilled agricultural and fishery workers

7: Craft and related trades workers

8: Plant and machine operators and assemblers

9: Elementary occupations

0: Armed forces

5.5.3 Stress – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to stress at work.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1				Question 2			
	"Are there differences between the national data and the data from European sources?"				"Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?"			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria				<input type="radio"/>				<input type="radio"/>
Belgium			<input type="radio"/>				<input type="radio"/>	
Denmark				<input type="radio"/>				<input type="radio"/>
Finland	<input type="radio"/>				<input type="radio"/>			
France			<input type="radio"/>				<input type="radio"/>	
Germany*	<input type="radio"/>							<input type="radio"/>
Greece*		<input type="radio"/>					<input type="radio"/>	
Netherlands			<input type="radio"/>				<input type="radio"/>	
Ireland			<input type="radio"/>					<input type="radio"/>
Italy			<input type="radio"/>				<input type="radio"/>	
Luxembourg	<input type="radio"/>						<input type="radio"/>	
Portugal			<input type="radio"/>				<input type="radio"/>	
Spain*				<input type="radio"/>				<input type="radio"/>
Sweden*		<input type="radio"/>				<input type="radio"/>		
United Kingdom*				<input type="radio"/>			<input type="radio"/>	

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Belgium: In 1993 a study was done, commissioned by the Federal Minister of Employment and Labour, into stress as a cause of sick leave. The study was done together with the Christian Mutual Societies and the National Research Institute for Working Conditions.

The first stage involved the illness data from 1280 cases of people who had been long-term absent from work over a period of 6 months in the district of Eeklo. The illness data were analysed and compared with the data for the total population in the region. In a second stage, 100 cases of stress were taken from the files and tested against as many people from the normal population. In a third stage a random sample of 25 stress cases were taken and compared in pairs with as many people from the general population.

The research shows that “pure” stress, without any other complaint being observed, is the fourth largest cause of sick leave at 10.3%. Other important causes of sick leave were problems with the locomotor apparatus (27.5%), accidents at work and at home (17%), and infectious diseases (11.6%).

Stress also plays an important role in combination with other physical or psychiatric conditions. These are estimated as being 25% of the long-term sick leave. In total stress plays a part in one third of the cases of long-term sick leave.

The cost of pure stress at work is at least 10,000 million Belgian francs (250,000,000 Euro) in terms of employees being unfit for work. And no account is taken here of the long duration of the condition. And then there are also the costs of mixed forms of stress.

In 1997 research was done by an inter-company medical service, IDEWE, into the prevalence of back disorders, absenteeism, working conditions and the psycho-social burden among 360 employees in seven homes for the elderly in Flanders. An internationally validated questionnaire was used and the figures were compared with those from a similarly composed reference group.

The study showed that job satisfaction, feelings of burnout, psychological unease, sick leave and back complaints were strongly related to unfavourable working conditions. The job dissatisfaction of employees with a restricted power of decision, for example, was 10 times higher than with employees who had a greater say over their work. Furthermore, it seems that employees with the least control over their work had sick leave rate that was 54% higher than their colleagues with high control. The work pressure did not seem determinant, but rather the combination of a lack of control. Increasing control is mainly a question of organisational approach.

Research done between 1996-1998 by the Flanders Technology Foundation on the occurrence of stress in teaching staff shows that the average stress scores lie far above the values of other professional groups. A substantial proportion of teaching staff have to contend with stress and nervous exhaustion problems. More than others, teachers feel apathetic, derive little pleasure from their normal activities, have concentration problems and lose confidence in themselves.

The research results show that the occurrence of stress is dependent on the internal school organisation and personnel policy. Schools with a culture of consultation see teaching as teamwork that everyone has a say in, and whereby they can find mutual support from their colleagues. Team oriented schools are 1.7 times more likely to be in the “low stress schools” category and half as likely to be counted as “high stress schools”.

The style of management is also a stress determining factor. The more authoritarian schools are 1.7 times more likely to be typified as a “stress school”.

Another factor that influences the degree of stress is the way in which the extra, non-teaching related work is distributed. If the distribution is quite balanced, the likelihood of being included in the “high stress schools” category is twice as low as when the distribution is improvised.

Finland: There are three different national data sources the level of report disorder between them differed markedly from the ESWC-data:

- *Work and Health Survey of the FIOH 1997*, estimated that acute/passing stress is caused or made worse by work only in 5.6% of cases;
- *Finnish Quality of Worklife Survey 1997* (Reference 16), estimated that the overall level of psycho-social disorders is increasing in 31% of all occupations; and
- *Burnout among Finnish Working People FIOH 1997* (Reference 17), estimated that about 50% of the respondents have some “burnout” symptoms.

Germany: The national data reports a higher disorder level.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Luxembourg: The ESWC-data highlights the following:

	stress %	fatigue %	irritability %
Male:	37.5	13.6	10.1
Female:	35.5	15.3	12.0
Age 25-54 years:	38.0	14.9	10.9
Sectors:			
C-D: Mining, quarrying and manufacturing	54.7	18.9	13.2
E: Electricity	42.9	28.6	—
F: Construction	23.5	20.6	2.9
H: Hotels and restaurants	35.3	23.5	23.5
J: Financial intermediation	44.2	13.5	9.6
L: Public administration	32.8	9.0	23.9
M-Q: Other services	45.0	16.5	11.9
Occupations:			
1: Legislators, senior officials and managers	51.0	14.3	16.3
2: Professionals	52.6	15.8	19.3
3: Technicians and associated professionals	42.1	13.2	11.8
7: Craft and related trades workers	36.6	18.3	7.3
8: Plant and machine operators, assemblers	23.8	28.6	4.8
9: Elementary occupations	24.1	18.5	11.1
Employment status:			
1: Employment on permanent basis	37.6	13.8	10.5
3: Temporary employment agency contract	36.4	9.1	18.2
4: Apprenticeship or other training schemes	71.4	42.9	—

Ireland: Two sets of data are different.

Sweden: In the ESWC the following indicator construction was used: "Does your work effect your health?" Answers could be "Yes" for "stress" or "overall fatigue" or "irritability". The Swedish Working Environment Survey has a few questions for the same problem area but none of them really corresponding the ESWC indicators. The respondents are asked if they after work experience the following: "physical exhaustion", "difficulties to sleep because of thoughts about work", "feeling ill at ease going to the job", "difficulties to dismiss job from thoughts". The answering scale for all these questions is "Every day", "Every second day" and so on. This answering scale gives the respondent the opportunity to be more precise than if the answers were limited to "Yes" or "No". The Swedish question about "physical exhaustion" is of course not identical with "overall fatigue".

The Swedish Working Environment Survey is based on more than 10,000 respondents.

United Kingdom: There is no comparable data for work-related stress disorders. The national data on work-related stress disorders is from the survey of Self-reported work-related illness which asks: "In a few words, how would you describe the illness or physical problem that was caused or made worse by your work?" The responses to this question were then coded into different disease groups. The data in the national table shows the percentage of cases with a work-related illness which was either "stress, depression or anxiety" or a "stress ascribed illness". An individual could report up to four different work-related illnesses. The corresponding question in the EU survey asks: "Does your work affect your health?" Answer: "Yes, stress. Yes, overall fatigue. Yes, irritability".

Austrian, Denmark, France, Ireland, Italy, Portugal and **Spain** provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION QUESTION 2:

Finland: The *Work and Health Survey* identified the following differences in the following:

Sectors:

A – Agriculture;
M – Education; and
N - Health and Social work.

Occupations:

21 - Teaching professionals;
33 - Health associate professionals; and
61 - Skilled agricultural workers.

Germany: The different answer categories makes the national data incompatible with the ESWC-data.

Ireland: Two sets of data are different.

Sweden: The indicators in the data from the European source differ quite substantially from the indicators in the national data, therefore one would not expect the results to be the same. Furthermore, both the national data and the EU-data contain several indicators, which complicates the comparison. However, in a broad sense the sectors and occupations highlighted are roughly the same.

Austria, Belgium, Denmark, France, Greece, Italy, Luxembourg, Netherlands, Portugal, Spain and **United Kingdom** provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Belgium: Stress at work is often considered to be a white-collar phenomenon. Causes of stress can however be found in purely physical working conditions (noise, toxic vapours, radiation hazard, or difficult body postures, etc.). It has long been known that shift work is an important source of stress. Job insecurity also puts people under stress. In difficult economic climates, or with impending rationalisation and imminent job losses people are stressed. There are an increasing number of temporary employees and agency staff who have such job insecurity embedded into their contracts of employment. Finally, the working atmosphere plays an important role in the development of stress: lack of trust, more communication and co-operation, unhealthy rivalry or open conflict make the job harder to contend with.

Source: Chased by work. Work and stress in changing companies. Flanders Technology Foundation 1997.

Germany: The questions of the ESWC and of the German SOEP do not coincide exactly.

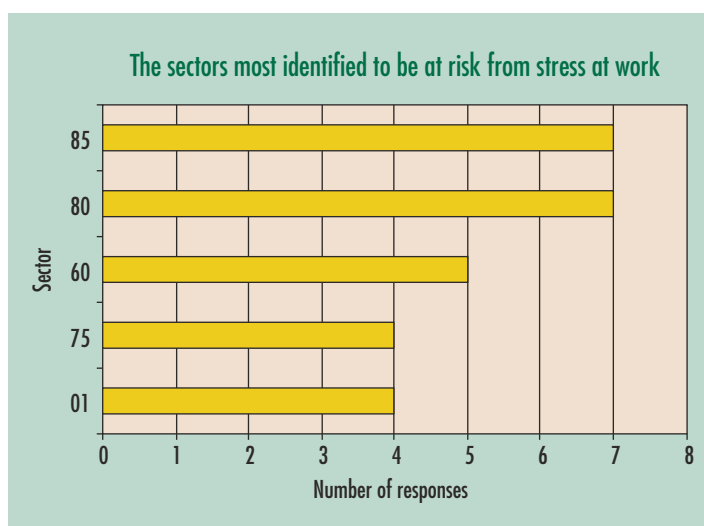
Portugal: There is need to carry out a national survey covering this subject.

5.5.4 Stress – sectors at risk

The five most frequently identified sectors which the Focal Points* considered to be most at risk from stress are listed below:

- 85 Health and Social Work;
- 80 Education;
- 60 Land Transport, Transport via Pipelines;
- 75 Public Administration and Defence, Compulsory Social Security; and
- 01 Agriculture, Hunting and related service activities.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹⁴⁰ = 65

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹⁴⁰ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

From the information collected in the national reports as part of this study, the Focal Points most frequently identified the following two sector categories as being at risk to stress in the workplace:

- Health and Social Work; and
- Education.

Both of these sectors were identified in seven of the ten national reports that presented sectors at risk from stress.

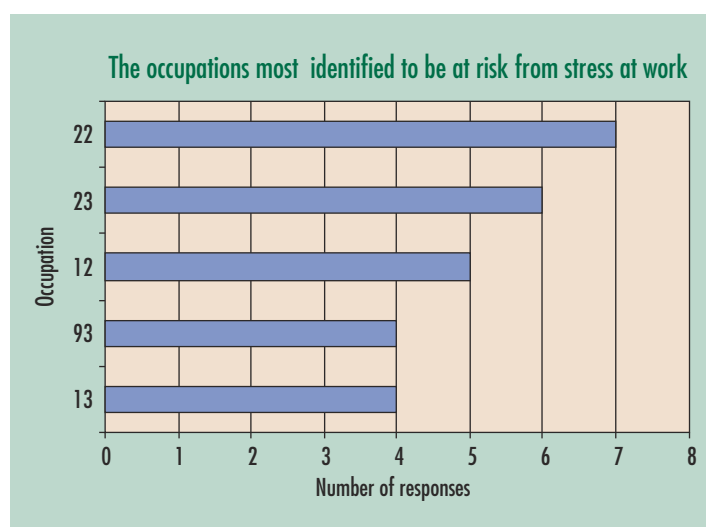
From the ESWC survey “Hotels and Restaurants” was the sector category identified with the highest percentage (34%) of workers reporting stress at work.

5.5.5 Stress – occupations at risk

The five most frequently identified occupations which the Focal Points* considered to be most at risk to stress in the workplace are listed below:

- 22 Life science and health professionals;
- 23 Teaching professionals;
- 12 Corporate managers;
- 93 Labourers in mining, construction, manufacturing and transport; and
- 13 Managers of small enterprises.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹⁴¹ = 52

From the European survey, the ESWC-data highlights the occupation category “Professionals” as being most at risk to stress at work. The finding from this project shows that the most frequently identified occupation within the national reports was “Life Science and Health Professionals” which was identified by seven of the ten Focal Points that reported an occupation category most at risk.

5.5.6 Stress – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to stress in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to stress and company size to be given (see Appendix 5a for the number of responses).

5.5.7 Stress – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk to stress.”

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹⁴¹ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

Data provided by the Focal Points did not allow a European picture with regard to stress and gender to be given (see Appendix 5b for the number of responses).

5.5.8 Stress – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk to stress in the workplace.”*

Data provided by the Focal Points did not allow a European picture with regard to stress and age categories to be given (see Appendix 5c for the number of responses).

5.5.9 Stress – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to stress and employment status to be given (see Appendix 5d for the number of responses).

5.5.10 Stress – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers suffering stress over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (0 Focal Point): -

Stable Trend (1 Focal Point): **Greece**

Increased Trend (9 Focal Points): **Austria, Belgium, Finland, Germany, Ireland, Italy, Portugal, Spain and Sweden**

Category “Other” (5 Focal Points): **Denmark**, France, Netherlands, Luxembourg and United Kingdom**

“Other Response” includes no response/unable to respond due to unavailability of national data/incompatibility of national data.

** Trend regarding the number of workers exposed over the last 3-5 years is unknown.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Belgium: Work in factories, offices and institutions has changed substantially over the past few years. Computerisation and new working methods are continually coming into play. Quality, customer service, flexibility and delivering on time are essential market requirements for companies, and require the internal methods and organisations to be adjusted. This all requires a considerable ability to adjust on the part of the company management, and also by the employees. Work is becoming more varied but also more demanding.

Because personnel costs are high, production and the provision of services is done with fewer people. Shrinkage and reduced costs are the order of the day. In many companies and institutions, the working tempo has increased sharply over the past few years.

As a result of these developments, increasing numbers of employees feel that they can no longer cope. Irritation, concentration problems, sleep disturbances and health complaints such as chronic fatigue, back complaints, high blood pressure etc. This trend will probably continue over the next few years.

Ireland: Trend increased due to the marginalisation of labour, intensification of work, changes in work technology, new technology, increasing competition, the rise in shift work, reductions in job tenure.

Sweden

<i>Physically exhausted:</i>	Male. 1991 34,5% 1997 39,9%.	Female. 1991 38,8% 1997 44,8%.
<i>Hard to sleep because of job:</i>	Male. 1991 12,7% 1997 15,9%.	Female. 1991 12,7% 1997 18,3%.
<i>Ill at ease going to the job:</i>	Male. 1993 14,2% 1997 13,9% (stable)	Female. 1993 12,1% 1997 16,5%.
<i>Cannot dismiss job from thoughts:</i>	Male. 1991 38,2% 1997 43,9%.	Female. 1991 35,4% 1997 45,0%.

Austria, Denmark, Finland, France, Germany, Greece, Netherlands, Italy, Luxembourg, Portugal, Spain and United Kingdom provided no additional information in relation to the trends in the workplace.

5.5.11 Stress – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by no Focal Point: -

Development of additional preventive action was indicated by ten Focal Points: **Belgium, Denmark, Finland, Greece, Ireland, Italy, Portugal, Spain, Sweden and United Kingdom**

The category “Other” was indicated by one Focal Point: **Netherlands**

No response: **Austria, France, Germany and Luxembourg.**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: The Ministry of Employment and Labour has played a very active role for a number of years in developing a policy to prevent stress at work. After an initial exchange of ideas on a national level, during the Belgian presidency of the European Union in 1993 an international conference was organised in conjunction with the Foundation in Dublin. In 1995 this conference was followed by a colloquium where a draft Royal Decree to introduce a stress policy in companies was proposed.

In implementation of the conclusions of the European Conference, a number of scientific studies were done such as a survey - investigation of practical initiatives taken by companies and setting up an instrument for pre-diagnosis.

The Act of 4 August 1996 on the well-being of employees in the performance of their work makes the consequences of the psycho-social burden caused by work a compulsory aspect of health policy in companies.

On 30 March 1999 the organisations who sit in the National Labour Council concluded a collective labour agreement on a policy to prevent stress at work (declared binding by the Royal Decree of 21 June 1999). The employer is bound to introduce a policy to collectively prevent and remedy stress caused by the work. To this end the employer has to identify any stress risks during the general analysis that he has to do of the work situation. This analysis relates to the job, working conditions and circumstances, and industrial relations.

The application of the regulations, as given in the previous points, involve an “obligation of effort” to identify stress risks in the work situation and to adopt a preventive approach. The practical implementation is left to the creativity of management, safety experts, and employees’ representatives in the company, and consultation between them.

Stress is not currently recognised by the Occupational Diseases Fund. An application may be submitted under the “Open system”.

Denmark: Some knowledge on stress exists. However, whether stress has an impact on cardiovascular diseases, cancer, allergy and other of the serious and common diseases remains still to be proved.

Stress as response to inadequate psycho-social exposures is included in the current programme for a clean working environment by the year 2005. Improved methods for a better and more valid overview of the incidence of stress reactions as well as more cause-seeking studies are under consideration.

Finland: The personnel rearrangements reflecting the macro-economic depression and competition create insecurity and risk of stress among some employees, sectors and occupations. Serious reconsideration of work life arrangements and work organisation as well as cultural and work-related values is needed. Training and education of labour inspectors/inspectorates and occupational health workers is beginning in Finland.

Italy: Some new employment status (telework, temporary workers etc.) could be more effective than stress management.

Portugal: The lack of information highlights the need for a national survey.

Spain: Further action should include:

General workers training and information

Workers training in techniques to deal with stress relaxation

Work organisation procedures implementation (rotation, task identification, breaks)

Participation systems development

Sweden: Action against stress and stress related disorders is included in the prioritised supervision areas in the plan of activities for the Swedish Occupational Safety and Health administration for the period 1997-1999.

United Kingdom: A three-year campaign starts 2000/2001.

Greece, Ireland and Luxembourg provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

Additional comments submitted by the Focal Points:

Netherlands: Related information is available on the concept of burnout. The 5 items used to estimate burnout are work-related; examples of these questions are: I feel emotionally exhausted by my work, feeling emptied at the end of the workday, feeling tired when confronted with work in the morning, feel completely exhausted by my work. Information is available from a sample of 3650 workers. Estimated prevalence for burnout is available for a number of sectors, age categories, gender and working hours per week; data were collected in 1997.

Sector information

Education: 13% burnout prevalence; hotels, restaurants: 12%; industries: 11%; transportation, storage: 11%; health-, home care: 10%; construction: 10%; repair of personal and household goods: 9%; real estate and other business activities: 9%; environmental, recreation and other services: 9%; public administration and compulsory social security: 8%; financial intermediation: 7%; agriculture: 4%. Overall average: 10%.

Age categories

18-24 years: 10%; 25-34: 9%; 35-44: 10%; 45-49: 10%; 50-54: 13%; >55: 9%.

Gender

men: 9%; women: 10%.

Work hours per week

12-19 hours: 6%; 20-24: 9%; >34: 10%.

In the study burnout data have been related to the available information on risks at work (control over one's work; work pressure, financial compensation, atmosphere at work, physical demands). It appears from the analysis that the burnout risk increases as the work imposes more demands, e.g. workers that have to meet a high work pressure have a risk for burnout that is 4 times the risk of burnout of workers that have a low work pressure. Workers that have little control over their own work have a risk of burnout that is twice the risk for workers that have many possibilities to control their own work.

5.6 OCCUPATIONAL SICKNESS ABSENCE

5.6.1 Summary – occupational sickness absence

OVERVIEW

From a European picture, the ESWC-data indicates that 6% of the workers interviewed reported being absent from work for less than five days.

Although a limited response, five Focal Points reported the need for the development of additional actions to combat occupational sickness absence. In only one national report were the preventive actions taken/planned deemed to be sufficient. The remaining nine Focal Points were unable to evaluate a response.

Although a limited response, two Focal Points reported a stable trend to occupational sickness absence in the workplace. Two Focal Points reported a decrease in the trend and three Focal Points reported an increase. The other eight Focal Points were unable to establish a particular trend.

The comparison of ESWC-data and national data showed that five Focal Points identified differences and a further one reported that there were no differences between their national data and the data from European sources. A total of nine Focal Points could not report a comparison between the data sources either because of difficulties in comparability of data

or because of the lack of national data. A similar picture is given concerning the question whether the additional national information highlighted sectors or occupations that are not evident from the EU data.

Absenteeism was considered by Focal Point to be a complex and multi-conditional phenomenon depending on several factors. Task variation, physical working conditions, management factors, remuneration, flexibility, time schedules, control measures, demographic and individual variations were said to have an influence on the degree of absenteeism. This was further supported by a comment from another Focal Point, stating that occupational sickness is influenced by many conditions, apart from the terms and conditions of employment, other factors such as the state of the economy and the threat of unemployment were important considerations.

A decrease in sickness absenteeism was reported by one Focal Point when in 1994 a new instrument of legislation was introduced which shifted the financial responsibility for absenteeism and disability to a larger extent onto the employers. After the introduction the numbers of sickness absenteeism (5%) were relatively stable. However, recent figures show a new increase in levels of absenteeism implying that the legislation has little direct effect on the workers.

Another Focal Point made the comment that at the beginning of the 1990's data collected from a work-related problems survey indicated a decrease in absenteeism. However, in recent years this trend has been reversed and an increase in the occupational sickness absence has occurred. It was reported that the figures today are back to approximately the same level as those at the beginning of the decade.

SECTORS AT RISK

The European ESWC-data identifies "Hotels and Restaurants", "Transport, Storage and Communication" and "Other Services" as the sector categories with the highest percentage of workers who were absent from work for less than five days.

Information collected in the national reports showed two sectors, which were frequently identified as being at risk from absenteeism from work, these included:

- Health and Social work; and
- Public administration and defence, compulsory social security.

Both of the above sector categories were recorded in four out of the seven national reports that presented sectors at risk. Seven Focal Points were unable to report sectors at risk.

OCCUPATIONS AT RISK

The European ESWC-data highlights the occupation categories "Legislators, senior officials and managers", "Technicians" and "Service workers and shop and market sales workers" as being most vulnerable for having workers absent from work for less than five days.

From the information collected in the national reports as part of this project the most frequently identified occupation category vulnerable to occupational sickness absence was "Life Science and Health Professionals". In total, this was identified three of the six reports that presented occupations most at risk. A total of nine Focal Points were unable to present occupation categories most at risk.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

The additional quantitative data presented in one national report indicated that sickness absence is slightly more usual among females than among males. However, on the basis of the data it is difficult to say whether this is due to occupational health and safety factors or some other external factors unrelated to the working environment. Another Focal Point reported that females experience more long-term sickness absence than males.

PREVENTING EXPOSURE

As commented in several national reports there are a number of measures that can be adopted to and further developed to reduce the risk of absenteeism in the workplace, these are indicated below:

- further research on societal characteristics;
- requirement to train and inform health practitioners about occupational sickness absence;
- organisation of worker participation;
- organisation of work control;
- implementation of prevention plans using specific medical protocol;
- further information about emerging risk, particularly about new toxic products; and
- include additional occupational diseases on national registers.

5.6.2 Occupational sickness absence – a European picture

This section provides a European picture using the ESWC-data.

Health related absences	Work category		
	Employed (%)	Self employed (%)	All workers (%)
No absences	75	84	77
Less than 5 days	6	5	6
5 – 20 Days	13	7	12
More than 20 days	6	4	6

Source - ESWC - data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

Percentage of workers who, over the past 12 months, were absent due to health problems caused by their job are:

Time period	Total (%)	Member State															
		A	B	DK	FIN	F	D*	EL	NL	IRL	I	L	P	E	S	UK	
Never	77	64	74	85	70	79	66	82	73	84	83	71	78	81	87	84	
Less than 5 days	6	5	7	5	8	5	6	2	8	8	5	8	5	7	4	7	
5 – 9 days	5	7	6	4	7	5	7	4	6	5	4	8	5	3	3	3	
10 – 19 days	7	15	7	3	7	6	11	5	5	3	5	7	5	4	2	3	
20 – 49 days	4	8	5	2	6	3	8	4	4	1	2	4	4	3	3	2	
More than 50 days	2	1	2	2	2	2	1	2	4	1	1	2	4	3	1	1	

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A – Austria
EL – Greece
E – Spain

B – Belgium
NL – Netherlands
S – Sweden

DK – Denmark
IRL – Ireland
UK – United Kingdom

FIN – Finland
I – Italy

F – France
L – Luxembourg

D – Germany
P – Portugal

Percentage of workers who, over the past 12 months, were absent due to health problems caused by their job by sector are:

Time period	Total (%)	Sector										
		A-B	C-D	E	F	G	H	I	J	K	L	M-Q
Never	77	77	76	73	72	79	76	73	76	84	74	77
Less than 5 days	6	4	5	5	5	6	7	7	5	5	5	7
5 – 9 days	5	5	5	3	5	5	7	6	7	3	5	5
10 – 19 days	7	7	7	9	10	5	7	8	7	5	8	6
20 – 49 days	4	5	5	6	5	4	3	5	2	2	5	3
More than 50 days	2	2	2	5	2	2	0	1	3	1	2	1

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

A-B: Agriculture, Hunting, Forestry and Fishing

E: Electricity, Gas and Water Supply

G: Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods

H: Hotels and Restaurants

J: Financial Intermediation

L: Public Administration and Defence; Compulsory Social Security

C-D: Mining, Quarrying and Manufacturing

F: Construction

I: Transport, Storage and Communications

K: Real Estate, Renting and Business Activities

M-Q: Other Services

* It is the opinion of the German Focal Point that the data on occupational sickness absence from the 2nd survey does not give a reliable picture.

Percentage of workers who, over the past 12 months, were absent due to health problems caused by their job by occupations are:

Time period	Total (%)	Occupation									
		1	2	3	4	5	6	7	8	9	0
Never	77	82	81	77	80	77	77	73	73	71	77
Less than 5 days	6	7	7	6	5	7	5	6	6	5	6
5 – 9 days	5	4	3	6	5	5	5	5	5	6	1
10 – 19 days	7	4	6	6	5	6	4	8	8	8	11
20 – 49 days	4	2	2	3	3	3	6	6	5	7	3
More than 50 days	2	2	0	21	2	3	2	2	2	2	2

Source - ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.

1: Legislators, senior officials and managers

3: Technicians and associate professionals

5: Service workers and shop and market sales workers

7: Craft and related trades workers

9: Elementary occupations

2: Professionals

4: Clerks

6: Skilled agricultural and fishery workers

8: Plant and machine operators and assemblers

0: Armed forces

5.6.3 Occupational sickness absence – comparison between European and national data

If a Focal Point presented national data then they were asked to compare this data, particularly with the ESWC-data, in order to identify and comment on any differences. In doing this they were asked the following two questions:

Question 1 - "Are there differences between the national data and the data from European sources?"

Question 2 - "Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?"

Furthermore, each Focal Point had the opportunity to provide any other relevant information in relation to occupational sickness absence.

The following table summarises the responses derived from the Focal Points' submissions. Where additional or supplementary qualitative information was provided this has been summarised below the table.

Member State	Question 1				Question 2			
	“Are there differences between the national data and the data from European sources?”				“Does the additional national information highlight sectors or occupations that are not evident from the ESWC-data?”			
	Yes	No	No comparison reported		Yes	No	No comparison reported	
			Lack of National data	Difficulty in comparability of data			Lack of National data	Difficulty in comparability of data
Austria								
Belgium*								
Denmark								
Finland*								
France								
Germany*								
Greece*								
Netherlands*								
Ireland								
Italy								
Luxembourg*								
Portugal								
Spain*								
Sweden*								
United Kingdom*								

* Focal Points who presented additional quantitative data in their national reports.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 1:

Belgium: The data are not comparable since the IDEWE survey is restricted to the service sector. The SD-Survey is not representative since the figures concern employers with at least 20 members of staff and who for the most part are located in Flanders. The figures are not especially related to health problems caused by the job. Absence data in this survey are due to illness, industrial accident, maternity leave and family reasons.

Finland: The data in the table above refers to all sickness absence cases among the Finnish working population in 1997, not only to occupational sickness absence. The classifications for sector and occupation are presented in a more detailed level here than on ESWC 1996 data. The occupational classification used here is the Finnish National Classification of Occupations -87. There is no data available about the sickness absence in relation to occupation which was based on the ISCO-88 (COM).

In the Finnish Labour Force Survey the respondent is asked if he/she has been absent from work during the research week. If yes, he/she is asked about the cause of absence from work. One option is sickness absence.

The evaluation of occupational sickness absence is difficult on the basis of both the Finnish Labour Force Survey and ESWC. In the Finnish Labour Force Survey we cannot know what has been the cause of sickness absence, has it been caused by the respondents job or something else. In the ESWC the respondent defines himself/herself what has been the cause of his/her health problems. However, it can be questioned to what extent the respondent is able to tell whether the cause of sickness is his/her work or something else. It should also be noted that statistics on sickness absence reflect also other changes in the society not only changes in workplace health and safety. For these reasons, we regard that it is not possible to draw conclusions about the risk categories or about the relevant preventive actions on the basis of these data. Therefore, we have not filled in the evaluation phase in this section.

Germany: The national data reports a higher number of occupational sickness absence days in the age group category ≥ 55 compared to the ESWC-data.

Greece: There were some minor differences that did not change the general image because the order of the percentages for every factor remained the same.

Netherlands: The levels of absenteeism are higher in the European sources than in the national data (average absenteeism percentage EU 6.5% and in national data 4.6%). This difference is partly related to the method; EU data are assembled by

a survey among workers; while the national data are coming from a survey among companies. The figures from the companies will contain some under reporting from (short-term) absences.

The absenteeism figures broken down by sector and company size show comparable differences (higher in the EU data than in the national data). The pattern in company size (more absenteeism in bigger companies) is the same in both data. The sector data show more differences (see the next point).

Luxembourg:

- the ESWC-data is higher for absenteeism than the national data:

C-D: Mining, quarrying and manufacturing:	21 days (ESWC-data)
27/28 Basic Metals / Metal Products:	10,12 days (L)
J: Financial intermediation:	20 days (ESWC-data)
	7,4 days (L)
7: Craft and related trade workers:	27 days (ESWC-data)
72: Occupations related to the metallurgical sector:	10,12 days(L)
ESWC-data highlights the sectors,	
F: Construction	23 days
H: Hotels and restaurants	24 days
and the occupations;	
4: Clerks	16 days
5: Service workers, shop, market sales workers	15 days
7: Craft and related trades workers	27 days
9: Elementary occupations	11 days

Sweden: Data from the Swedish Work Related Problems Survey is used (questions asked in connection with the Labour Force Surveys). In this survey respondents are asked about physical and psycho-social problems during the last twelve months which they relate to their job situation. The data from 1998 are based on more than 22,000 respondents. Respondents who state that they have had work-related problems are given further questions on among other things sickness absence because of those problems. That is the presented national data is based on self-reported occupational sickness absence. No other data is available.

There is quite a substantial difference between the data sources. The European source with an average 12.6 % of respondents reporting occupational sickness absence during the last 12 months, when the national data give the corresponding figure 6.4 %.

United Kingdom: The national data on occupational sickness absence shows the average number of days off work caused by either the respondent's current job or their most recent job in the last year. Cases caused by any other job are not included. The ESWC-data gives the average number of days absent in the last year due to health problems caused by the respondent's main paid job.

The proportion of cases which, took some time off in the national survey is based on the proportion of cases with a work-related illness. The ESWC-data survey is presumably based on the proportion of all sample cases taking time off. This explains why the proportions in the national survey (50.3%) are much larger than the proportion in the ESWC-data survey (16.1%).

Overall the average number of days absent due to a work-related illness was fairly similar in the two data sets, in the national survey cases took slightly more time off work due to a work-related illness, 17.1 days compared to the ESWC-data of 16.0 days.

Austria, Belgium, Denmark, Ireland, Italy, Portugal and **Spain** provided no more information than that summarised in the table above.

THE FOCAL POINTS PROVIDED THE FOLLOWING COMMENTS IN RELATION TO QUESTION 2:

Finland:

- national data indicates that sickness absence is more common amongst females;
- it is not known whether the cause of sickness is work related or not; and
- the national and ESWC-data agree with respect to age group trends.

Germany: The following sectors: F – Construction and H - Hotels and restaurants are not highlighted by the national data.

Netherlands: The EU data highlights the high number of days absent in the agriculture and the public administration. In the national data this still counts for the public administration, but not for the agriculture. Agriculture has a low level of absent days in the national data. The EU data show a average level in absenteeism for the other services and a low level for the electricity, gas and water supply, while both sectors have high levels in the national data. The national data are more in line with other data.

Luxembourg: The five major diseases are:

- 1) musculoskeletal
- 2) throat nose ear (ORL)
- 3) pulmonary
- 4) gastritis
- 5) cardio-vascular

Sweden: The national data gives the highest proportion of occupational sickness absence in the sectors transport and communication and in construction. This does not correspond to the EU data, however in this data the sectors with the highest risks have a small number of respondents so the difference might be due to statistical instability in the EU estimates.

With the exception of groups with small number of respondents in the EU data the two data sources roughly correspond.

United Kingdom:

- the national data highlights that the public administration sector featured highest whilst it featured fourth in the ESWC-data.
- the national data highlights that the armed forces occupation featured highest whilst it featured lowest in the ESWC-data.
- the national data highlights that the technicians and associated professionals featured third whilst it featured sixth in the ESWC-data.
- all data is based on a self-reporting survey in 1995 whilst the ESWC-data survey was carried out in 1996.

Austria, Belgium, Denmark, France, Greece, Ireland, Italy, Portugal and Spain provided no more information than that summarised in the above table.

OTHER COMMENTS RECEIVED:

Denmark: There are no representative data available on the amount of days absence due to illness either occupational nor general.

Finland: The additional quantitative data indicates that sickness absence is slightly more usual among females than among males. On the basis of these data, however, it is difficult to say whether this is due to occupational health and safety factors or to some other factors unrelated to work or work environment. The trend in relation to age group is similar in both additional quantitative data and ESWC data.

Germany: The data of the Federation of Company Health Insurance Funds (BKK) reflect the actual illness cases. They are not taken from a survey of the subjective ailments of insured persons.

Portugal: The data reported by the statistics Department of the Ministry of Labour and Social Affairs indicates that in 1996 the total of days lost due to work accidents was 964,982. However, a survey is needed in order to estimate the total amount of days lost either due to work accidents, professional disease and other related factors.

United Kingdom: The diversity of work-related illness makes it difficult to give a simple statement of who is most at risk. Different groups are at risk of different things. Typically, there are a few occupations with very high risks (for example dermatitis in hairdressers, asthma among spray painters), and a long tail of other occupations – usually spread across a wide range of industries – with moderate levels of risk. Most cases usually arise from the moderate risk occupations. As a rough guide, this section will give data on a self-reported basis taken from the report “Self-reported work-related illness in 1995”. No data is available by sector.

All occupations report some degree of work-related illness. Three broad groupings can be distinguished. Most people (nearly 60% of the workforce) work in conditions which produce a reported prevalence of work related illness of about 3%. This group is very largely made up of non manual occupations. A smaller group (nearly 30% of the workforce), mainly manual workers, report a prevalence of about 5%. This leaves a group of five occupations – coal miners, nurses, teachers, construction workers and unskilled manual workers – reporting an average prevalence of about 7.5%.

5.6.4 Occupational sickness absence – sectors at risk

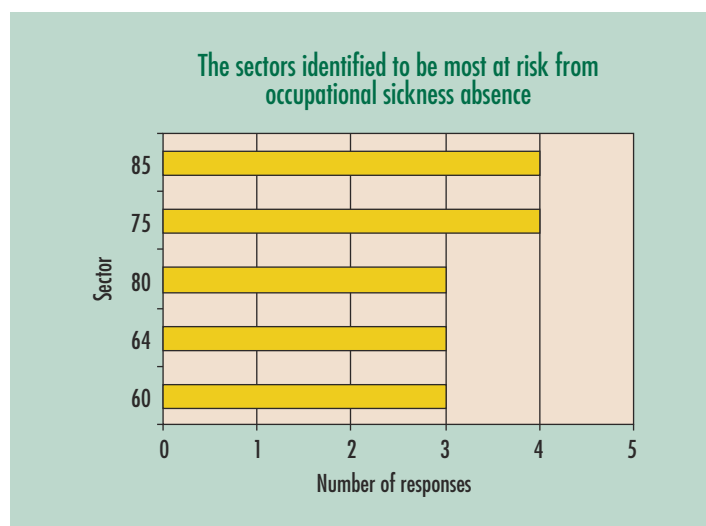
The five most frequently identified sectors which the Focal Points* considered to be most at risk from occupational sickness absence are listed below:

85 Health and Social Work;

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

75 Public Administration and Defence, Compulsory Social Security;
80 Education;
64 Post and Telecommunications; and
60 Land Transport, Transport via Pipelines.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.



Total Number of Responses¹⁴² = 34

The European ESWC-data identifies “Hotels and Restaurants”, “Transport, Storage and Communication” and “Other Services” as the sector categories with the highest percentage of workers who were absent from work for less than five days.

Information collected in the national reports showed two sectors, which were frequently identified as being at risk from absenteeism from work, these included:

- Health and Social Work; and
- Public administration and defence, compulsory social security.

Both of the above sector categories were recorded in four out of the seven national reports that presented sectors at risk. Seven Focal Points were unable to report sectors at risk.

5.6.5 Occupational sickness absence – occupations at risk

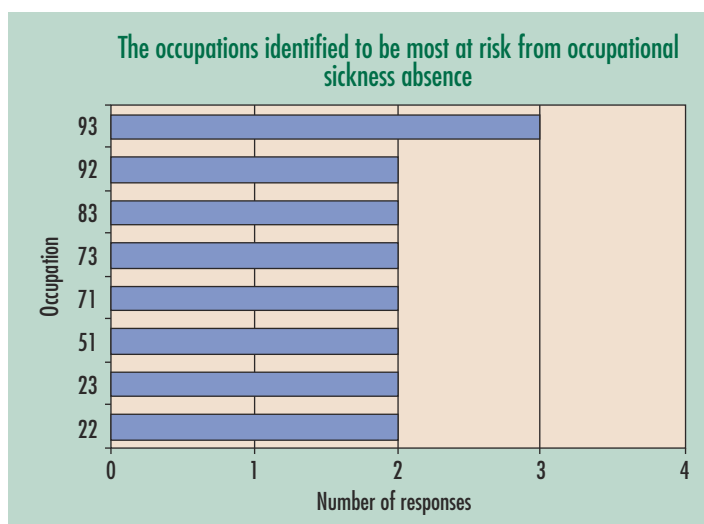
The eight most frequently identified occupations which the Focal Points* considered to be most at risk from occupational sickness absence are listed below:

- 93 Labourers in mining, construction, manufacturing and transport;
- 92 Agricultural, fishery and related labourers;
- 83 Drivers and mobile plant operators;
- 73 Precision, handicraft, craft printing and related trades workers;
- 71 Extraction and building trades workers;
- 51 Personal and protective services workers;
- 23 Teaching professionals; and
- 22 Life science and health professionals.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹⁴² Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.



Total Number of Responses¹⁴³ = 27

The European ESWC-data highlights the occupation categories “Legislators, senior officials and managers”, “Technicians” and “Service workers and shop and market sales workers” as being most vulnerable for having workers absent from work for less than five days.

From the information collected in the national reports as part of this project the most frequently identified occupation category vulnerable to occupational sickness absence was “Life Science and Health Professionals”. In total, this was identified in three of the six reports that presented occupations most at risk. A total of nine Focal Points were unable to present occupation categories most at risk.

5.6.6 Occupational sickness absence – company size at risk

Each Focal Point was asked to: “Indicate, in general terms, the size of company with the highest risk to occupational sickness absence in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to occupational sickness absence and company size to be given (see Appendix 5a for the number of responses).

5.6.7 Occupational sickness absence – gender at risk

Each Focal Point was asked to: “State which gender category has a particular high risk to occupational sickness absence.”

Data provided by the Focal Points did not allow a European picture with regard to occupational sickness absence and gender to be given (see Appendix 5b for the number of responses).

5.6.8 Occupational sickness absence – age category at risk

Each Focal Point was asked to: “State which age category has a particular high risk to occupational sickness absence in the workplace.”

Data provided by the Focal Points did not allow a European picture with regard to occupational sickness absence and age categories to be given (see Appendix 5c for the number of responses).

5.6.9 Occupational sickness absence – employment status at risk

Each Focal Point was asked to: “State if the employment status is of importance.”

Data provided by the Focal Points did not allow a European picture with regard to occupational sickness absence and employment status to be given (see Appendix 5d for the number of responses).

¹⁴³ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

5.6.10 Occupational sickness absence – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers suffering occupational sickness absence over the last 3 – 5 years has decreased, remained stable or increase.”*

The following responses were received:

Decreased Trend (2 Focal Points): **Greece** and **Luxembourg**

Stable Trend (2 Focal Points): **Ireland** and **Sweden**

Increased Trend (3 Focal Points): **Germany, Netherlands** and **Portugal**

Category “Other” (8 Focal Points): **Austria, Belgium, Denmark**, Finland, France, Italy, Spain** and **United Kingdom**

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

** Trend regarding the number of workers exposed over the last 3-5 years is unknown.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Germany: Occupational sickness is influenced by many conditions. Apart from the terms and conditions of employment, it is, for example, the economic situation or threatening unemployment, which are important.

Luxembourg: Particular categories sectors where deviation is expected:

65 - Financial Intermediation increased 1995 - 1996

in % from 2,78% to 3,44%

in days from 6,0 to 7,4 days

Sweden: At the beginning of the 1990th the data from the Swedish Work Related Problems Survey showed a decrease. However in recent years this trend has been reversed and an increase in the occupational sickness absence is seen. Today the figures are back at approximately the same level as in the beginning of the decade.

United Kingdom: Trends are different for different disease categories. Conditions mostly associated with heavy industry, such as occupational deafness and pneumoconiosis in decline, whereas upper limb musculoskeletal disorders and stress-related illness appear to be on the increase, and constitute the two largest categories of work-related illness reported by individuals.

Deaths from asbestosis and mesothelioma have risen from just over 400 in 1976 to almost 1,500 in 1996, as a result of workplace conditions between 15 and 60 years ago. Adding an estimate for asbestos related lung cancers gives a best estimate of around 3,000 annual deaths due to asbestos exposure. The worst affected cohort of workers was born in the 1940s, and numbers will continue to rise as this group ages. However younger cohorts show clear evidence of reduced levels of risk.

Taking all sources of data into account, numbers of cases of occupational asthma and skin disease have remained roughly constant over recent years. Estimates based on reporting from occupational physicians and specialists in chest medicine and dermatology suggest that around 1,500 to 2,000 new cases of occupational asthma, and around 4,000 new cases of occupational skin disease are diagnosed by these groups each year.

Austria, Belgium, Denmark, Finland, France, Greece, Netherlands, Ireland, Italy, Portugal and **Spain** provided no additional information in relation to the trends in the workplace.

5.6.11 Occupational sickness absence – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by one Focal Point: **Greece**

Development of additional preventive action was indicated by five Focal Points: **Belgium, Ireland, Luxembourg, Portugal** and **Spain**

The category “Other” was indicated by two Focal Points: **Netherlands** and **Sweden**

No response: **Austria, Denmark, France, Finland, Italy** and **United Kingdom**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE "THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY", THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Absenteeism is a complex and multi-conditional phenomenon depending on several factors. Task variabilities, physical working conditions, management factors, remuneration, flexibility, time schedules, control measures, demographic and individual variabilities, ... are influencing the degree of absenteeism in the company. Research is needed on the role of each of the players in the field: social security system, company features, societal characteristics.

Luxembourg: Sector 27/28: Global improvement of occupational health and safety by the philosophy "ESPRIT 2000" including the subcontractors and ARBED world wide, more than 50,000 workers.

Portugal: There is a national need to train and inform the health practitioners, towards the occupational sickness absence. The lack of information highlights the need for a survey in this specific subject.

Spain: The development of additional preventive action should include:

- prevention plans implementation using specific medical protocol
- increase the information about emerging risk, new toxicological products
- include more occupational diseases in the national list

Ireland provided no additional information in relation to the evaluation of the development of additional preventive action is necessary.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Netherlands: A decrease in sickness absenteeism started in 1994. This decrease was seen in relation to new legislation in which government shifted the financial responsibility for absenteeism and disability to a larger extent to the employers. After that the numbers for sickness absenteeism (5%) were relatively stable. Recent figures however show a new increase in levels of absenteeism. As a result of this the number of workers affected over the last 3-5 years has decreased.

Categories that deviate from this development are workers in the health care sector. Although the level of absenteeism also decreased in this sector as a result of the 1994 legislation; this development however lasted not so long and a new increase started already in 1995.

United Kingdom: It is impossible to give an overall answer to this question. In some areas it seems clear that improvements have taken place: major noise exposure, asbestos, lead, ionising radiation. In others the picture is less clear, rates of dermatitis and occupational asthma have not seen much change over recent years. New concerns such as stress and musculoskeletal disorders present new challenges both to understand their nature and devise effective responses.

5.7 OCCUPATIONAL DISEASES

It is emphasised that caution should be exercised when reading and interpreting the results presented for occupational diseases. As previously mentioned in Chapter 2, there are limitations to the consolidating process and the presentation of the results contained in this report. The most important point to bear in mind is that each Member State operates different OSH systems. This has a direct effect on which occupational diseases are identified, recorded and classified. Each Member State maintains its own occupational disease list and the process adopted for gathering this information has not yet been harmonised across the European Union. In 1995 Eurostat together with the Member States carried out a pilot project and at the moment there are ongoing discussions about future steps.

5.7.1 Summary – occupational diseases

OVERVIEW

From information collected in the national reports the most frequently identified sector category at risk from occupational diseases was “Construction”. A total of eleven Focal Points reported this sector. This sector was by far the most frequently reported, thereafter, five Focal Points reported the sectors “Health and Social work”, “Manufacture of fabricated metal products”, “Manufacture of basic metals”, “Agriculture, hunting and related services activities” and “Manufacture of food and beverages” as being at risk.

The Focal Points most frequently identified the occupation category “Metal, Machinery and Related Trades Workers” as being most at risk from occupational diseases in the workplace. This occupation was recorded in seven of the ten national reports that recorded an occupation at risk.

In all, seven Focal Points reported the need for the development of additional preventive actions to combat occupational diseases at work. Two Focal Points indicated that the taken/planned measures were sufficient to control occupational disease in the workplace, whilst the remaining six were unable to evaluate a response.

With regard to the trend of the number of workers suffering from occupational diseases, two Focal Points reported a stable trend, seven reported a decrease and three Focal Points reported an increase. Only two Focal Points were unable to establish a particular trend.

One Focal Point reported that the trend in the number of workers exposed to occupational diseases varies, depending upon the exposure individuals experience, for example the following trends were observed :

- decreased with regard to specific risks (chemical and physical agents, inhaling substances) remained;
- stable with regard to specific risks (skin diseases); and
- increased with regard to specific risks (diseases due to lead, benzene, pressure, infectious diseases).

One Focal Point reported how legislation and a compensation system on occupational diseases changed in 1993. Before this period it was possible to get additional compensation from the work injury insurance for absence from work as a result of an occupational disease. From 1993 onwards it is only possible to receive compensation from the work injury insurance if the work capacity was permanently reduced. In the same year the concept of occupational diseases was tightened up in the legislation. It is possible that the decrease in the number of reported occupational diseases is partly due to these changes.

One Focal Point commented that the reporting of occupational diseases was mandatory for physicians and dentists. This obligation was in force for both verified as well for suspected cases. In spite of this obligation the reporting was considered to be subject to an unknown degree of under reporting. A new online reporting system for cases of occupational disease is planned.

The difficulty in establishing a trend in occupational diseases was clearly reported by one Focal Point who reported that the trends are different for different disease categories. Conditions mostly associated with heavy industry, such as occupational deafness and pneumoconiosis were in decline, whereas upper limb musculoskeletal disorders and stress-related illness appear to be on the increase and these constituted the two largest categories of work-related illness reported by individuals.

One national report stated that deaths from asbestosis and mesothelioma have risen from just over 400 in 1976 to almost 1,500 in 1996, as a result of the workplace conditions some 15 to 60 years ago. Taking all sources of data into account, numbers of cases of occupational asthma and skin disease have remained roughly constant over recent years. Estimates based on reporting from occupational physicians and specialists in chest medicine and dermatology suggest that around 1,500 to 2,000 new cases of occupational asthma, and around 4,000 new cases of occupational skin disease are diagnosed by these groups each year.

The increasing number of atopic individuals and the increasing incidences of allergic diseases will necessitate a more thorough evaluation of allergy prevention and medical follow up of workers.

It was suggested in one national report that the quality of asbestos removal work in construction and building maintenance should be further monitored and the health surveillance of exposed workers evaluated.

One Focal Point reported in their national report that whilst there was no reliable data on trends in occupational diseases there were some indications that some were decreasing (e.g. silicosis) and others were on the increase (e.g. Organo Psycho Syndrome and Repetitive Strain Injury).

It was stated in one national report that at present there was a substantial under registration of occupational diseases. However, a system has been implemented in which occupational safety and health services submit a formal case report of occupational diseases to the Centre of Occupational Diseases. In turn, the Centre will make available information on occupational diseases for hospitals/general physicians and occupational health services. It is aimed at improving the expertise on work and health in the health services and to improve co-operation of hospitals and occupational health services. The health service sector should be provided with guidelines for diagnosis and treatment of a number of work-related health problems as well as information on prevention, job retention and return to work. The latter is regarded as being very important in order to reduce the number of workers that are disabled from work.

SECTORS AT RISK

From information collected in the national reports the most frequently identified sector category at risk from occupational diseases was “Construction”. This sector was recorded by eleven out of thirteen Focal Points recorded sectors at risk. This sector was by far the most frequently reported, thereafter, five Focal Points reported the sectors “Health and Social work”, “Manufacture of fabricated metal products”, “Manufacture of basic metals”, “Agriculture, hunting and related services activities” and “Manufacture of food and beverages” as being at risk.

OCCUPATIONS AT RISK

The Focal Points most frequently identified the occupation category “Metal, Machinery and Related Trades Workers” as being most at risk from occupational diseases in the workplace. This occupational was recorded in seven national reports out of nine that presented occupation categories most at risk from occupational diseases.

Farmers, in one national report, were identified as being at a high risk from occupational diseases and that they accounted for approximately 20% of all reported and compensated cases.

OTHER RISK CATEGORIES SUCH AS COMPANY SIZE, GENDER, AGE AND EMPLOYMENT STATUS

It was not possible to draw any firm conclusions from the national reports with respect to company size, gender, age and employment status. However, some useful comments and observations from the national reports have been included below.

Nine Focal Points identified the male gender to be most at risk to occupational diseases.

Although a limited response, five Focal Points identified the age category “>55” to be most at risk from occupational diseases. Small companies were commented as being more at risk because they have less resources available for both monitoring and implementing suitable control measures to combat occupational diseases.

In one national report the Focal Point considered workers with jobs on a non-permanent basis were more vulnerable to occupational diseases because they receive both less information and less training while at work.

PREVENTING EXPOSURE

As commented in several national reports, there are a number of measures that can be adopted and further improved upon to reduce the risk of occupational diseases in the workplace, these include:

- provision for informing and training health practitioners about occupational diseases;
- a need to implement specific medical protocols;
- the importance of increasing information about emerging risk and toxicological products;
- requirement to include more occupational diseases in national registers; and
- provide the health service sector with guidelines for diagnosis and treatment of a number of work-related health problems as well as information on prevention, job retention and return to work.

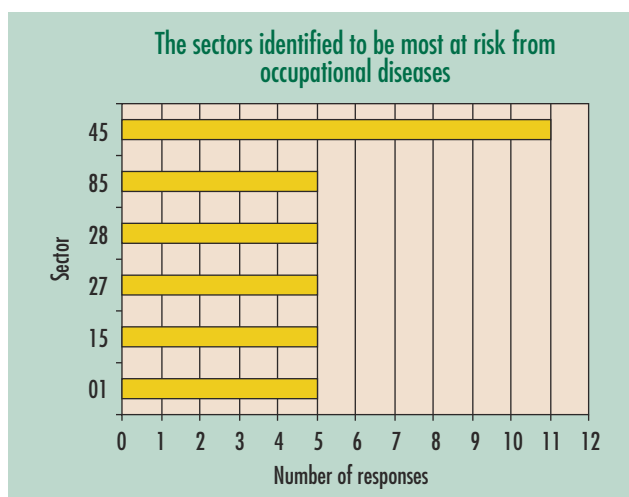
5.7.2 Occupational diseases – sectors at risk

The six most frequently identified sectors which the Focal Points^{*} considered to be most at risk from occupational diseases are listed below:

- 45 Construction;
- 85 Health and Social Work;
- 28 Manufacture of fabricated Metal Products, except Machinery and Equipment;
- 27 Manufacture of Basic Metals;
- 15 Manufacture of Food Products and Beverages; and
- 01 Agriculture, Hunting and related service activities.

The truncated sector categories are listed in Appendix 3. The full list of sectors identified by each Focal Point is presented in Appendix 9a.

^{*} The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.



Total Number of Responses¹⁴⁴ = 75

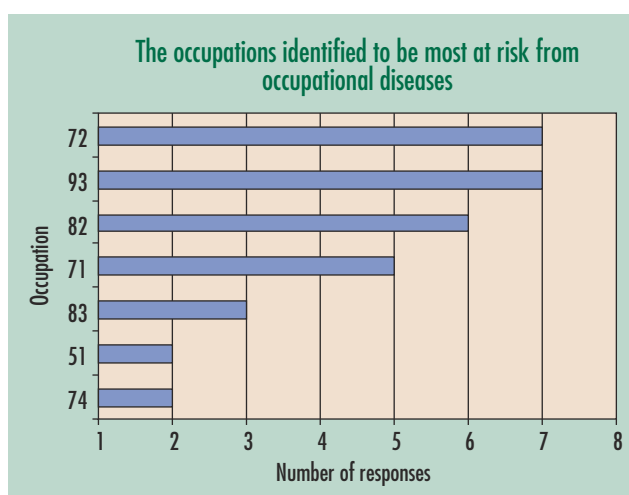
From information collected in the national reports the most frequently identified sector category at risk from occupational diseases was “Construction”. This sector was recorded by eleven out of thirteen Focal Points that recorded sectors at risk and was by far the most frequently reported. Thereafter, five Focal Points identified the sectors “Health and Social work”, “Manufacture of fabricated metal products”, “Manufacture of basic metals”, “Manufacture of food and beverages” and “Agriculture, hunting and related services activities” as being at risk.

5.7.3 Occupational diseases – occupations at risk

The seven most frequently identified occupations which the Focal Points* considered to be most at risk from occupational diseases are listed below:

- 72 Metal, machinery and related trades workers;
- 93 Labourers in mining, construction, manufacturing and transport;
- 82 Machine operators and assemblers;
- 71 Extraction and building trades workers;
- 83 Drivers and mobile plant operators;
- 51 Personal and protective services workers; and
- 74 Other craft and related trades workers.

The truncated occupation categories are listed in Appendix 4. The full list of occupations identified by each Focal Point is presented in Appendix 9b.



Total Number of Responses¹⁴⁵ = 45

¹⁴⁴ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

* The Focal Points used different approaches to identify the occupations to be considered most at risk, such as expert rating, results of national surveys, national statistics, results of national surveys and expert opinion, results of national surveys confirmed by experts.

¹⁴⁵ Although each of the 15 Focal Points was asked to indicate only 5 sectors (maximum of 75 responses), in practice, some Focal Points only indicated one or two sectors, whereas, others indicated more than 5.

The Focal Points most frequently identified the occupation category “Metal, Machinery and Related Trades Workers” as being most at risk from occupational diseases in the workplace. This occupation was recorded in seven national reports out of nine that presented occupation categories most at risk from occupational diseases.

Farmers, in one national report, were identified as being at a high risk from occupational diseases and that they account for approximately 20% of all reported and compensated cases.

5.7.4 Occupational diseases – company size at risk

Each Focal Point was asked to: *“Indicate, in general terms, the size of company with the highest risk to occupational diseases”*.

Data provided by the Focal Points did not allow a European picture with regard to occupational disease and company size to be given (see Appendix 5a for the number of responses).

5.7.5 Occupational diseases – gender at risk

Each Focal Point was asked to: *“State which gender category has a particular high risk to occupational diseases at work.”*

The following results were received:

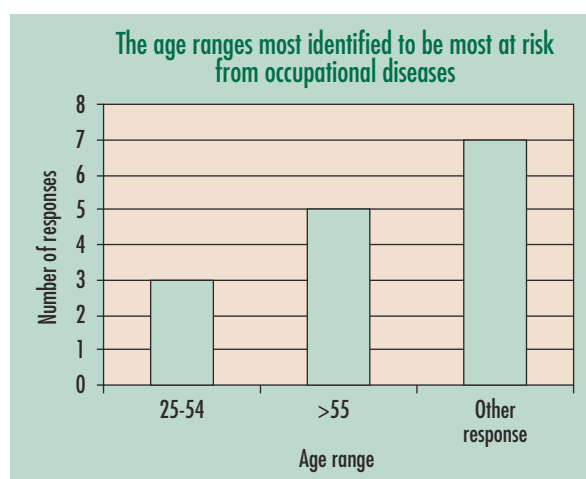
Gender category most at risk	Number of Focal Point responses
Female	1
Male	9
No response	5

The above table indicates that nine of the fifteen Focal Points identified males as being most at risk from occupational diseases. One Focal Point recorded females most at risk and five were unable to establish the gender most at risk.

5.7.6 Occupational diseases – age category at risk

Each Focal Point was asked to: *“State which age category has a particular high risk to occupational diseases at work.”*

The following responses were received:



From the national reports five Focal Points identified the age category “>55” years being most at risk to occupational diseases with a further three reporting the “25-54” age category. Seven Focal Points were unable to establish the age category most at risk.

5.7.7 Occupational diseases – employment status at risk

Each Focal Point was asked to: *“State if the employment status is of importance.”*

Data provided by the Focal Points did not allow a European picture with regard to occupational diseases and employment status to be given (see Appendix 5d for the number of responses).

5.7.8 Occupational diseases – trend in the number of workers exposed

Each Focal Point was asked to: *“Consider if the number of workers, suffering occupational diseases at work, over the last 3 – 5 years has decreased, remained stable or increased.”*

The following responses were received:

Decreased Trend (7 Focal Points): **Austria, Belgium, Finland, Germany, Greece, Italy and Sweden**

Stable Trend (2 Focal Points): **Denmark and Ireland**

Increased Trend (3 Focal Points): **France, Portugal and Spain**

Category “Other” (3 Focal Points): **Netherlands, Luxembourg and United Kingdom**

“Other Response” includes no response/unable to respond due unavailability of national data/incompatibility of national data.

Furthermore, the Focal Points were asked to identify: *“Are there any particular trends in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?”*

THE FOCAL POINTS SUBMITTED THE FOLLOWING COMMENTS IN RELATION TO THE TRENDS:

Belgium: The trend in the number of workers affected has:

- decreased with regard to specific risks (chemical and physical agents, inhaling substances)
- remained stable with regard to specific risks (skin diseases)
- increased with regard to specific risks (diseases due to lead, benzene, pressure, infectious diseases)

Denmark: The trend covering the period 1993 to 1997 indicates no significant change.

Finland: The trend in the number of workers affected has:

- decreased slightly and incident cases of hearing loss and pneumoconiosis are less severe than in the past.
- Allergic respiratory diseases are increasing. In addition to industrial work, these diseases are a problem also in sectors and occupations which do not bear a significant risk of the traditional occupational diseases (poisonings, pneumoconiosis, hearing loss), e.g. health care work, education, hairdressing and other personal services.

Netherlands: There is no reliable data on trends in occupational diseases in the Netherlands. Some OD are decreasing like silicosis, other diseases are increasing like OPS and RSI.

Luxembourg: Expected deviations:

- 1) musculoskeletal disease
 - 2) cutaneous disease
 - 3) obstructive bronco-pneumo pathology (34 cases)
 - 3.1) 35.29 % by allergic substances
 - 3.2) 17.65 % by irritating substances
 - 3.3) 47.06 % by asbestos
 - 4) infectious diseases
 - 5) noise related diseases
- Sector 65 Financial Intermediation:
- 0.8 % occupational diseases
 - 3.5 % road accidents

Sweden: The legislation and compensation system on occupational diseases changed 1993. Before that it was possible to get additional compensation from the work injury insurance for absence from work as a result of an occupational disease. From 1993 it is only possible to receive compensation from the work injury insurance if the work capacity is permanently reduced. The same year the concept of occupational diseases was tightened up in the legislation. It is possible that the decrease in the number of reported occupational diseases at least partly depends on these changes in legislation.

United Kingdom: Trends are different for different disease categories. Conditions mostly associated with heavy industry, such as occupational deafness and pneumoconiosis in decline, whereas upper limb musculoskeletal disorders and stress-related illness appear to be on the increase, and constitute the two largest categories of work related illness reported by individuals.

Deaths from asbestosis and mesothelioma have risen from just over 400 in 1976 to almost 1,500 in 1996, as a result of workplace conditions between 15 and 60 years ago. Adding an estimate for asbestos related lung cancers gives a best estimate of around 3,000 annual deaths due to asbestos exposure. The worst affected cohort of workers was born in the 1940s, and numbers will continue to rise as this group ages. However younger cohorts show clear evidence of reduced levels of risk.

Taking all sources of data into account, numbers of cases of occupational asthma and skin disease have remained roughly constant over recent years. Estimates based on reporting from occupational physicians and specialists in chest medicine and dermatology suggest that around 1,500 to 2,000 new cases of occupational asthma, and around 4,000 new cases of occupational skin disease are diagnosed by these groups each year.

Austria, France, Germany, Greece, Ireland, Italy, Portugal and **Spain** provided no additional information in relation to the trends in the workplace.

5.7.9 Occupational diseases – evaluation of preventive actions

Focal Points were asked to indicate if:

“Preventive actions taken or planned are sufficient to deal with the existing related problems;”

“The development of additional preventive action is necessary;” or

“Other.”

The following responses were received:

Preventive actions taken/planned are sufficient to deal with the existing exposure related problems was indicated by two Focal Points: **Austria** and **Greece**

Development of additional preventive action was indicated by seven Focal Points: **Belgium, Denmark, Finland, Ireland, Italy, Portugal** and **Spain**

The category “Other” was indicated by four Focal Points: **France, Netherlands, Sweden** and **United Kingdom**

No response: **Luxembourg**

One Focal Point (**Germany**) stated that preventive measures were never complete. Further developments in technical labour protection, awareness and health education are still possible and necessary. An evaluation of the present state from Germany's point of view will not be put forward, since the answering possibilities can not do justice to the complexity of the present state and thus no meaningful results can be derived from them.

WHERE FOCAL POINTS GAVE THE RESPONSE “THE DEVELOPMENT OF ADDITIONAL PREVENTIVE ACTION IS NECESSARY”, THEY WERE ASKED TO ELABORATE ON THIS ACTION. DETAILS OF THE RESPONSES RECEIVED ARE GIVEN BELOW:

Belgium: Overview of the emerging risk:

Carcinogens/asbestos: cancers due to asbestos have just been by the Royal Decree of 22 March 1999. The Fund is now also studying the possibility of recognising cancer of the larynx caused by asbestos.

FMA-MMMF and other substitutes: not recognised.

SPO-OPS/neurotoxins-solvents-pesticides: the psycho-organic syndrome due to organic solvents is effectively recognised in the framework of the list.

Allergens: latex, triazine piperidiny, etc.: are recognised.

Hepatotoxins: are recognised.

Magnetic fields (inc.GSM): not included in the list.

Lumbago: vibratory lumbar osteoarthritis is included in the list.

Musculoskeletal disorders: recognised, including tendinitis. On the other hand osseus, articular and disc-related pathologies are only recognised if they are due to mechanical vibrations or repeated shocks.

Infectious micro-organisms: do qualify if they affect healthcare staff, in case of a tropical disease, or as a result of handling animal remains.

Occupational stress: this condition does not qualify (note however that an application may be introduced in the off-list system).

The following items are objects for study by the Technical Board of the Occupational Diseases Fund:

Occupational allergies and anaphylactic shock due to latex, asbestosis and adaptation of the criteria, larynx carcinoma due to asbestos, hepatotoxicity and neurotoxicity of solvents (OPS).

Knee arthrosis (due to mechanical overload), back pathologies (vibrating loads), warts.

Open system.

Preventive “removal” of pregnant women.

Despite the emphasis on the importance of the preventive role of the Fund, e.g. in the form of risk evaluations, prevention remains a limited part of the Fund's overall expenditure. The preventive costs have to be generalised in view of the development of new harmful agents, in particular irritants and cancer generating, allergenic and infectious ones.

Source: Note by Mr. C. Gerlache, Adviser at the Occupational Diseases Fund, May 1999.

Denmark: The reporting of occupational diseases in Denmark is mandatory for physicians and dentists. The obligation is in force for verified as well as for suspected cases. In spite of the obligation the reporting is subjected to an unknown degree of under reporting. A new online reporting system for cases of occupational disease with classification-aid is planned to be taken into use together with an EU-harmonised classification of exposure.

Finland: The increasing number of atopic individuals and the increasing incidence of allergic diseases will necessitate a more thorough evaluation of allergy prevention and medical follow-up of such workers.

The quality of asbestos-removal work in construction and building maintenance should be monitored and the modalities of surveillance of asbestos-exposed workers should be evaluated.

Ireland: The Authority is currently reviewing its approach in this area.

Italy: Even though the amount of affected workers has decreased, some measures, provided by the L.D. 626/94 (the enforcement of the EC directive related to the occupational health and safety) have still to be applied.

Portugal: There is a national trend to train and inform the health practitioners towards the occupational diseases.

Spain: Preventive actions should include:

- prevention plans implementation using specific medical protocols;
- increase the information about emerging risks, new toxicological products; and
- include more occupational diseases in the national list.

ADDITIONAL COMMENTS SUBMITTED BY THE FOCAL POINTS:

Netherlands: At present there is a substantial under registration of occupational diseases. The implementation of a system has started in which occupational safety and health services submit a formal case report of occupational diseases to the Netherlands Centre of Occupational Diseases. In turn, the Centre will make available information on occupational diseases for hospitals/general physicians and occupational health services. It is aimed to improve expertise on work and health in the health services and to improve co-operation of hospitals and occupational health services. The health service sector has to be provided with guidelines for diagnosis and treatment of a number of work-related health problems as well as information on prevention and job retention and return to work. The latter is regarded as very important, as the number of people that are disabled for work is at a too high level.

The Ministry of Health will start activities of four occupational health centres (in university hospitals). Each of the centres will focus on one topic: stress related health problems, skin diseases, respiratory affections and locomotor affections.

Sweden: In the activity programme for 1997-1999 the Swedish Occupational Safety and Health Administration identified five prioritised supervision areas. Among them are: musculoskeletal disorders, psychological and social conditions, hypersensitivity and dangerous machinery.

Objectives for these areas 1997-1999 include:

Musculoskeletal disorders:

The proportion of employees with monotonous repetitive work shall be reduced appreciably. No occupational group or branch of industry shall increase the proportion of employees with such work. The proportion of employees with strenuous work postures shall be reduced appreciably. The proportion of women who daily lift burdens of 15 kg or more shall be reduced by 25 %.

Psychological and social conditions:

The proportion of employees who are exposed to negative stress at work shall be reduced. Employers shall have routines that ensure that managers, with the necessary authority, early can receive information concerning incipient psychological strain and the work adaptation needs of their personnel.

Hypersensitivity:

The proportion of employers that, on inspection, are found to have shortcomings in handling of substances that risk causing hypersensitivity shall be reduced by 20 %. All schools and nursery schools shall make a survey of the quality of air in their premises and draft an action plan for premises with unsatisfactory air quality.

Dangerous machinery:

At least 3,000 companies, with noise exceeding the limit value, shall draft action programmes to reduce that damages hearing.

United Kingdom: It is impossible to give an overall answer to this question. In some areas it seems clear that improvements have taken place: major noise exposure, asbestos, lead, ionising radiation. In others the picture is less clear – rates of dermatitis and occupational asthma have not seen much change over recent years. New concerns such as stress and musculoskeletal disorders present new challenges both to understand their nature and devise effective responses.

6.



CHANGES IN WORKING LIFE

- 6.1 EMERGING RISKS
- 6.2 TELEWORK
- 6.3 EMPLOYMENT STATUS

CHANGES IN WORKING LIFE

To identify how the changes in working life were potentially affecting employees' safety and health, the Focal Points were asked to:

- identify the emerging risks and provide considerations of special significance relating to them;
- determine the effects of telework (total number of workers, OSH issues); and
- determine the effects of employment status.

This chapter provides an overview of the results of the data collection process of the above three issues.

In collating and presenting the following information supplied by the Focal Points, it must be appreciated that the method by which the Focal Point identified each emerging risk was different. In many cases statistical data was not available and the identified risk merely represents the expert opinion of the Focal Point after relevant consultation with identified experts within the Member State.

6.1

EMERGING RISKS

6.1.1 Emerging risks – introduction

To identify the emerging risks¹⁴⁶ throughout the European Union, each Focal Point was asked to specify what they considered to be the emerging risks within their Member State. To facilitate the process the Focal Points collectively identified a number of distinct areas of concern, which were used by the individual Focal Points as a framework for the data collection process.

6.1.2 Emerging risks – summary

The Focal Points mostly identified the following themes associated with emerging risks:

Topics	Number of times reported by the Focal Points
Changed work organisation	8
Particular sensitive risk group: young workers	8
Stress	8
Manual handling	8
Use of new chemicals with little known about the associated risks	7
Research needs for the "Health and Social Work" sector	6
Particular sensitive risk group: older workers	6
Violence	6
Repetitive strain	6

¹⁴⁶ Emerging risks can be understood as new issues that can have a negative impact on safety and health of workers.

Possible implications related to the topics identified in the table above.

Topic	Implications
Changing working patterns.	Changed work organisation was identified as a significant concern. That is the way in which the work is organised or structured has changed significantly. This may include changes to shift patterns or the order in which work tasks are completed, or alternatively, changes to the organisation of the management/company structure all of which can increase the risks to workers.
Particularly sensitive risk groups.	Young workers were identified as being of significant concern. Young workers are defined as people under the age of 18. They are considered to be an "at risk" group as they are deemed to be unfamiliar with the hazards present in the workplace. They often lack the experience of workplaces to safely deal with risks in comparison to adults. Their perception of risk can also vary from that of a more mature worker.
Psycho-social aspects.	Stress was identified as being of significant concern. When an individual perceives that the task at hand is unachievable in a particular time frame or is outside of his or her capabilities this can lead to stress. Stress can also be brought on by environmental conditions such as extremes of noise, temperature, humidity and light. Too little time to relax can also lead to stress. Anxiety about being unable to meet commitments outside of work can also generate a serious problem. The stress can lead to poor performance at work and an increase in mistakes made, thereby increasing the likelihood of accidents.
Ergonomics.	Manual handling was identified as being of significant concern. Moving of heavy or awkward loads in the workplace poses a serious risk to employees and should be automated where possible or work practices changed to reduce the need to move and handle loads, for example good workplace layout. Peoples' backs are often most at risk from moving and handling. An example of this in the workplace is unloading of a truck by hand when it may be done using a fork lift truck.
Chemical risk factors.	New chemicals being used was identified as being of significant concern. New chemicals such as pesticides or cold disinfectants for medical uses may have insufficient data on the physiological effects to ensure safe usage. The employer is unlikely to be familiar with the product which increases the risks in using the chemical without adequate control measures or understanding of the associated risks.
Sector research.	Health and Social work was identified as a significant concern. The main concerns within this area of work are lone working, temporary workers and manual handling.
Particularly sensitive risk groups.	Older workers were also identified as a significant concern as a particular sensitive risk group. Older workers may have inherent muscular problems which can reduce their ability to lift or move objects. Also, they may have an increased sensitivity to extremes of temperature and slower reflexes.
Psychosocial aspects.	Violence was identified as being of significant concern. Violence may take the form of bullying at work or the threat of violence from working in high risk areas such as violence from clients in an accident and emergency unit of a public hospital, from pupils for teachers or from members of the public when working on a construction site in a high crime area.
Ergonomics.	Repetitive strain was identified as being of significant concern. Repetitive strain injuries are caused when movements are repeated excessively by particular parts of the body for long periods of time. Examples of tasks vulnerable to this risk include typing, computer related work and checkout operators moving items across a scanner.

From the above table the national reports indicate significant interest in four key areas, "changing working patterns", "psycho-social aspects", "ergonomics" and "chemical risk factors". An indication as to the degree of importance of these issues is given by the number of Focal Points that have considered them as candidates for additional preventive actions. With psycho-social topics, stress was a frequently reported concern. This is supported by the fact that ten Focal Points identified the need for further preventive actions to deal with this issue.

Ergonomics, which can encompass, manual handling, lifting/moving, repetitive strain etc, was also frequently reported as meriting the need for further preventive actions. In all, nine Focal Points identified the need for such actions.

Handling and using new chemicals was also a topic area for which eight Focal Points reported the need for introducing additional preventive actions to control the workplace risk.

Emerging risks were identified and in particular they identified both extremes of the employee age band (young worker and older worker) as being vulnerable to workplace hazards for different reasons.

6.1.3 Risk – European data

There was no specific ESWC-data relating to emerging risks to provide a European picture.

6.1.4 Emerging risks – topics

The following table summarises the most frequently identified emerging risks within each of the specified area of concern. The less frequently identified emerging risks are listed within Appendix 6.

Area of concern	Topic	Number of times identified
Changing working patterns.	■ Changed work organisation.	8
	■ Increase in service based history.	4
	■ Telework and alternative working hours.	3
	■ Increased pace of work.	3
	■ New work materials.	3
Changes in labour force.	■ Increase in number of temporary workers.	5
	■ Increase in female employees.	4
	■ Ageing work force and age management.	4
	■ Growth in numbers working in small firms.	3
Particularly sensitive risk groups.	■ Young workers.	8
	■ Older workers.	6
	■ Disabled work force and age management.	5
	■ Pregnant workers.	3
Clean and safe production and products.	■ Cleaner technology may introduce new risks.	2
	■ Use of safer products such as machinery and PPE with CE markings.	2
	■ Manufacturing workers.	2
Safety and health management.	■ Implementation of safety and health management.	3
	■ All work sectors.	3
	■ Good occupational health practice.	2
Psycho-social aspects.	■ Stress.	8
	■ Violence.	6
	■ Prevention of occupational burnout.	4
	■ Bullying.	3
	■ Work load increase due to technological change.	3
	■ Harassment and sexual harassment.	2
	■ Passive smoking.	2
Ergonomics.	■ Manual handling.	8
	■ Repetitive strain.	6
	■ VDU Work.	4
	■ Work-related musculoskeletal disorders.	2
Safety risks.	■ New technology.	3
	■ Hazards on increase	2
	■ Dangerous machinery.	2
	■ Computer controlled machinery.	2
Chemical risk factors.	■ New chemicals being used.	7
	■ Asbestos stripping.	4
	■ Carcinogenic materials.	3
	■ Organic solvents.	3
	■ Adverse health effects of industrial chemicals.	3
Physical risk factors.	■ Noise.	5
	■ Electromagnetic radiation.	5
	■ Vibration.	4
	■ Heat.	3
	■ LASER.	2
Biological risk factors.	■ New biological and genetic engineering procedures.	5
	■ Hepatitis.	3
	■ Infectious diseases.	2
	■ Viruses.	2

Area of concern	Topic	Number of times identified
Sector research.	■ Health and social work.	6
	■ Construction.	5
	■ Agriculture, forestry and fishing.	3
	■ Public services.	2
Other topics.	■ Occupational health in small and medium sized companies.	1
	■ Mould.	1
	■ Humidity.	1
	■ Globalisation of work.	1
	■ Cost benefit analysis.	1
	■ Brain and work: vigilance and cognitive performance in computerised work and shift work.	1
	■ Health effects of information society.	1
	■ Enterprise competitiveness increases.	1
	■ Best practices and benchmarking.	1

6.1.5 Emerging risks – considerations

Each Focal Point was asked to specify if there were any considerations of special significance relating to the identified emerging risk.

The following table summarises the most frequently identified considerations for each identified topic area. The less frequently identified considerations are listed within Appendix 7.

Area of concern	Consideration	Number of times identified
Changing working patterns.	■ More boredom.	3
	■ Lack of job control and more job demand.	3
	■ More stress.	2
	■ Increased accident possibility.	2
Changes in labour force.	■ Need for training.	5
	■ Keeping skills up to date.	4
	■ Lack of management control over health and safety.	2
	■ Changes in workers expectations.	2
	■ Work force is ageing. Physical & mental abilities to adopt new skills and technologies are increasingly important.	2
Particularly sensitive risk groups.	■ Preventive systems needed to tackle special needs.	4
	■ Intervening methods to prevent health effect among the young work force.	3
	■ Need for training.	1
Clean and safe production and products.	■ Lack of information and consultancy services.	1
	■ Completing the implementation of CEN standards.	1
	■ Substitution of dangerous substances for others.	1
	■ It will improve the safety and health at work.	1
	■ Measuring performance by level of spoilage.	1
Safety and health management.	■ Guidance from the authority is being prepared.	2
	■ Crucial and needs consideration.	1
	■ Risk assessment.	1
	■ Access to instruments and implementation of results needs support.	1
	■ Benchmarking and guidelines on good practices needed to improve effectiveness of occupational health services.	1
Psycho-social aspects.	■ Occupational safety and health personnel need methods to survey and handle psycho-social risks.	4
	■ Burnout needs to be addressed and prevented.	3
	■ Research, legislation and preventive measures required.	1

Area of concern	Consideration	Number of times identified
Ergonomics.	■ More monitoring and publicity campaigns required.	3
	■ Manual handling and musculoskeletal disorders still a problem.	2
	■ Need to reduce overload and better ergonomics.	
	■ More studies and research required.	2
Safety risks.	■ More monitoring and publicity campaigns required.	2
	■ Ensuring CEN standard machinery by surveillance.	1
	■ Violence at workplace is increasing.	1
	■ Increasing complexity of work and the need for training.	1
Chemical risk factors.	■ Health risks unknown in many cases.	4
	■ Safety data sheets to be kept up to date.	3
	■ Asbestos control required.	2
	■ New bio-monitoring and other assessment methods needed to be developed in workplace.	1
Physical risk factors.	■ More monitoring and publicity campaigns required.	2
	■ Noise induced hearing loss still common. Evaluation of risk factors provide means of early well targeted control measures.	2
	■ Address manual handling issues.	1
Biological risk factors.	■ Greater awareness and safety courses required.	3
	■ Biological waste procedures required.	3
Sector research.	■ Continue enforcement and awareness campaigns.	3
	■ Occupational health studies for high- tech equipment is incomplete.	2
	■ Increase in the number of inspections required.	1
Other topics.	■ Training.	1
	■ Hyperdermia.	1
	■ Indoor air improvements in workplace.	1
	■ Awareness campaigns.	1

6.2 TELEWORK

6.2.1 Telework – summary

Teleworking is defined as work performed by a person (employee or self-employed) mainly or for an established part of the working time, at a location other than the traditional workplace for an employer or a client, and involving the use of telecommunication as a central and essential feature of the work. To make an initial attempt to identify how each Member State was addressing the occupational health and safety issues arising out of teleworking, each Focal Point was asked to specify what they considered were the main issues within their Member State.

The numbers of workers involved in teleworking as reported by the Focal Points varies from each Member State, the numbers quoted ranged from 0.6 – 9% of the working population. It was reported that where national data existed teleworking was sub-divided into a number of categories, occasional teleworkers, teleworkers permanently based at home and teleworkers who work in different locations but who use their home as a base. Some of the sectors reported with the biggest share of teleworkers include: education, construction, wholesale trade and commission trade, financial services, self employed, salesman, writers/journalists and other professional services.

Some of the safety and health concerns reported in the national reports by the Focal Points include:

- social isolation;
- working time arrangement including breaks (control of excessive hours worked);
- ergonomic design of the workplace;
- potential for VDU and WRULD(RSI) injuries; and
- burden of proof and liability in case of an accident at home.

Comments made by a number of Focal Points suggests that they expect an increase in the number of teleworkers to occur in the future. Also, in general, it would appear from the information submitted that few home working environments are formally assessed/inspected from a safety and health point of view. A number of Focal Points reported legislation for the protection of teleworkers, but this was general legislation for the protection of all workers.

6.2.2 Telework – quantitative data/estimates on the total numbers of teleworkers

“Please provide quantitative data/estimates on the total number of workers that have telework facilities. Please state if you are using a conservative estimate or a less conservative estimate (or both)?”

Member State	Comments received
Austria	<ul style="list-style-type: none"> ■ 21,800 teleworkers (19% female and 81% male) work at least 8 hours a day at home on a computer; ■ 51,600 teleworkers (20% female and 80% male) work at least 1 hour a day at home on a computer; <p>Source: Mikrozenus Sonderprogramme ‘Arbeitszeitformen’ Sept 1997, veröffentlicht in der Broschüre des Bundesministeriums für Arbeit, Gesundheit und Soziales “Telearbeit” – Alltag oder Rarität, Vienna 1998.</p> <ul style="list-style-type: none"> ■ Sectors with the biggest share of telework: <ul style="list-style-type: none"> – other service activities; – education; – construction; and – wholesale trade and commission trade, except motor vehicles.
Belgium	<ul style="list-style-type: none"> ■ numbers of teleworkers cannot be extracted from national data; ■ 10% of companies in 1994 were prepared to allow their employees to work at home. <p>Source: <i>A survey on Home Teleworking in Flanders by the Research Institute for Labour and Employment in 1994</i> (Reference 7).</p> <ul style="list-style-type: none"> ■ Sectors with the biggest share of telework: <ul style="list-style-type: none"> – salaried employees; – self-employed; – unpaid assistant members of family of the self-employed; and – students who receive payment in money or kind.
Denmark	<ul style="list-style-type: none"> ■ 5,000 - 10,000 teleworkers; [conservative estimate] ■ 255,000 (9% of workforce) on the average are potential teleworkers; [less conservative estimate] ■ estimated that within the next 3 - 5 years the number of workplaces in homes will increase to 800,000.
Finland	<ul style="list-style-type: none"> ■ 75,000 employees (4.3% of workforce) in 1997 defined themselves as teleworkers; (Reference 16). ■ 165,000 (8.8% of workforce) from a wider definition includes those at home using a computer as agreed by their employer; ■ 37,000 (1.7% of workforce) in 1990 were teleworkers out of 2,108,000 employees, indicating increasing trend.
France	16,000 teleworkers; [estimated]
Germany	<ul style="list-style-type: none"> ■ 500,000 workplaces where mobile telework existed; [estimated] ■ 350,000 workplaces where alternating telework existed; and [estimated] ■ 22,000 workplaces where telework was performed at home [estimated] <p>Source: “The Development of telework – framework conditions in terms of labour law”, the Fraunhofer Institute for Industrial Engineering, September 1997. (Reference 8).</p>

“Please provide quantitative data/estimates on the total number of workers that have telework facilities. Please state if you are using a conservative estimate or a less conservative estimate (or both)?”

Member State	Comments received
Greece	<ul style="list-style-type: none"> ■ numbers of teleworkers cannot be extracted from national data; ■ less than 30,000 (0.8% of workforce) are teleworkers; [suspected to be less conservative estimate] ■ Sectors with the biggest share of telework: Salesmen, writers and journalists
Netherlands	<ul style="list-style-type: none"> ■ 150,000 (2.3% of total workforce) are teleworkers; and [conservative estimate] ■ 300,000 (4.5% of total workforce) are teleworkers. [less conservative estimate]
Ireland	<ul style="list-style-type: none"> ■ 15,000 (1.4% of the workforce) are teleworkers [suspected less conservative estimate] <p>Source: <i>Telefutures</i>, a study completed on behalf of <i>Forbairt and Telecom Eireann</i> by <i>Imogen Bertin and Gerard O’Neill</i> (1996) (Reference 9).</p>
Italy	100,000 are teleworkers [conservative estimate].
Luxembourg	No data available
Portugal	100,000 (0.45% of active population) are teleworkers [estimated].
Spain	No data available
Sweden	250,000 (6-7%, of workforce) have telework facilities [estimate].
United Kingdom	<p>There are about 1,146,000 teleworkers which makes up about 4.3% of the employees/self employed. <i>The Labour Force Survey, Spring 1998</i> (Reference 10) gives the following figures for each tele-working category (both employees and self-employed), adjusted for non-response:</p> <ul style="list-style-type: none"> ■ 256,000 teleworker homeworkers ■ 589,000 teleworkers who work in different places using home as base. ■ 301,000 occasional teleworkers.

6.2.3 Telework – points of attention regarding OSH of teleworkers

“Can you indicate any particular points of attention in the Member State regarding the occupational safety and health of people using telework facilities (e.g. in legislation, in inspection activities, statements on the “home-office” equipment in collective agreements, agreements on “hours of duty” at the home-office, etc.). Please elaborate”.

Member State	Comments received
Austria	<i>The Health and Safety Work Act and Regulation</i> on work with Display Screen Equipment (DSE) apply to teleworkers.
Belgium	<p><u>Legislation:</u> <i>General Rules for Safety at Work and the Welfare Code</i> apply to teleworkers.</p> <p>The employer is bound to evaluate the safety and health risks of employees, including the choice of work equipment and the workplace. The employer must also consult with the employees in application of the framework directives.</p> <p>Teleworking at home requires specific provisions on safety and health in view of the atypical place of work. There are problems with the current laws with regard to social security and employee involvement.</p> <p><u>Occupational safety and health issues identified:</u> Pilot projects of teleworkers doing administrative work identified a number of difficulties, solutions included:</p> <ul style="list-style-type: none"> ■ avoiding social isolation (work in the office one day a week); ■ no extra costs for the employer; ■ payment for travel to the office; ■ special arrangements for industrial accidents (accidents at home are considered to be industrial accidents); and ■ no control of the hours worked.

"Can you indicate any particular points of attention in the Member State regarding the occupational safety and health of people using telework facilities (e.g. in legislation, in inspection activities, statements on the "home-office" equipment in collective agreements, agreements on "hours of duty" at the home-office, etc.). Please elaborate".

Member State	Comments received
Denmark	<p><u>Legislation:</u> The <i>National Working Environment Authority</i> covers all workplaces no matter if the work is paid for or not and no matter if it is carried out on private premises or at a traditional workplace.</p> <p>In 1998 consideration was given to establishing a committee for the preparation of a new regulation for telework. The new regulation is expected to include VDU work and a minimum number of daily work hours.</p> <p><u>Inspection:</u> Under the <i>Working Environment Act</i> inspectors from the <i>National Working Environment Authority</i> at any time can check any workplace including those in private homes without a warrant. However, in practice working environments in private homes are not inspected.</p> <p><u>Equipment:</u> Equipment (including computers) light and climate at workplaces in private homes must fulfil the standards for traditional workplaces. Also the regulation on work planning and implementation, chemical substances and materials must be fulfilled.</p>
Finland	No data available.
France	No data available.
Germany	<p><u>Legislation:</u> Government's view is that there is no need for a specific law for teleworking.</p> <p><u>Agreements:</u> Questions arising about telework in relation to labour law and occupational safety and health are resolved by agreement, namely collective bargaining agreements or works agreements.</p> <p><u>Occupational safety and health issues include:</u></p> <ul style="list-style-type: none"> ■ right of access of the employer, of workers' representatives and representatives of public supervisory authorities to the teleworker's home; ■ burden of proof on behalf of the teleworker in case of an accident at home; ■ ergonomic workplace design at home; and ■ working time arrangements and breaks.
Greece	<p><u>Legislation:</u> No specific references are made in legislation to teleworkers.</p> <p><u>Agreements:</u> Collective agreements, hours of work etc. are covered by the <i>General Contract Laws</i>.</p> <p><u>Hours of work:</u> Hours of work are set to 40-hours working week or a maximum to 48-hours working week with the use of overtime.</p>
Netherlands	<p><u>Legislation:</u> The <i>Working Conditions Act Regulations</i> have been introduced to protect the working conditions of teleworkers.</p>
Ireland	<p><u>Legislation:</u> No specific references are made in legislation to teleworkers.</p> <p><u>Agreements:</u> Collective agreements, hours of work etc. are covered by the <i>General Contract Laws</i>.</p> <p><u>Hours of work:</u> Hours of work are also covered by the <i>Organisation of Working Time Act, 1997</i>, which sets a maximum of a 48-hours working week.</p>
Italy	<p><u>Legislation:</u> Discussions are in process regarding legislation and obligation in collective agreements.</p>
Luxembourg	No information was submitted from this Focal Point.

“Can you indicate any particular points of attention in the Member State regarding the occupational safety and health of people using telework facilities (e.g. in legislation, in inspection activities, statements on the “home-office” equipment in collective agreements, agreements on “hours of duty” at the home-office, etc.). Please elaborate”.

Member State	Comments received
Portugal	<p><u>Legislation:</u> In 1996 the “ Agreement of Strategic Concertation ” (Reference 12) signed between the Government and the Social Partners foresees to question “ in narrow consult to the social partners for legislative fittings related to new work and organisations forms, in particular, the Telework ”.</p> <p>By resolution of the Cabinet Council nº 16/9 of the 21st March, a “ Mission for the Information Society ” was created and the “ Green Book for the Information Society, in Portugal ” was elaborated, which was approved after an ample national debate by the Cabinet Council on the 17th April 1997 which includes politic measures, that although the access barriers of economic, educational and cultural nature, lead to the elaboration of “ action plans ” about the studied matter, including the chapter related to the Telework.</p> <p>However, Portugal has not yet defined, a specific regulation in this matter, verifying only the application of the rules which refer the relation of the traditional or atypical work, depending of the cases.</p> <p>The only specific regulation which could be fit the Telework, would be the D.L. 441/91 from the 14th of November - Work at Home - (Reference 11) which excludes from the context its application from the contribution of the intellectuality work.</p>
Spain	<p><u>Legislation:</u> None identified.</p> <p><u>Occupational safety and health issues identified:</u></p> <ul style="list-style-type: none"> ■ temporary employment with agencies; ■ long work hours without control; ■ disorders from VDU; ■ too much information; ■ inappropriate workplace; and, ■ isolation/social relationship.
Sweden	<p><u>Legislation:</u> The <i>Work Environment Act</i> covers telework. The employer must provide a working environment that satisfies the same requirements as for any other work.</p> <p><u>Agreements:</u> Working hours can be affected by agreements in individual cases.</p> <p><u>Occupational safety and health issues identified:</u> The issue of telework has recently been the subject of a thorough investigation to establish the problems with this kind of work.</p>
United Kingdom	<p><u>Legislation:</u> The <i>Health and Safety at Work Act 1974</i> covers teleworkers. Employers must comply with their duties under the <i>Management of Health and Safety at Work Regulations</i>. Teleworkers who are significant users of display screen equipment are also protected under the <i>Health and Safety (Display Screen Equipment) Regulations 1992</i>, in the same way as employees working in an employer's premises are protected.</p>

6.3

EMPLOYMENT STATUS

6.3.1 Employment status – summary

Fixed Term Contract

In general, the comments made in the national reports indicate that current occupational safety and health legislation covers workers irrespective of their contract basis. However, a number of concerns were identified for this employment category, these included:

- a number of fixed term employees regarded their relationship with their employer as negative; and
- lack of training and information.

Temporary Employment Agency Contract

Similar to the fixed term employment worker the current occupational safety and health legislation also covers this category of worker, irrespective of their service contractual arrangements. However, a number of concerns were reported by the Focal Points with respect to this category, including:

- lack of training and information;
- lack of medical surveillance (particularly in construction);
- lack of motivation; and
- difficulty in achieving a good standard of safety and health protection.

Indications from the comments made in the national reports is that the number of temporary contracts is also on the increase.

Apprenticeship/other Training Employment Status

Similar to the other employment categories discussed above the general comments made in the national reports indicate that current occupational health and safety legislation protects individuals in this employment status category. Fewer Focal Points reported major concerns, those that were reported included: insufficient information and training and low self-esteem.

Self-Employed

In this employment category, one national report commented that agency staff, teleworkers, students and the self-employed, especially when employed at temporary or mobile construction site will over the next three to five years receive special attention.

In general the comments made in the national report indicated that current occupational safety and health legislation extended to this class of employment status. However, one Focal Point believed that even with such regulations this class of worker faces particular problems particularly in the construction sector. Common concerns reported included:

- self-employed are required to look after their own safety;
- long working hours;
- no preventive organisations; and
- high rate of workplace.

6.3.2 Employment status – introduction

To determine the extent to which each Member State makes provision for persons of differing employment status, each Focal Point was asked to comment on the particular concerns relating to the following categories of employment status:

- fixed term contract;
- temporary employment agency contract;
- apprenticeship or other training scheme; and
- self-employed.

In collating and presenting the information supplied by the Focal Points, it must be appreciated that the method by which the Focal Point assessed the safety and health provisions for each of the listed employment categories was different.

6.3.3 Employment status – ESWC-data

ESWC- data relating to employment status to provide a European picture can be find on the Dublin Foundation's Web page under <http://www.eurofound.ie/themes/health/hwin12.html>.

6.3.4 Employment status – fixed term contract¹⁴⁷

“Can you indicate any particular concerns in the Member State regarding the working conditions of people that work on basis of fixed term contracts (e.g. exposure to dangerous substances, physical work, safety risks, (lack of) preventive measures at company level such as training/instruction, medical surveillance, etc.)?”

Member State	Comments received
Austria	The health and safety regulations apply to all workers regardless of whether it is a fixed term contract or a permanent contract.
Belgium	No information available.
Denmark	<p><u>Legislation:</u> The <i>Working Environment Act</i> applies in the same way regardless of employment status or any distinction between different types of employees.</p> <p>Specific emphasis within the <i>Working Environment Act</i> has been made on drawing attention to proper instruction of new employees because of the particular concern for taking preventive measures for this category of employees.</p> <p>Due to particular concerns regarding the working conditions of employees under the age of 18, employees who are pregnant or breast feeding, specific regulations cover these categories of employees.</p> <p><u>Concerns:</u> There are no current considerations to initiate specific measures for these categories of employment.</p>
Finland	<p><u>Concerns:</u> Two out of three fixed-term employees viewed the nature of their employment relationship as a negative thing rather than as a choice that suited them. Women seemed to find fixed-term employment particularly difficult because 75% regarded it as a negative thing, whereas 56% of men held the same view.</p> <p>Regardless of age group, women saw fixed-term employment as a much more strenuous situation than men. The number of those who found the situation stressful was the largest: ■ Health care field, social care field, service; and agricultural work.</p>
France	No information available.
Germany	<p><u>Legislation:</u> Occupational safety and health legal requirements apply with respect to these employment relationships.</p>
Greece	<p><u>Concerns</u> Does not believe there were any problems relating to fixed term employment contracts.</p>
Netherlands	<p><u>Legislation:</u> All regulations based on the <i>Working Conditions Act</i> apply to all workers that have a labour contract regardless of whether it is a fixed term contract or a contract on a permanent basis.</p>
Ireland	<p><u>Legislation:</u> This employment category is covered by Regulation 4 of the <i>Safety Health and Welfare at Work (General Applications) Regulations, 1993</i>.</p> <p>Temporary workers should be afforded the same level of protection as full time employees, while the self-employed are required to look after their own safety. Apprenticeships covered by the above regulations but also by Section 6 of the <i>Safety, Health and Welfare at Work Act, 1989</i>.</p> <p>Health and Safety Laws do not cover full time students.</p>
Italy	No information available.

¹⁴⁷ A fixed term contract is considered to be a contract of at least one year's duration.

"Can you indicate any particular concerns in the Member State regarding the working conditions of people that work on basis of fixed term contracts (e.g. exposure to dangerous substances, physical work, safety risks, (lack of) preventive measures at company level such as training/instruction, medical surveillance, etc.)?"

Member State	Comments received
Luxembourg	No information available.
Portugal	<u>Legislation:</u> Independently of work contracts, the safety, hygiene and health conditions are guaranteed for all workers, by a mass of Diplomas, as described in articles 59° and 64° of the <i>Portuguese Constitution</i> .
Spain	<u>Concerns:</u> Concerns regarding the working conditions of people with fixed term contracts include: <ul style="list-style-type: none"> ■ precarious status/instability; ■ unsatisfactory work; and ■ and not enough information and training. (based on the opinions of experts).
Sweden	<u>Comments:</u> The changed labour market includes various types of fixed-term contracts and temporary contracts substituting for the permanent employee, as well as employment by the day or by the hour. Studies have shown that these groups have very different working conditions. Project workers tend to be educated and have a great deal of control over their working conditions which can lead to a positive type of stress. Whereas, short-term contracts involve monotonous and physically demanding duties. And employees have little control on their working situation which leads to a negative stress.
United Kingdom	<u>Legislation:</u> <i>The Management of Health and Safety at Work Regulations 1992</i> , places duties on the employer in respect of temporary workers the <i>DTI (Department of Trade and Industry)</i> , who has responsibility for the law governing "Employment Agencies", is reviewing the <i>Employment Agencies Act 1973</i> . The <i>DTI</i> proposes to clarify where responsibilities for agency/temporary workers lie in relation to other employment law, exchange of information, training, etc. <u>Comments:</u> Health and Safety Executive (HSE) has defined temporary staff as those on fixed term contracts and those taken on for a specific period. Separate concerns for these two groups have not been identified. The Health and Safety Commission (HSC) has asked the HSE to consider further and clarify where the responsibility for occupational health and safety of temporary agency workers should lie, e.g. who has responsibility for training, providing PPE, health surveillance, etc.

6.3.5 Employment status – temporary employment agency contract¹⁴⁸

"Can you indicate any particular concerns in the Member State regarding the occupational safety and health of people that work on basis of temporary employment agency contracts (e.g. exposure to dangerous substances, physical work, safety risks, (lack of) preventive measures at company level such as training/instruction, medical surveillance, etc.)?"

Member State	Comments received
Austria	The health and safety regulations apply to all workers with temporary agency contracts. For the duration of assignment, the undertaking which is making use of the services of a temporary worker is responsible for compliance with the regulations on health and safety at work.

¹⁴⁸ A temporary employment agency contract is defined as a contract of less than one year.

“Can you indicate any particular concerns in the Member State regarding the occupational safety and health of people that work on basis of temporary employment agency contracts (e.g. exposure to dangerous substances, physical work, safety risks, (lack of) preventive measures at company level such as training/instruction, medical surveillance, etc.)?”

Member State	Comments received
Belgium	<p><u>Legislation:</u> The <i>Royal Decree (19/2/97)</i> on health and safety at work measures for agency staff must ensure that agency staff enjoy the same level of protection as other employees in the company. This principle has resulted in a series of obligations for the user and the agencies.</p> <p>The <i>Royal Decree (4/12/97)</i> set up a central safety department for agency staff. The department assists the agencies in observing their obligations towards agency staff. All agencies are required to join.</p> <p><u>Comments:</u> In general, too little attention is given to the training, induction and provision of instructions to such employees. In addition, according to the industrial accident statistics their profile belongs to the category of employees that is most often the victim of industrial accidents.</p> <p>Agency staff, teleworkers, students and the self-employed, especially when they are employed at temporary or mobile construction sites, will receive special attention in the next three to five years.</p>
Denmark	<p><u>Legislation:</u> The <i>Working Environment Act</i> applies in the same way regardless of employment status or any distinction between different types of employees.</p> <p>Specific emphasis within <i>The Working Environment Act</i> has been made on drawing attention to proper instruction of new employees because of the particular concern for taking preventive measures for this category of employees.</p> <p>Due to particular concerns regarding the working conditions of employees under the age of 18, employees who are pregnant or breast feeding, specific regulations cover these categories of employees.</p> <p><u>Concerns:</u> There are no current considerations to initiate specific measures for these categories.</p>
Finland	No information available.
France	No information available.
Germany	<p><u>Legislation:</u> Occupational safety and health legal requirements applies with respect to these employment relationships.</p>
Greece	<p><u>Concerns:</u> Although there are insufficient data to draw conclusions, it is believed that this type of employment faces particular problems, mainly in construction works where there is lack of effective preventive measures at company level (training, instructions), probably low level of medical surveillance.</p>
Netherlands	<p><u>Legislation:</u> The employer engaging the temporary worker is responsible for compliance with the regulations of the <i>Working Conditions Act</i>.</p> <p>Exemptions to the regulations include sickness absence and occupational safety and health services. In such cases the agency that has issued the temporary employment contract is responsible.</p>
Ireland	No information available.
Italy	No information available.
Luxembourg	No information available.
Portugal	<p><u>Legislation:</u> Independently of work contracts, the safety, hygiene and health conditions are guaranteed for all workers, by a mass of Diplomas, as described in articles 59° and 64° of the <i>Portuguese Constitution</i>.</p>
Spain	<p><u>Concerns:</u> Concerns regarding the people working under temporary employment agencies include:</p> <ul style="list-style-type: none"> ■ lack of motivation; ■ difficulty to get good protection in safety and health; ■ not enough information and training; and ■ precarious status and instability (based on the opinions of experts).

"Can you indicate any particular concerns in the Member State regarding the occupational safety and health of people that work on basis of temporary employment agency contracts (e.g. exposure to dangerous substances, physical work, safety risks, (lack of) preventive measures at company level such as training/instruction, medical surveillance, etc.)?"

Member State	Comments received
Sweden	<p><u>Comment:</u></p> <p>The number of temporary employment agency contracts appears to be increasing, by approximately 40-50% each year, and is now estimated to include around 20,000 people.</p>
United Kingdom	<p><u>Legislation:</u></p> <p><i>The Management of Health and Safety at Work Regulations 1992</i>, places duties on the employer in respect of temporary workers.</p> <p>The DTI, who has responsibility for the law governing <i>Employment Agencies</i>, is reviewing the <i>Employment Agencies Act 1973</i>. DTI proposes to clarify where responsibilities for agency/temporary workers lie in relation to other employment law, exchange of information, training, etc.</p> <p><u>Comments:</u></p> <p>HSE has defined temporary staff as those on fixed term contracts and those taken on for a specific period. Separate concerns for these two groups have not been identified.</p> <p>The HSC has asked the HSE to consider further and clarify where the responsibility for occupational health and safety of temporary agency workers should lie, e.g. who has responsibility for training, providing PPE, health surveillance, etc.</p>

6.3.6 Employment status – apprenticeship or other training scheme

"Can you indicate any particular concerns in the Member State regarding the occupational safety and health of people that work on basis of apprenticeships or other training schemes (e.g. exposure to dangerous substances, physical work, safety risks, (lack of) preventive measures at company level such as training/instruction, medical surveillance, etc.)?"

Member State	Comments received
Austria	<p>The health and safety regulations apply to employees that work on the basis of apprenticeship or other training schemes. For young people, (<=18) additional protection is provided in the Regulation on the prohibition and limitation of employment for young people.</p>
Belgium	<p><u>Legislation:</u></p> <p><i>The Well-Being Act 1996</i> equates the following categories of people to employees:</p> <ul style="list-style-type: none"> ■ people who perform work under the authority of another person other than by virtue of a contract of employment; ■ people following occupational training; ■ people on an apprenticeship; ■ student trainees; ■ apprentices and students following a course in which the study programme provides a form of work to be done in an education institution. <p><u>Comments:</u></p> <p>In the next three to five years the authorities will pay special attention to apprentices and students who follow a course in which the training programme provides a form of work that is done in an education institution. The same applies to the self-employed who work at temporary and mobile construction sites.</p> <p>Industrial accident statistics show that the profile of the victim corresponds to a young employee (between 21 and 30 years old, with 4 to 5 years of work experience). It is therefore recommended that young employees go through a system of part-time working and part-time training when they first start.</p>
Denmark	<p><u>Legislation:</u></p> <p><i>The Working Environment Act</i> applies in the same way regardless of employment status or any distinction between different types of employees.</p> <p>Specific emphasis within the <i>Working Environment Act</i> has been made on drawing attention to proper instruction of new employees because of the particular concern for taking preventive measures for this category of employees.</p> <p><u>Concerns:</u></p> <p>There are no current considerations to initiate specific measures for these categories of employment.</p>

“Can you indicate any particular concerns in the Member State regarding the occupational safety and health of people that work on basis of apprenticeships or other training schemes (e.g. exposure to dangerous substances, physical work, safety risks, (lack of) preventive measures at company level such as training/instruction, medical surveillance, etc.)?”

Member State	Comments received
Finland	No information available.
France	No information available.
Germany	<u>Comments:</u> Occupational safety and health legal requirements apply with respect to these employment relationships.
Greece	<u>Comments:</u> Does not believe there are problems associated within this category.
Netherlands	<u>Legislation:</u> The employer engaging the worker is responsible for compliance with the regulations of the <i>Working Conditions Act</i> . Exemptions to the regulations include sickness absence and occupational safety and health services. In such cases the agency that has issued the temporary employment contract is responsible.
Ireland	No information available.
Italy	Need for implementation of safety training.
Luxembourg	No information available.
Portugal	<u>Legislation:</u> Independently of work contracts, the safety, hygiene and health conditions are guaranteed for all workers, by a mass of Diplomas, as described in articles 59° and 64° of the <i>Portuguese Constitution</i> .
Spain	<u>Concerns:</u> Particular concerns regarding people working under apprenticeship or other training schemes include: <ul style="list-style-type: none"> ■ not enough information and training; ■ high pressure; ■ low self-esteem; and ■ more difficult to get protection under health and safety law. (Based on the opinions of experts).
Sweden	No information available.
United Kingdom	<u>Legislation:</u> As part of a project to examine whether differences exist and are justified in respect of employers' duties to their employees and other workers, HSE considered “students on work placements”, and were satisfied that the current <i>Health and Safety (Training for Employment) Regulations 1990</i> and the guide for organisers on <i>Managing health and safety on work experience</i> (Reference 13) adequately covered this group of workers. <u>Comments:</u> HSE has not identified any particular concerns under this employment category.

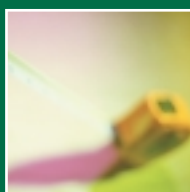
6.3.7 Employment status – self-employed

“Can you indicate any particular concerns in the Member State regarding the occupational safety and health of people that work as self-employed (e.g. exposure to dangerous substances, physical work, safety risks, (lack of) preventive measures at company level such as training/instruction, medical surveillance, etc.)?”

Member States	Comments received
Austria	The health and safety regulations do not apply to the self-employed.
Belgium	<p><u>Comments:</u> Agency staff, teleworkers, students and the self-employed, especially when they are employed at temporary or mobile construction sites, will receive special attention in the next three to five years. They are exposed to the same risks as employees in comparable working conditions.</p> <p>The following measures can be taken: conducting awareness campaigns, training, proposals to improve working conditions further to case studies of dysfunctional situations, the provision of this information to the bodies that promote the interests of this category of employee, the same legal protection for students and self-employed that employees have.</p>
Denmark	<p><u>Legislation:</u> <i>The Working Environment Act</i> applies in the same way regardless of employment status or any distinction between different types of employees.</p> <p><u>Concerns:</u> There are no current considerations to initiate specific measures for these categories of employment.</p>
Finland	No information available.
France	No information available.
Germany	<p><u>Comments:</u> Occupational safety and health legal requirements apply with respect to these employment relationships.</p>
Greece	<p><u>Legislation:</u> These categories are covered by the <i>Safety and Health at Work laws</i>.</p> <p><u>Comments:</u> Although there is insufficient data to draw conclusions, it is believed that this type of employment faces particular problems, mainly in construction work where there is lack of effective preventive measures at company level and probably a low level of medical surveillance. Temporary workers should be afforded the same level of protection as full time employees, while the self-employed are required to look after their own safety, except in the construction sector where they must take care not to harm any other workers in the same site. Apprenticeships are covered by the same mentioned regulations.</p>
Netherlands	<p><u>Legislation:</u> The protection by the <i>Working Conditions Act</i> differs from the previous employment status descriptions. <i>The Ministry of Social Affairs and Employment</i> has the authority to force self-employed workers to comply with regulations based on the <i>Working Conditions Act</i>. This happens only in situations of real and immediate risks.</p> <p><u>Comments:</u> The overall picture is that the self-employed are in a better position to influence and control their own work than any of the other categories of workers.</p> <p>The self-employed do have a physical workload at a higher level than the other categories, work substantially more hours per week and more at irregular hours. A significant higher level of physical and psychological complaints related to the work.</p>
Ireland	No information available.
Italy	No information available.
Luxembourg	No information available.
Portugal	<p><u>Legislation:</u> Independently of work contracts, the safety, hygiene and health conditions are guaranteed for all workers, by a mass of Diplomas, as described in articles 59° and 64° of the <i>Framework Law (D.L. 441/91)</i>.</p>

“Can you indicate any particular concerns in the Member State regarding the occupational safety and health of people that work as self-employed (e.g. exposure to dangerous substances, physical work, safety risks, (lack of) preventive measures at company level such as training/instruction, medical surveillance, etc.)?”

Member States	Comments received
Spain	<p><u>Concerns:</u> Particular concerns regarding the occupational safety and health of people that are self-employed include:</p> <ul style="list-style-type: none"> ■ long work time; ■ no preventive organisation; and ■ high workplace. <p>(Based on the opinions of experts).</p>
Sweden	No information available.
United Kingdom	<p><u>Legislation:</u> An employer is responsible for the health and safety and welfare of the “apparently self employed” under the <i>Health and Safety Work Act 1974</i>.</p> <p><u>Comments:</u> The HSE and the HSC agreed that the self-employed were adequately protected by United Kingdom law. Where gaps in legislation were identified it was agreed that these would be considered further under relevant legislation.</p> <p>One group for consideration which may fall under this category is a group referred to as the apparently self-employed, a worker who is responsible for his/her own tax and/or national insurance but works under the direction and control of someone else. In the United Kingdom these workers are generally considered to be an employee for health and safety purposes.</p> <p><u>Concern:</u> HSE were concerned that there was scope for some employers to interpret some health and safety regulations, namely those that applied differently to the self-employed, as applying to the so-called apparently self-employed with the result of evading their health and safety responsibilities.</p> <p>Although there was no need to amend current United Kingdom law to clarify this situation, the HSC agreed there was a need to raise awareness about the responsibilities for health and safety for this group of workers.</p>



APPENDICES

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2	INTERNATIONAL STANDARD CLASSIFICATION OF OCCUPATIONS (ISCO-CODE)	9B	OCCUPATIONAL CATEGORIES REPORTED IN THE NATIONAL REPORTS
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APPENDIX 1

Sectors statistical classification of economic activity in the European Union (NACE-code)

SOURCE - NACE REV.1, 1993

The following sector classifications were used by the Focal Points.

A - B: Agriculture, hunting, forestry and fishing

- 01 Agriculture, hunting and related service activities
- 02 Forestry, logging and related service activities
- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing

C - D: Mining, quarrying and manufacturing

- 10 Mining of coal and lignite; extraction of peat
- 11 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
- 12 Mining of uranium and thorium ores
- 13 Mining of metal ores
- 14 Other mining and quarrying
- 15 Manufacture of food products and beverages
- 16 Manufacture of tobacco products
- 17 Manufacture of textiles
- 18 Manufacture of wearing apparel; dressing and dyeing of fur
- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 21 Manufacture of paper and paper products
- 22 Publishing, printing and reproduction of recorded media
- 23 Manufacture of coke, refined petroleum products and nuclear fuel
- 24 Manufacture of chemicals and chemical products
- 25 Manufacture of rubber and plastic products
- 26 Manufacture of other non-metallic mineral products
- 27 Manufacture of basic metals
- 28 Manufacture of fabricated metal products, except machinery and equipment
- 29 Manufacture of machinery and equipment NEC
- 30 Manufacture of office, accounting and computing machinery
- 31 Manufacture of electrical machinery and apparatus NEC
- 32 Manufacture of radio, television and communication equipment and apparatus
- 33 Manufacture of medical, precision and optical instruments, watches and clocks
- 34 Manufacture of motor vehicles, trailers and semi-trailers
- 35 Manufacture of other transport equipment
- 36 Manufacture of furniture; manufacturing NEC
- 37 Recycling

E: Electricity, gas and water supply

- 40 Electricity, gas, steam and hot water supply
- 41 Collection, purification and distribution of water

F: Construction

- 45 Construction

G: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods

- 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
- 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods

H: Hotels and restaurants

- 55 Hotels and restaurants

I: Transport, storage and communications

- 60 Land transport; transport via pipelines
- 61 Water transport
- 62 Air transport
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 64 Post and telecommunications

J: Financial intermediation

- 65 Financial intermediation, except insurance and pension funding
- 66 Insurance and pension funding, except compulsory social security
- 67 Activities auxiliary to financial intermediation

K: Real estate, renting and business activities

- 70 Real estate activities
- 71 Renting of machinery and equipment without operator and of personal and household goods
- 72 Computer and related activities
- 73 Research and development
- 74 Other business activities

L: Public administration and defence; compulsory social security

- 75 Public administration and defence; compulsory social security

M - Q: Other services

- 80 Education
- 85 Health and social work
- 90 Sewage and refuse disposal, sanitation and similar activities
- 91 Activities of membership organisations NEC
- 92 Recreational, cultural and sporting activities
- 93 Other service activities
- 95 Private households with employed persons
- 99 Extra-territorial organisations and bodies

APPENDIX 2

International standard classification of occupations (ISCO-code)

SOURCE - ISCO-88 (COM)

The following occupation classifications were used by the Focal Points.

- 0 Armed forces:**
 - 01 Armed forces
- 1 Legislators, senior officials and managers:**
 - 11 Legislators and senior officials
 - 12 Corporate managers
 - 13 Managers of small enterprises
- 2 Professionals:**
 - 21 Physical, mathematical and engineering science professionals
 - 22 Life science and health professionals
 - 23 Teaching professionals
 - 24 Other professionals
- 3 Technicians and associate professionals:**
 - 31 Physical and engineering science associate professionals
 - 32 Life science and health associate professionals
 - 33 Teaching associate professionals
 - 34 Other associate professionals
- 4 Clerks:**
 - 41 Office clerks
 - 42 Customer services clerks
- 5 Service workers and shop and market sales workers:**
 - 51 Personal and protective services workers
 - 52 Models, salespersons and demonstrators
- 6 Skilled agricultural and fishery workers:**
 - 61 Skilled agricultural and fishery workers
- 7 Craft and related trades workers:**
 - 71 Extraction and building trades workers
 - 72 Metal, machinery and related trades workers
 - 73 Precision, handicraft, craft printing and related trades workers
 - 74 Other craft and related trades workers
- 8 Plant and machine operators and assemblers:**
 - 80 Plant and machine operators.
 - 81 Stationary-plant and related operators
 - 82 Machine operators and assemblers
 - 83 Drivers and mobile plant operators
 - 84 Wood processing and machine operators
 - 85 Textile Machine operators
- 9 Elementary occupations:**
 - 91 Sales and services elementary occupations
 - 92 Agricultural, fishery and related labourers
 - 93 Labourers in mining, construction, manufacturing and transport

APPENDIX 3

Sectors truncated from the main text

INTRODUCTION

To clearly represent the most identified risk sectors the following sectors have been omitted from the main graphs of their respective section.

NOISE

Sectors mentioned once

- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 12 Mining of uranium and thorium ores
- 15 Manufacture of food products and beverages
- 18 Manufacture of wearing apparel; dressing and dyeing of fur
- 23 Manufacture of coke, refined petroleum products and nuclear fuel
- 30 Manufacture of office, accounting and computing machinery
- 32 Manufacture of radio, television and communication equipment and apparatus
- 33 Manufacture of medical, precision and optical instruments, watches and clocks
- 35 Manufacture of other transport equipment
- 55 Hotels and restaurants
- 60 Land transport, transport via pipelines
- 61 Water transport

Sectors mentioned twice

- 02 Forestry, logging and related service activities
- 10 Mining of coal and lignite; extraction of peat
- 11 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction
- 13 Mining of metal ores
- 22 Publishing, printing and reproduction of recorded media
- 25 Manufacture of rubber and plastic products
- 26 Manufacture of other non-metallic mineral products
- 29 Manufacture of machinery and equipment NEC
- 34 Manufacture of motor vehicles, trailers and semi-trailers
- 36 Manufacture of furniture; manufacturing NEC

Sectors mentioned three times

- 14 Other mining and quarrying

VIBRATION

Sectors mentioned once

- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 11 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
- 12 Mining of uranium and thorium ores
- 23 Manufacture of coke, refined petroleum products and nuclear fuel
- 32 Manufacture of radio, television and communication equipment and apparatus
- 36 Manufacture of furniture; manufacturing NEC
- 37 Recycling
- 61 Water transport
- 62 Air transport
- 75 Public administration and defence; compulsory social security
- 90 Sewage and refuse disposal, sanitation and similar activities
- 93 Other service activities

Sectors mentioned twice

- 10 Mining of coal and lignite; extraction of peat
- 13 Mining of metal ores
- 29 Manufacture of machinery and equipment NEC
- 35 Manufacture of other transport equipment
- 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel

Sectors mentioned three times

- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 27 Manufacture of basic metals

Sectors mentioned four times

- 01 Agriculture, hunting and related service activities
- 34 Manufacture of motor vehicles, trailers and semi-trailers

HIGH TEMPERATURE

Sectors mentioned once

- 10 Mining of coal and lignite; extraction of peat
- 17 Manufacture of textiles
- 34 Manufacture of motor vehicles, trailers and semi-trailers
- 35 Manufacture of other transport equipment
- 67 Activities auxiliary to financial intermediation
- 93 Other service activities

Sectors mentioned twice

- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 14 Other mining and quarrying
- 24 Manufacture of chemicals and chemical products
- 25 Manufacture of rubber and plastic products
- 32 Manufacture of radio, television and communication equipment and apparatus
- 75 Public administration and defence; compulsory social security

Sectors mentioned three times

- 18 Manufacture of wearing apparel; dressing and dyeing of fur
- 21 Manufacture of paper and paper products
- 45 Construction
- 55 Hotels and restaurants

LOW TEMPERATURE

Sectors mentioned once

- 15 Manufacture of food products and beverages
- 45 Construction
- 55 Hotels and restaurants
- 60 Land transport; transport via pipelines
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 72 Computer and related activities
- 73 Research and development
- 90 Sewage and refuse disposal, sanitation and similar activities
- 91 Activities of membership organisations NEC

Sectors mentioned twice

- 20 manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials

Sectors mentioned three times

- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods

LIFTING/MOVING HEAVY LOADS

Sectors mentioned once

- 27 Manufacture of basic metals
- 29 Manufacture of machinery and equipment NEC
- 35 Manufacture of other transport equipment
- 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
- 55 Hotels and restaurants
- 61 Water transport
- 75 Public administration and defence; compulsory social security
- 90 Sewage and refuse disposal, sanitation and similar activities

Sectors mentioned twice

- 01 Agriculture, Hunting and related service activities
- 02 Forestry, logging and related service activities
- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 15 Manufacture of food products and beverages
- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
- 60 Land transport; transport via pipelines
- 63 Supporting and auxiliary transport activities; activities of travel agencies

Sectors mentioned three times

- 62 Air transport
- 64 Post and telecommunications

REPETITIVE MOVEMENTS**Sectors mentioned once**

- 14 Other mining and quarrying
- 26 Manufacture of other non-metallic mineral products
- 27 Manufacture of basic metals
- 32 Manufacture of radio, television and communication equipment and apparatus
- 36 Manufacture of furniture; manufacturing NEC
- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
- 85 Health and social work

Sectors mentioned twice

- 01 Agriculture, hunting and related service activities
- 02 Forestry, logging and related service activities
- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 16 Manufacture of tobacco products
- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 25 Manufacture of rubber and plastic products
- 31 Manufacture of electrical machinery and apparatus NEC
- 45 Construction
- 55 Hotels and restaurants
- 61 Water transport
- 62 Air transport
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 64 Post and telecommunications
- 72 Computer and related activities
- 93 Other service activities

Sectors mentioned three times

- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- 28 Manufacture of fabricated metal products, except machinery and equipment
- 32 Manufacture of radio, television and communication equipment and apparatus
- 34 Manufacture of motor vehicles, trailers and semi-trailers

STRENUOUS WORKING POSTURE**Sectors mentioned once**

- 01 Agriculture, hunting and related service activities
- 10 Mining of coal and lignite; extraction of peat
- 14 Other mining and quarrying
- 16 Manufacture of tobacco products
- 18 Manufacture of wearing apparel; dressing and dyeing of fur
- 24 Manufacture of chemicals and chemical products
- 27 Manufacture of basic metals
- 34 Manufacture of motor vehicles, trailers and semi-trailers
- 35 Manufacture of other transport equipment
- 40 Electricity, gas, steam and hot water supply
- 41 Collection, purification and distribution of water
- 72 Computer and related activities
- 90 Sewage and refuse disposal, sanitation and similar activities

Sectors mentioned twice

- 25 Manufacture of rubber and plastic products
- 28 Manufacture of fabricated metal products, except machinery and equipment
- 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
- 55 Hotels and restaurants
- 61 Water transport
- 62 Air transport
- 63 Supporting and auxiliary transport activities; activities of travel agencies

Sectors mentioned three times

- 02 Forestry, logging and related service activities
- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 64 Post and telecommunications

HANDLING CHEMICALS

Sectors mentioned once

- 10 Mining of coal and lignite; extraction of peat
- 11 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
- 14 Other mining and quarrying
- 17 Manufacture of textiles
- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 21 Manufacture of paper and paper products
- 31 Manufacture of electrical machinery and apparatus NEC
- 35 Manufacture of other transport equipment
- 36 Manufacture of furniture; manufacturing NEC
- 60 Land transport; transport via pipelines
- 73 Research and development

Sectors mentioned twice

- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- 22 Publishing, printing and reproduction of recorded media
- 25 Manufacture of rubber and plastic products
- 26 Manufacture of other non-metallic mineral products
- 27 Manufacture of basic metals

Sectors mentioned three times

- 15 Manufacture of food products and beverages
- 28 Manufacture of fabricated metal products, except machinery and equipment
- 85 Health and social work

HIGH SPEED WORK

Sectors mentioned once

- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 32 Manufacture of radio, television and communication equipment and apparatus
- 33 Manufacture of medical, precision and optical instruments, watches and clocks
- 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
- 55 Hotels and restaurants
- 61 Water transport
- 62 Air transport
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 66 Insurance and pension funding, except compulsory social security
- 74 Other business activities
- 85 Health and social work
- 91 Activities of membership organisations NEC
- 92 Recreational, cultural and sporting activities
- 93 Other service activities

Sectors mentioned twice

- 01 Agriculture, hunting and related service activities
- 28 Manufacture of fabricated metal products, except machinery and equipment
- 29 Manufacture of machinery and equipment NEC
- 31 Manufacture of electrical machinery and apparatus NEC

- 35 Manufacture of other transport equipment
- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
- 72 Computer and related activities

WORKSPACE DICTATED BY SOCIAL DEMAND

Sectors mentioned once

- 18 Manufacture of wearing apparel; dressing and dyeing of fur
- 21 Manufacture of paper and paper products
- 22 Publishing, printing and reproduction of recorded media
- 31 Manufacture of electrical machinery and apparatus NEC
- 35 Manufacture of other transport equipment
- 45 Construction
- 64 Post and telecommunications
- 67 Activities auxiliary to financial intermediation
- 70 Real estate activities
- 72 Computer and related activities
- 74 Other business activities
- 92 Recreational, cultural and sporting activities

Sectors mentioned twice

- 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
- 65 Financial intermediation, except insurance and pension funding
- 80 Education

MACHINE DICTATED WORKSPACE

Sectors mentioned once

- 14 Other mining and quarrying
- 22 Publishing, printing and reproduction of recorded media
- 23 Manufacture of coke, refined petroleum products and nuclear fuel
- 24 Manufacture of chemicals and chemical products
- 26 Manufacture of other non-metallic mineral products
- 35 Manufacture of other transport equipment
- 60 Land transport; transport via pipelines
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 64 Post and telecommunications
- 65 Financial intermediation, except insurance and pension funding
- 72 Computer and related activities

Sectors mentioned twice

- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- 34 Manufacture of motor vehicles, trailers and semi-trailers

PHYSICAL VIOLENCE

Sectors mentioned once

- 17 Manufacture of textiles
- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- 41 Collection, purification and distribution of water
- 45 Construction
- 61 Water transport
- 62 Air transport
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 67 Activities auxiliary to financial intermediation
- 70 Real estate activities
- 74 Other business activities
- 92 Recreational, cultural and sporting activities

Sectors mentioned twice

- 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
- 64 Post and telecommunications

Sectors mentioned three times

- 65 Financial intermediation, except insurance and pension funding

BULLYING AND VICTIMISATION

Sectors mentioned once

- 01 Agriculture, hunting and related service activities
- 15 Manufacture of food products and beverages
- 16 Manufacture of tobacco products
- 17 Manufacture of textiles
- 18 Manufacture of wearing apparel; dressing and dyeing of fur
- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- 32 Manufacture of radio, television and communication equipment and apparatus
- 45 Construction
- 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
- 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
- 60 Land transport; transport via pipelines
- 61 Water transport
- 90 Sewage and refuse disposal, sanitation and similar activities

SEXUAL HARASSMENT

Sectors mentioned once

- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 15 Manufacture of food products and beverages
- 16 Manufacture of tobacco products
- 17 Manufacture of textiles
- 32 Manufacture of radio, television and communication equipment and apparatus
- 36 Manufacture of furniture; manufacturing NEC
- 37 Recycling
- 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
- 62 Air transport
- 75 Public administration and defence; compulsory social security
- 92 Recreational, cultural and sporting activities
- 93 Other service activities

MONOTONOUS WORK

Sectors mentioned once

- 02 Forestry, logging and related service activities
- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 13 Mining of metal ores
- 14 Other mining and quarrying
- 15 Manufacture of food products and beverages
- 22 Publishing, printing and reproduction of recorded media
- 26 Manufacture of other non-metallic mineral products
- 31 Manufacture of electrical machinery and apparatus NEC
- 32 Manufacture of radio, television and communication equipment and apparatus
- 36 Manufacture of furniture; manufacturing NEC
- 40 Electricity, gas, steam and hot water supply
- 41 Collection, purification and distribution of water
- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods hotels and restaurants
- 62 Air transport
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 67 Activities auxiliary to financial intermediation
- 72 Computer and related activities
- 73 Research and development
- 80 Education
- 85 Health and social work
- 91 Activities of membership organisations NEC
- 93 Other service activities

Sectors mentioned twice

- 10 Mining of coal and lignite; extraction of peat
- 18 Manufacture of wearing apparel; dressing and dyeing of fur
- 21 Manufacture of paper and paper products

- 25 Manufacture of rubber and plastic products
- 27 Manufacture of basic metals
- 60 Land transport; transport via pipelines
- 64 Post and telecommunications

PERSONAL PROTECTIVE EQUIPMENT

Sectors mentioned once

- 21 Manufacture of paper and paper products
- 25 Manufacture of rubber and plastic products
- 35 Manufacture of other transport equipment
- 37 Recycling
- 75 Public administration and defence; compulsory social security
- 94 Other service activities

Sectors mentioned twice

- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 15 Manufacture of food products and beverages
- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 40 Electricity, gas, steam and hot water supply
- 41 Collection, purification and distribution of water
- 85 Health and social work

Sectors mentioned three times

- 02 Forestry, logging and related service activities
- 23 Manufacture of coke, refined petroleum products and nuclear fuel
- 24 Manufacture of chemicals and chemical products

ACCIDENTS INVOLVING 3 DAYS ABSENCE

Sectors mentioned once

- 11 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
- 12 Mining of uranium and thorium ores
- 16 Manufacture of tobacco products
- 17 Manufacture of textiles
- 31 Manufacture of electrical machinery and apparatus NEC
- 34 Manufacture of motor vehicles, trailers and semi-trailers
- 35 Manufacture of other transport equipment
- 36 Manufacture of furniture; manufacturing NEC
- 40 Electricity, gas, steam and hot water supply
- 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
- 55 Hotels and restaurants
- 74 Other business activities
- 75 Public administration and defence; compulsory social security

Sectors mentioned twice

- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
- 10 Mining of coal and lignite; extraction of peat
- 13 Mining of metal ores
- 14 Other mining and quarrying
- 21 Manufacture of paper and paper products
- 26 Manufacture of other non-metallic mineral products
- 29 Manufacture of machinery and equipment NEC
- 90 Sewage and refuse disposal, sanitation and similar activities

Sectors mentioned three times

- 27 Manufacture of basic metals
- 63 Supporting and auxiliary transport activities; activities of travel agencies

FATAL ACCIDENTS

Sectors mentioned once

- 10 Mining of coal and lignite; extraction of peat
- 13 Mining of metal ores
- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 21 Manufacture of paper and paper products
- 24 Manufacture of chemicals and chemical products
- 27 Manufacture of basic metals
- 35 Manufacture of other transport equipment
- 37 Recycling
- 40 Electricity, gas, steam and hot water supply
- 41 Collection, purification and distribution of water
- 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
- 55 Hotels and restaurants
- 61 Water transport
- 75 Public administration and defence; compulsory social security
- 90 Sewage and refuse disposal, sanitation and similar activities

Sectors mentioned twice

- 29 Manufacture of machinery and equipment NEC
- 63 Supporting and auxiliary transport activities; activities of travel agencies

OCCUPATIONAL DISEASES

Sectors mentioned once

- 10 Mining of coal and lignite; extraction of peat
- 13 Mining of metal ores
- 16 Manufacture of tobacco products
- 17 Manufacture of textiles
- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- 25 Manufacture of rubber and plastic products
- 30 Manufacture of office, accounting and computing machinery
- 32 Manufacture of radio, television and communication equipment and apparatus
- 33 Manufacture of medical, precision and optical instruments, watches and clocks
- 37 Recycling
- 60 Land transport; transport via pipelines
- 61 Water transport
- 63 Air transport
- 75 Public administration and defence, compulsory social security

Sectors mentioned twice

- 14 Other mining and quarrying
- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 26 Manufacture of other non-metallic mineral products
- 31 Manufacture of electrical machinery and apparatus NEC
- 34 Manufacture of motor vehicles, trailers and semi-trailers
- 36 Manufacture of furniture; manufacturing NEC
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 90 Sewage and refuse disposal, sanitation and similar activities
- 93 Other service activities

Sectors mentioned three times

- 29 Manufacture of machinery and equipment NEC

Sectors mentioned four times

- 35 Manufacture of other transport equipment

MUSCULOSKELETAL DISORDERS

Sectors mentioned once

- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 14 Other mining and quarrying
- 15 Manufacture of food products and beverages

- 17 Manufacture of textiles
- 18 Manufacture of wearing apparel; dressing and dyeing of fur
- 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
- 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 23 Manufacture of coke, refined petroleum products and nuclear fuel
- 25 Manufacture of rubber and plastic products
- 29 Manufacture of machinery and equipment NEC
- 30 Manufacture of office, accounting and computing machinery
- 31 Manufacture of electrical machinery and apparatus NEC
- 32 Manufacture of radio, television and communication equipment and apparatus
- 36 Manufacture of furniture; manufacturing NEC
- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
- 60 Land transport; transport via pipelines
- 61 Water transport
- 62 Air transport
- 73 Research and development
- 80 Education
- 90 Sewage and refuse disposal, sanitation and similar activities

Sectors mentioned twice

- 02 Forestry, logging and related service activities
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 65 Financial intermediation, except insurance and pension funding
- 75 Public administration and defence; compulsory social security
- 85 Health and social work

STRESS

Sectors mentioned once

- 02 Forestry, logging and related service activities
- 10 Mining of coal and lignite; extraction of peat
- 15 Manufacture of food products and beverages
- 24 Manufacture of chemicals and chemical products
- 28 Manufacture of fabricated metal products, except machinery and equipment
- 34 Manufacture of motor vehicles, trailers and semi-trailers
- 35 Manufacture of other transport equipment
- 36 Manufacture of furniture; manufacturing NEC
- 40 Electricity, gas, steam and hot water supply
- 41 Collection, purification and distribution of water
- 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
- 61 Water transport
- 63 Supporting and auxiliary transport activities; activities of travel agencies
- 64 Post and telecommunications
- 66 Insurance and pension funding, except compulsory social security
- 67 Activities auxiliary to financial intermediation
- 70 Real estate activities
- 72 Computer and related activities
- 91 Activities of membership organisations NEC
- 92 Recreational, cultural and sporting activities
- 93 Other service activities

Sectors mentioned twice

- 25 Manufacture of rubber and plastic products
- 26 Manufacture of other non-metallic mineral products
- 27 Manufacture of basic metals
- 62 Air transport

Sectors mentioned three times

- 45 Construction
- 55 Hotels and restaurants
- 65 Financial intermediation, except insurance and pension funding

OCCUPATIONAL SICKNESS ABSENCE

Sectors mentioned once

- 02 Forestry, logging and related service activities
- 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing
- 17 Manufacture of textiles
- 24 Manufacture of chemicals and chemical products
- 27 Manufacture of basic metals
- 31 Manufacture of electrical machinery and apparatus NEC
- 34 Manufacture of motor vehicles, trailers and semi-trailers
- 40 Electricity, gas, steam and hot water supply
- 55 Hotels and restaurants
- 61 Water transport
- 93 Other service activities

Sectors mentioned twice

- 01 Agriculture, hunting and related service activities
- 15 Manufacture of food products and beverages
- 45 Construction

APPENDIX 4

Occupations truncated from the main text

INTRODUCTION

To clearly represent the most identified risk occupations the following occupations have been omitted from the main graphs of their respective section.

NOISE

Occupations mentioned once

- 01 Armed forces
- 61 Skilled agricultural and fishery workers
- 80 Plant and machine operators
- 84 Wood processing and machine operators
- 85 Textile machine operators
- 91 Sales and services elementary occupations

VIBRATION

Occupations mentioned once

- 73 Precision, handicraft, craft printing and related trades workers
- 85 Textile machine operators

Occupations mentioned twice

- 1 Armed forces
- 74 Other craft and related trades workers

Occupations mentioned four times

- 61 Skilled agricultural and fishery workers
- 81 Stationary-plant and related operators

HIGH TEMPERATURE

Occupations mentioned once

- 80 Plant and machine operators
- 83 Drivers and mobile plant operators

Occupations mentioned twice

- 51 Personal and protective services workers
- 73 Precision, handicraft, craft printing and related trades workers
- 92 Agricultural, fishery and related labourers

Occupations mentioned three times

- 61 Skilled agricultural and fishery workers

LOW TEMPERATURE

Occupations mentioned once

- 72 Metal, machinery and related trades workers
- 81 Stationary-plant and related operators
- 91 Sales and services elementary occupations

Occupations mentioned twice

- 82 Machine operators and assemblers
- 83 Drivers and mobile plant operators

Occupations mentioned three times

- 52 Models, salespersons and demonstrators

LIFTING/MOVING HEAVY LOADS

Occupations mentioned once

- 11 Legislators and senior officials
- 12 Corporate managers
- 41 Office clerks
- 42 Customer services clerks
- 51 Personal and protective services workers

- 74 Other craft and related trades workers
- 81 Stationary-plant and related operators

Occupations mentioned twice

- 73 Precision, handicraft, craft printing and related trades workers
- 83 Drivers and mobile plant operators
- 91 Sales and services elementary occupations

Occupations mentioned three times

- 61 Skilled agricultural and fishery workers
- 92 Agricultural, fishery and related labourers

REPETITIVE MOVEMENTS

Occupations mentioned once

- 11 Legislators and senior officials
- 12 Corporate managers
- 52 Models, salespersons and demonstrators
- 85 Textile machine operators

Occupations mentioned twice

- 71 Extraction and building trades workers
- 81 Stationary-plant and related operators
- 83 Drivers and mobile plant operators
- 92 Agricultural, fishery and related labourers

Occupations mentioned three times

- 41 Office clerks

Occupations mentioned four times

- 72 Metal, machinery and related trades workers
- 73 Precision, handicraft, craft printing and related trades workers

STRENUOUS WORKING POSTURE

Occupations mentioned once

- 11 Legislators and senior officials
- 12 Corporate managers
- 41 Office clerks
- 51 Personal and protective services workers
- 73 Precision, handicraft, craft printing and related trades workers
- 85 textile machine operators

Occupations mentioned three times

- 61 Skilled agricultural and fishery workers
- 74 Other craft and related trades workers
- 82 Machine operators and assemblers
- 83 Drivers and mobile plant operators
- 91 Sales and services elementary occupations

HANDLING CHEMICALS

Occupations mentioned once

- 01 Armed forces
- 24 Other professionals
- 51 Personal and protective services workers
- 91 Sales and services elementary occupations

Occupations mentioned twice

- 74 Other craft and related trades workers
- 83 Drivers and mobile plant operators

Occupations mentioned three times

- 22 Life science and health professionals

Occupations mentioned four times

- 32 Life science and health associate professionals
- 61 Skilled agricultural and fishery workers
- 73 Precision, handicraft, craft printing and related trades workers

HIGH SPEED WORK

Occupations mentioned once

- 23 Teaching professionals
- 31 Physical and engineering science associate professionals
- 61 Skilled agricultural and fishery workers
- 73 Precision, handicraft, craft printing and related trades workers
- 92 Agricultural, fishery and related labourers

Occupations mentioned twice

- 11 Legislators and senior officials
- 24 Other professionals
- 41 Office clerks
- 51 Personal and protective services workers
- 71 Extraction and building trades workers
- 93 Labourers in mining, construction, manufacturing and transport

Occupations mentioned three times

- 21 Physical, mathematical and engineering science professionals
- 22 Life science and health professionals
- 32 Life science and health associate professionals
- 74 Other craft and related trades workers
- 82 Machine operators and assemblers
- 91 Sales and services elementary occupations

WORKSPACE DICTATED BY SOCIAL DEMAND

Occupations mentioned once

- 01 Armed forces
- 11 Legislators and senior officials
- 13 Managers of small enterprises
- 21 Physical, mathematical and engineering science professionals
- 24 Other professionals
- 31 Physical and engineering science associate professionals
- 73 Precision, handicraft, craft printing and related trades workers
- 74 Other craft and related trades workers
- 91 Sales and services elementary occupations

Occupations mentioned twice

- 12 Corporate managers
- 23 Teaching professionals
- 33 Teaching associate professionals

MACHINE DICTATED WORKSPACE

Occupations mentioned once

- 42 Customer services clerks
- 61 Skilled agricultural and fishery workers
- 85 Textile machine operators
- 92 Agricultural, fishery and related labourers

Occupations mentioned twice

- 71 Extraction and building trades workers

Occupations mentioned three times

- 72 Metal, machinery and related trades workers
- 73 Precision, handicraft, craft printing and related trades workers
- 74 Other craft and related trades workers

PHYSICAL VIOLENCE

Occupations mentioned once

- 01 Armed forces
- 11 Legislators and senior officials
- 12 Corporate managers
- 13 Managers of small enterprises
- 23 Teaching professionals
- 34 Other associate professionals

- 51 Personal and protective services workers
- 72 Metal, machinery and related trades workers
- 74 Other craft and related trades workers
- 92 Agricultural, fishery and related labourers

Occupations mentioned twice

- 93 Labourers in mining, construction, manufacturing and transport

Occupations mentioned three times

- 83 Drivers and mobile plant operators

BULLYING AND VICTIMISATION

Occupations mentioned once

- 24 Other professionals
- 31 Physical and engineering science associate professionals
- 32 Life science and health associate professionals
- 34 Other associate professionals
- 41 Office clerks
- 51 Personal and protective services workers
- 71 Extraction and building trades workers
- 85 Textile machine operators
- 92 Agricultural, fishery and related labourers

SEXUAL HARASSMENT

Occupations mentioned once

- 21 Physical, mathematical and engineering science professionals
- 22 Life science and health professionals
- 33 Teaching associate professionals
- 80 Plant and machine operators.
- 82 Machine operators and assemblers
- 93 Labourers in mining, construction, manufacturing and transport

MONOTONOUS WORK

Occupations mentioned once

- 12 Corporate managers
- 21 Physical, mathematical and engineering science professionals
- 22 Life science and health professionals
- 23 Teaching professionals
- 24 Other professionals
- 32 Life science and health associate professionals
- 71 Extraction and building trades workers
- 74 Other craft and related trades workers
- 84 Wood processing and machine operators

Occupations mentioned twice

- 41 Office clerks
- 73 Precision, handicraft, craft printing and related trades workers
- 85 Textile machine operators

Occupations mentioned three times

- 72 Metal, machinery and related trades workers

PERSONAL PROTECTIVE EQUIPMENT

Occupations mentioned once

- 32 Life science and health associate professionals
- 51 Personal and protective services workers
- 52 Models, salespersons and demonstrators
- 73 Precision, handicraft, craft printing and related trades workers
- 74 Other craft and related trades workers
- 83 Drivers and mobile plant operators
- 91 Sales and services elementary occupations
- 92 Agricultural, fishery and related labourers

Occupations mentioned twice

- 01 Armed forces
- 61 Skilled agricultural and fishery workers

ACCIDENTS INVOLVING THREE DAYS ABSENCE**Occupations mentioned once**

- 01 Armed forces
- 42 Customer services clerks
- 84 Wood processing and machine operators
- 85 Textile machine operators

Occupations mentioned twice

- 41 Office clerks
- 92 Agricultural, fishery and related labourers

Occupations mentioned three times

- 74 Other craft and related trades workers
- 83 Drivers and mobile plant operators

FATAL ACCIDENTS**Occupations mentioned once**

- 01 Armed forces
- 51 Personal and protective services workers
- 73 Precision, handicraft, craft printing and related trades workers
- 81 Stationary-plant and related operators
- 82 Machine operators and assemblers
- 91 Sales and services elementary occupations
- No number assigned Builders
- No number assigned Car mechanics
- No number assigned Machine sitters
- No number assigned Platters
- No number assigned Plumbers
- No number assigned Reindeer herdsman/keeper
- No number assigned Turners, machinists, tool makers

Occupations mentioned twice

- 13 Managers of small enterprises
- 61 Skilled agricultural and fishery workers

OCCUPATIONAL DISEASES**Occupations mentioned once**

- 01 Armed forces
- 13 Managers of small enterprises
- 22 Life science and health professionals
- 23 Teaching professionals
- 32 Life science and health associate professionals
- 61 Skilled agricultural and fishery workers
- 73 Precision, handicraft, craft printing and related trades workers
- 81 Stationary-plant and related operators
- 91 Sales and services elementary occupations
- 92 Agricultural, fishery and related labourers
- No number assigned Assemblers
- No number assigned Helpers and Cleaners
- No number assigned Police

MUSCULOSKELETAL DISORDERS**Occupations mentioned once**

- 13 Managers of small enterprises
- 42 Customer services clerks
- 51 Personal and protective services workers
- 73 Precision, handicraft, craft printing and related trades workers
- 80 Plant and machine operators
- No number assigned Builders

No number assigned	Machine sitters
No number assigned	Platters
No number assigned	Plumbers
No number assigned	Turners, machinists, tool makers

Occupations mentioned twice

- 74 Other craft and related trades workers
- 82 Machine operators and assemblers

STRESS

Occupations mentioned once

- 01 Armed forces
- 11 Legislators and senior officials
- 32 Life science and health associate professionals
- 71 Extraction and building trades workers
- 74 Other craft and related trades workers
- 80 Plant and machine operators
- 84 Wood processing and machine operators
- 92 Agricultural, fishery and related labourers

Occupations mentioned twice

- 34 Other associate professionals
- 42 Customer services clerks
- 51 Personal and protective services workers
- 72 Metal, machinery and related trades workers
- 83 Drivers and mobile plant operators
- 91 Sales and services elementary occupations

Occupations mentioned three times

- 24 Other professionals
- 33 Teaching associate professionals

OCCUPATIONAL SICKNESS ABSENCE

Occupations mentioned once

- 01 Armed forces
- 11 Legislators and senior officials
- 12 Corporate managers
- 13 Managers of small enterprises
- 41 Office clerks
- 42 Customer services clerks
- 52 Models, salespersons and demonstrators
- 72 Metal, machinery and related trades workers
- 74 Other craft and related trades workers
- 91 Sales and services elementary occupations

APPENDIX 5A

Risk category – company size

Number of responses from Focal Points

For a variety of reasons, a number of Focal Points did not use the company categorization provided in the manual (small 1-49, medium 50-499 and large >500 employees) but used categories available as per their national data. Therefore the results have been presented as those provided by the Focal Points, although there is overlap.

Exposure/ OSH outcome	1 to 9	30-80	20-199	<49	50-99	50-499	100-499	>500	No response*
Vibration	1	0	0	4	0	1	0	0	10
High temperature	1	0	0	2	2	0	0	1	9
Low temperature	1	0	0	2	0	0	0	1	11
Lifting/moving heavy loads	1	0	0	6	0	0	0	0	8
Repetitive movements	0	0	0	2	0	1	2	0	10
Strenuous working postures	0	0	0	5	0	0	1	0	9
Handling chemicals ¹	0	0	0	4	1	0	0	1	8
High speed work	0	0	0	2	2	0	1	0	11
Workpace dictated by social demand	1	0	0	1	0	0	1	1	11
Machine dictated workpace	0	0	0	0	0	1	2	1	11
Physical violence ²	0	0	0	3	0	2	0	1	9
Bullying + victimisation	0	0	0	2	1	2	0	0	10
Sexual harassment	0	0	0	2	3	0	0	1	10
Monotonous work	0	0	0	2	0	1	1	1	11
Fatal accidents	0	0	1	3	0	2	0	0	9
Work-induced MSD	0	0	1	3	0	1	0	0	13
Stress	0	3	3	3	0	0	3	0	10
Occupational sickness absence	0	0	0	0	0	0	1	2	12
Occupational diseases	0	0	0	2	0	1	1	0	11

* A no response may also indicate that the Focal Point may not have observed any influence.

¹ One FOP indicated for Handling Chemicals "Working Alone".

² One Focal Point indicated <100 employees.

APPENDIX 5B

Risk category – gender

Number of responses from Focal Points

Exposure/OSH outcome	Male	Female	No response*
Strenuous working postures	5	2	10
Handling chemicals	7	0	8
High speed work	3	3	10
Workpace dictated by social demand	0	4	11
Machine dictated workplace	3	1	11
Physical violence	2	3	10
Bullying and victimisation	1	5	10
Monotonous work	1	6	9
Work-induced MSD	2	4	9
Stress	2	4	9
Occupational sickness absence	1	2	12

* A no response may also indicate that the Focal Point may not have observed any influence.

APPENDIX 5C

Risk category – age

Number of responses from Focal Points

Exposure/ OSH outcome	< 25	25-54	24-35	<30	45-54	>55	No response*
Noise	3	4	0	0	0	1	9
Vibration	3	3	0	0	0	1	10
High temperature	3	2	0	0	0	2	9
Low temperature	3	2	0	0	0	2	9
Lifting/moving heavy loads	4	2	0	0	0	0	9
Repetitive movements	1	2	0	1	0	0	11
Strenuous working postures	2	2	0	1	0	0	10
Handling chemicals	2	2	0	0	0	1	10
High speed work	1	2	0	0	0	2	11
Workpace dictated by social demand	1	1	0	0	0	0	13
Machine dictated workspace	0	2	0	0	0	0	13
Physical violence	1	3	0	0	0	0	11
Bullying and victimisation	2	3	0	0	0	0	10
Sexual harassment	4	2	1	1	0	1	8
Monotonous work	3	2	0	0	0	1	10
Work-induced MSD	0	1	0	0	1	4	10
Stress	0	1	0	0	0	5	9
Occupational sickness absence	0	1	0	0	0	4	11

* A no response may also indicate that the Focal Point may not have observed any influence.

APPENDIX 5D

Risk category – employment status

Number of responses from Focal Points

Exposure/ OSH outcome	(Agency) temporary contract	Self-employed	Permanent contract	Fixed term contract	Others ³	No response*
Noise	2	1	1	1	0	11
Vibration	1	2	0	1	0	12
High temperature	2	0	0	2	0	12
Low temperature	2	1	0	0	0	12
Lifting/moving heavy loads	0	3	0	2	1	9
Repetitive movements	1	1	0	1	0	12
Strenuous working postures	2	1	1	1	0	11
Handling chemicals	1	3	0	0	0	11
High speed work	0	1	1	1	0	12
Workpace dictated by social demand	0	1	1	0	0	13
Machine dictated workplace	1	0	1	0	0	13
Physical violence	0	0	2	2	0	12
Bullying and victimisation	1	0	2	2	1	10
Sexual harassment	1	0	1	2	1	10
Monotonous work	0	1	1	2	0	12
Accidents with more than 3 days absence	1	0	1	0	0	13
Fatal accidents	1	0	0	1	0	13
Work-induced MSD	0	2	0	0	0	13
Stress	0	2	0	1	1	11
Occupational sickness absence	0	0	2	0	1	12
Occupational diseases	0	1	0	0	0	14

* A no response may also indicate that the Focal Point may not have observed any influence.

³ Others include part-time contracts, non-permanent contracts, any status, casual work and lower job status.

APPENDIX 6

Hazards filtered out from the main text

INTRODUCTION

To clearly represent the most identified substances the following have been omitted from the main graphs of their respective section.

Carcinogens

- Methylenbischloroaniline (MbOCA)
- Rubber fume
- Cystostatic drugs
- Ethylene oxide
- Heavy metals
- Nickel compounds
- Benzyl
- Acrylonitrile
- Benzedine
- Trichloroethylene
- Nitrosamine
- Formaldehyde
- Dyes
- Pesticides
- Phytohaemagglutinin (PAH)
- Radon
- Wolfram carbide + cobalt
- Cobalt & nickel
- Dioxan
- Antimontrioxid atrazine

The number of times an individual sector was highlighted by the Focal Points as being affected by a particular carcinogen is shown in the table below.

Carcinogen		Benzyl	Benzedine	PAH	Nitrosamine	Acrylonitrile	Trichloroethylene	Wood dust	Heavy metals	Formaldehyde	Ionising radiation	Cystostatic drugs	Chromium (vi) copds	Dyes	Radon	Diesel fume	Cryst silica	Rubber fume	Benzene	MBOCA	Antimontrioxid	Atrazine	Asbestos
Sector	Total	5	5	7	7	5	5	14	7	4	3	1	24	1	6	17	23	2	34	1	2	2	41
1	4							1		1							1		1				
2	3							2									1		1				
3	2											1						1					
5	1							1															
11	1																	1					
13	2						1										1						
14	5															1	3					1	
16	2											2											
17	1																					1	
19	2											1											
21	2											2											
20	5							2		1		1											
22	1											1											
23	10															1			5		1	1	1
24	20								1				4	1			1		5				
25	13																	1	4	1	1	1	2
26	15								1								5		3				6
27	9								1				2				4		1				
28	9												5					1				1	
29	9								3				2					3					
31	2							1									1						
34	2																					2	
35	2												1									1	
36	5							3		1													
40	3																					2	
45	24							1			1		1			5	2						11
50	17							1	1							5		3					4
51	6							1							1	1		1					1
52	5							1							1			1					1
53	1														1								
60	10															4		1					2
61	3															1						1	
63	2															2							
71, 72, 73, 74	4																1		1				1
65	1														1								
75	1														1								
80	2														1			1					
85	4											1	1	1									
90	1																					1	
92	1																					1	
93	4							1									1		1				

Some carcinogenic substances have been deleted from this table because although they were identified by some Focal Points sectors were not given. The carcinogenic substance is:

- Dioxins

Neurotoxic substances

- Carbon monoxide
- Methyl amyl ketone
- Aluminium hydroxide
- Aluminium chloride
- Aluminium sulphate
- n-hexanol
- Thiram
- 1,2 Dibromoethane
- Phytohaemagglutinin (PAH)
- Aliphatic hydrocarbons
- Halogenated hydrocarbons
- Manganese
- Mercury
- Ethylene oxide
- n-hexane

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The number of times an individual sector was highlighted by the Focal Points as being affected by a particular neurotoxic is shown in the table below.

Neurotoxic substance																											
	Sector	Total	38	5	2	3	4	20	9	2	5	5	5	5	1	5	4	5	4	3	4	8	3	2	4	13	16
Toluene/xylene																											
White spirit																											
Manganese																											
Thiram																											
1,2-Dibromoethane																											
Aromatic/chlorinated solvents																											
Carbon monoxide																											
Ethylene oxide																											
n-hexanol																											
Halogenic hydrocarbons																											
n-hexane																											
PAH																											
Aliphatic hydrocarbons																											
Aluminium sulphate																											
Aluminium chloride																											
Aluminium hydroxide																											
Methyl amyl ketone																											
Mercury																											
Organophosphates/pesticides																											
Lead/compds																											
Manganese																											
Aldehydes																											
Cabon disulphide																											
Methanol																											
Organic solvents																											
1,2,5	9	1				1			5					1										1			
13	1																				1						
14	1																				1						
15	2										1		1														
17	1																			1							
19	3															1	1	1									
21	2											1		1													
20	5	3																							1	1	
22	5	1												1	1										1	1	
23	3												1	1								1					
24	33	5					2	2	1	4	4	3					1	2		1	2	1	1		2	2	
25	3	1										1					1										
26	6	2					4																				
27	10	3					2	4																1			
28	17	3					2	2	1									1			3			1	2	2	
29	9	1																			2			1	2	3	
30	2	2																									
31	6	2					2														1					1	
32	4	2					2																				
36	6	1													1	1									2	1	
37	1						1																				
41	1													1													
45	15	3					2									1	1			1				1	3	3	
50	5	1	1													1										2	
51	2	1	1																								
52	2	1	1																								
60	1																										
71,72,73,74	7	2	1	1	1											1		1									
85	3	1																		2							
90	3						1	1											1								
93	6	2	1	1	1													1									
Lab Analysis	1									1																	

Reproductive hazards

- Carbon monoxide
- Glycoethylene
- Organophosphates/pesticides
- Polychlorinated biphenyls (PCBs)
- Viruses
- Ionizing radiation
- Triglycidyl isocyanurate (TGIC)
- Biological agents
- Psychosocial/mental strain
- Physical workload
- Benzedrine
- Chloroform
- Dimethylformamide
- Toluene/xylene
- Acrylamide
- Benzo(a)pyrene
- 2-ethoxy ethanol
- 2-methoxy ethanol
- Phytohaemagglutinin (PAH)
- Cytostatic agents
- N-Methyl pyrrolidine
- Manganese
- Benzene
- Cadmium

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The number of times an individual sector was highlighted by the Focal Points as being affected by a particular reproductive hazard is shown in the table below.

Reproductive hazard	Biological agents																							
	TGIC	Night work/irregular hours	Viruses	Manganese	PAH	Benzene	Cadmium	Cytostatic agents	2-methoxy methanol	2-ethoxy ethanol	Benzo(a)pyrene	Acrlamide	Ethylene oxide	Mercury/mercury compds	N-Methyl pyrrolidine	Benzedyne	Organic solvents	PCBs	Organophosphates/pesticides	Glycoethylene	Lead/compds	Halothane	Sector	Total
	1	2	6	1	5	3	1	1	1	1	4	2	5	9	1	5	5	2	1	2	1	28	5	10
														1					1	1			4	1
													1										2	1
															1								1	
																1							2	1
																							1	
															2	1	1					1	14	
													1	1		2	1						7	
														1									6	
														1									7	
																							6	
																							5	
																							6	
																							1	
																							3	
																							2	
																							1	
																							7	
																							5	
																							3	
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																							2	
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																							1	
																							1	

Some reproductive hazards have been deleted from this table because although they were identified by some Focal Points sectors were not given. These reproductive hazards are:

- Psychosocial/mental strain
- Carbon monoxide
- Chloroform
- Cadmium
- Dimethylformamide
- Ionizing radiation
- Physical workload
- Toluene/Xylene

Infectious biological factors

- Aspergillus fumigatus
- Bacillus anthracis
- Brucella
- Campylobacteriose
- Central euro meningoencephalitis
- Enterohemorrhagic eschrichia coli
- Hospital aquired infections
- Legionella
- Meliteusis fever
- Transmissible spongiform encephalophies (TSE); (BSE, nvCJD)
- Typhoid fever

The number of times an individual sector was highlighted by the Focal Points as being affected by a infectious biological hazard is shown in the table below.

Infectious biological hazard		HIV	Enterohemorrhagic Escherichia coli	Central euro meningoencephalitis	Borrelia burgdorferi	Chlamyden	Hantavirus	Salmonellose	Campylobacteriose	Aspergillus fumigatus	Typhoid fever	Meltemus fever	TSE (BSE, nvCID)	Legionella	Leptospirosis	TB	Bacillus anthracis	Brucella	Zoonosis	Hepatitis virus B/C
Sector	Total	25	4	3	1	17	4	2	2	2	1	1	2	5	3	1	6	3	4	7
1	18	1	2	1	1	2	1		1	1										
2	5																			
15	8		2	1		2				1										
45	1																			
55	2	1																		
75	1	1																		
85	38	15		1		11	1	1	1											5
90	13	5				2				1	1	1	2							1
Lab work	4	1				1														1
Autopsy personnel	1					1														
Manufacturing	1													1						
Food Handling	1	1																		

Some infectious biological hazards have been deleted from this table because although they were identified by some Focal Points sectors were not given. The deleted infectious biological hazards are:

- Hospital acquired infections
- Scabies

Non Infectious biological factors

- Dust mites
- Animal dander
- Fungal spores
- Genetically modified organisms (GMOs, except humans)
- Proteolytic enzymes
- Enzymes
- Flours
- Microbial toxins
- Mogel
- Allergic alveolitis
- Sick building syndrome
- Bakers asthma
- Non-pathogenic
- Aspergillus niger
- Candida ciferii
- Altermaria alternata
- Aspergillus clavatus
- Mucor circinelloides

The number of times an individual sector was highlighted by the Focal Points as being affected by a non-infectious biological factor is shown in the table below.

Non infectious biological factor		Organic dust	Mogel	Sick building syndrome	Flours	Enzymes	Animal eothelium	Allergic alveolitis	Non-pathogenic	Alternaria alternata	Aspergillus clavatus	Aspergillus niger	Moulds (fungi, bacteria, yeasts)	GMOs (except humans)	Fungal spores	Animal dander	Endotoxins	Dust mites	Farmers lung
Sector	Total	6	2	1	1	6	5	3	3	1	1	2	6	2	4	2	8	1	2
1	17	1	1				1	1		1	1	1	1		2	1	3	1	2
15	8	2			1	1			1			1	1		1				
17	4	1													1	1	1		
20	3		1					1					1						
21	1	1																	
24	3					2								1					
45	2							1					1						
61	1	1																	
73	5					2	2							1					
75	2			1					1										
85	4						2		1							1			
90	3												1				2		
93	1					1													
Manufacturing	1																1		
Waste treatment	1												1						

Some non-infectious biological hazards have been deleted from this table because although they were identified by some Focal Points sectors were not given. The deleted non-infectious biological hazards are:

- Genitic Modified Organisms (except humans)
- Proteolytic enzymes
- Microbial toxins

APPENDIX 7

Emerging risks filtered out from the main text

EMERGING RISK -TOPICS

The following emerging risk topics have been omitted from the main report.

Area	Topic	Number of responses
Changing work patterns	■ Increase in attenuation	2
	■ Administration and VDU work	2
	■ Automation	1
	■ Night-time work	2
	■ Part-time	1
	■ Temporary contract/self-employed increase	1
	■ Excessive skilled workers	1
	■ Production control	1
	■ Sub-contracting in high risk activities	2
Changes in labour force	■ Changing jobs more frequently	2
	■ Self employed, temporary workers	2
	■ Changing workers speciality	1
	■ Young workers	1
	■ Immigrants	1
	■ Elite-unskilled workers	1
Particular sensitive risk groups	■ Self employed, temporary workers	2
	■ Agency staff and apprentices	2
	■ Lower educated work force	1
	■ Increase in female employees	1
	■ Immigrants	1
Clean and safe production and products	■ Safe methods to purify contaminated soil	1
	■ Pharmaceutical workers	1
	■ Isolation	1
	■ Consult services for enterprises	1
	■ Emotional stress	1
Safety and health management	■ New technologies	1
	■ Prevention culture	1
Psycho-social aspects	■ Creating healthy and productive work organisations	1
	■ Monitor/Prevent psycho-social risks at work	1
	■ Precarious work	1
	■ Barriers against change	1
	■ Control room work and work alone	1
	■ Increase in musculoskeletal disorders	1
	■ Repetitive work	1
	■ Too much information	1
Ergonomics	■ Evaluation of risk	1
	■ Telework	1
	■ Increases in the use of IT (Information technology)	1
Safety risks	■ Prevention of high and new accident risks	1
	■ Transport vehicles	1
	■ Asbestos in existing buildings	1
	■ Network linked production facilities	1
	■ Young people	1
	■ Flexibilisation of work force	1

Area	Topic	Number of responses
Chemical risk factors	■ Prevent occupational allergy / respiratory disease	2
	■ Synthetic fibres	2
	■ Evaluating the most exposed sectors, risk rating and prioritising risk	1
	■ Pharmaceutical products	1
	■ Dust	1
Physical risk factors	■ Indoor climate	1
	■ Slips, trips and falls	1
	■ Manual handling	1
	■ Non-ionizing radiation	1
	■ Databases, expert programmes, noise control methods, to prevent noise induced hearing loss	1
Biological risk factors	■ Etiology, detection, immune mechanism, diagnostic criteria and risk assessment of biological risk	1
	■ Factors at work	1
	■ Monitoring/health effects	1
	■ Waste removal	1
	■ Hospital and research laboratories	1
Sector research	■ Electronics industry	1
	■ Electromagnetic smog	1
	■ Mechanical engineering sector	1
	■ Nuclear industry	1
	■ Metallurgy	1
	■ Ship maintenance	1
Other topics	■ Occupational health in small and medium sized companies	1
	■ Best practices and bench marking	1
	■ Maintaining work ability and workplace health promotion	1
	■ Mis-information	1
	■ Privatization of social security	1
	■ Enterprises competitiveness increase	1
	■ Synergies of chemical and physical risks	1

EMERGING RISK-CONSIDERATIONS

The following considerations have been omitted from the main report.

Area	Consideration	Number of responses
Changing work patterns	■ Increase in violence at work	1
	■ Alternative working hours due to telework	1
	■ Disbalance	1
	■ Need for greater co-operation and co-evaluation	1
	■ Increased part-time	1
	■ Training requirements	1
	■ Splitting of responsibilities	1
	■ Awareness campaigns	1
Changes in labour force	■ Development of preventive systems	1
	■ Mass consumption	1
	■ Need to address reproductive hazards	1
Particular sensitive risk groups	■ Need new technical and work arrangements to enhance disabled work force participation	1
	■ Student participation in safety work	1
	■ Discrimination of pregnant workers	1
	■ Organisation of workplaces	1
Clean and safe production and products	■ Soil contaminated by oil, gasoline, solvents, pesticides and other chemicals is a problem	1
	■ Would not effect work health and safety that much	1
Safety and health management	■ Reduces occupational risks, improves productivity and public image	1
	■ Information and motivation	1
Psycho-social aspects	■ Effect of workers health, competency and productivity due to implementation of new organisational structures and management	1
	■ Responsibility for health and safety, including training, <i>PPE</i> and equipment	1
	■ Organisation of workplaces	1
Ergonomics	■ Regulations in place to control these	1
	■ Reinforcement of the regulations	1
	■ Training required	1
Safety risks	■ Regulations in place to control these	1
	■ Reinforcement of the regulations	1
	■ Lack of information	1
	■ Workplace traffic accidents are common due to poor planning	1
	■ Enforcement of instruction and training at work	1
	■ A full range of necessary standards needs to be drawn up	1
Chemical risk factors	■ Occupational asthma, rhinitis and contact dermatitis are increasing due to use of new allergens at work. Respiratory diseases are still common as occupational diseases.	1
	■ Reproductive hazards.	1
	■ Abuse.	1
Physical risk factors	■ Need to improve monitoring systems.	1
	■ Need to improve workplaces.	1
	■ Development of preventive action.	1
	■ More research required.	1
	■ Exposure to non-ionising radiation (e.g. mobile phones) increasing and need more research to set standards	1
Biological risk factors	■ Occupational exposure to biological agents is widespread, causing occupational disease	1
	■ Problems are likely but not serious	1
	■ More studies and research required	1
	■ Increased vulnerability	1

Area	Consideration	Number of responses
Sector research	■ Government initiatives to address construction issues within the next 3-5 years	1
	■ Technical support	1
	■ Training	1
	■ Brain damage	1
Other topics	Promotion of activities of occupational health services, implementation of safety procedures and competence development in small companies are major challenges. Cost-benefit and cost-effectiveness analyses are important to find the most effective methods to promote health at the company level. Cognitive performance and vigilance requirements are increasing (e.g. in traffic, production and computing). Chronophysiological problems in shift work and alternative working hours arrangements are increasing. Expansion of information technology (PCs etc.) to almost all sectors profoundly changes work with partly unknown consequences on workers health and well being	1

APPENDIX 8

Accidents at work filtered out from the main text

INTRODUCTION

The following causes of accidents, resulting in more than 3 days absence, have been omitted from the main graphs of their respective section so that it was possible to clearly represent the most identified causes within the sections.

ACCIDENTS WITH MORE THAN 3 DAYS ABSENCE

Causes mentioned once

- Fall from height
- Traffic routes
- Sharp objects
- Entanglement

Causes mentioned twice

- Conveying or lifting gear
- Substances and radiation
- Contact with fixed objects

FATAL ACCIDENTS AT WORK

Causes mentioned once

- Striking against objects
- Struck by moving objects
- Inadequate safety precautions
- Staying in/entering hazardous area
- Improper use of safety equipment
- Misconduct by 3rd party
- Moving machinery
- Hazardous substances
- Work environment
- Materials, substances or radiation
- Equipment and tools

Causes mentioned twice

- Electricity

APPENDIX 9A

Sector categories identified in the national reports

Exposure indicators/OSH outcomes
Noise
Vibration
High temperature
Low temperature
Lifting/moving heavy loads
Repetitive movements
Strenuous working postures
Handling chemicals
High speed work
Workpace dictated by social demand
Machine dictated workplace
Physical violence
Bullying and victimisation
Sexual harassment
Monotonous work
Personal protective equipment (PPE)
Accidents with more than three days absence
Fatal accidents
Occupational diseases
Musculoskeletal disorders
Stress
Occupational sickness absence

Appendix 9a – noise

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 45 Construction 27 Manufacture of basic metals 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC
Belgium	20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 27 Manufacture of basic metals 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 34 Manufacture of motor vehicles, trailer and semi-trailers 35 Manufacture of other transport 36 Manufacture of furniture, manufacturing NEC 45 Construction 60 Land transport; transport via pipelines 61 Water transport
Denmark	05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing 11 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying 21 Manufacture of paper and paper products 26 Manufacture of other non-metallic mineral products 29 Manufacture of machinery and equipment NEC 32 Manufacture of radio, television and communication equipment and apparatus
Finland	13 Mining of metal ores 28 Manufacture of fabricated metal products, except machinery and equipment 02 Forestry, logging and related service activities 22 Publishing, printing and reproduction of recorded media 20 Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials
France	21 Manufacture of paper and paper products 27 Manufacture of basic metals 17 Manufacture of textiles 20 Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials 28 Manufacture of fabricated metal products, except machinery and equipment
Germany	20 Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials 27 Manufacture of basic metals 10 Mining of coal and lignite, extraction of peat 45 Construction 21 Manufacture of paper and paper products
Greece	17 Manufacture of textiles 14 Other mining and quarrying 34 Manufacture of motor vehicles , trailers and semi-trailers 45 Construction 27 Manufacture of base metals (smelters)
Netherlands	21 Manufacture of paper and paper products 27 Manufacture of basic metals 26 Manufacture of other non-metallic mineral products 20 Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials 28 Manufacture of fabricated metal products, except machinery and equipment

Focal Point	Sectors identified
Ireland	28 Manufacture of fabricated metal products, except machinery and equipment 17 Manufacture of textiles 45 Construction 21 Manufacture of paper and paper products 20 Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials
Italy	27 Manufacture of basic metals 17 Manufacture of textiles 20 Manufacture of wood and wood products 28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction
Luxembourg	45 Construction 62 Air transport 23 Manufacture of coke, refined petroleum products and nuclear fuel 25 Manufacture of rubber and plastic products 15 Manufacture of food products and beverages 55 Hotels and restaurants
Portugal	28 Manufacture of fabricated metal products, except machinery and equipment 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 36 Manufacture of furniture; manufacturing NEC 17 Manufacture of textiles 21 Manufacture of paper and paper products
Spain	28 Manufacture of fabricated metal products, except machinery and equipment 17 Manufacture of textiles 27 Manufacture of basic metals 30 Manufacture of office, accounting and computing equipment 33 Manufacture of medical, precision and optical instruments, watches and clocks
Sweden	21 Manufacture of paper and paper products 28 Manufacture of fabricated metal products, except machinery and equipment 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 15 Manufacture of food products and beverages 29 Manufacture of machinery and equipment NEC
United Kingdom	22 Publishing, printing and reproduction of recorded media 25 Manufacture of rubber and plastic products 18 Manufacture of wearing apparel, dressing and dyeing of fur 14 Other mining and quarrying 28 Manufacture of fabricated metal products, except machinery and equipment

Appendix 9a – Vibration

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	45 Construction 14 Other mining and quarrying 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 28 Manufacture of fabricated metal products, except machinery and equipment 60 Land transport; transport via pipelines
Belgium	28 Manufacture of fabricated metal products, except machinery and equipment 34 Manufacture of motor vehicles, trailers and semi-trailers 45 Construction 01 Agriculture, hunting and related service activities C-D Mining, quarrying and manufacturing
Denmark	02 Forestry, logging and related service activities
Finland	60 Land transport, transport via pipelines 61 Water transport 62 Air transport 45 Construction 29 Manufacture of machinery and equipment NEC 28 Manufacture of fabricated metal products, except machinery and equipment 01-05 Agriculture, hunting, forestry and fishing
France	01 Agriculture, hunting and related service activities 60 Land transport, transport via pipelines 45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 75 Public administration and defence; compulsory social security
Germany	10 Mining of coal and lignite; extraction of peat 60 Land transport, transport via pipelines 01 Agriculture, hunting and related service activities 27 Manufacture of basic metals 14 Other mining and quarrying
Greece	45 Construction 17 Manufacture of textiles 14 Other mining and quarrying 34 Manufacture of motor vehicles, trailers and semi-trailers 28 Manufacture of fabricated metal products, except machinery and equipment
Netherlands	45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 34 Manufacture of motor vehicles, trailers and semi-trailers 35 Manufacture of other transport equipment 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
Ireland	28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction 02 Forestry, logging and related service activities 14 Other mining and quarrying
Italy	45 Construction 34 Manufacture of motor vehicles, trailers and semi-trailers 27 Manufacture of basic metals 01 Agriculture, hunting and related service activities 13 Mining of metal ores
Luxembourg	45 Construction 60 Land transport, transport via pipelines

Focal Point	Sectors identified
Portugal	45 Construction 01 Agriculture, hunting and related service activities 02 Forestry, logging and related service activities 28 Manufacture of fabricated metal products, except machinery and equipment
Spain	14 Other mining and quarrying 60 Land transport, transport via pipelines 27 Manufacture of basic metals 23 Manufacture of coke, refined petroleum products and nuclear fuel 37 Recycling
Sweden	02 Forestry, logging and related service activities 10 Mining of coal and lignite; extraction of peat 11 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying 12 Mining of uranium and thorium ores 13 Mining of metal ores 14 Other mining and quarrying 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 29 Manufacture of machinery and equipment NEC
United Kingdom	50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 45 Construction 93 Other service activities 28 Manufacture of fabricated metal products, except machinery and equipment 36 Manufacture of furniture; manufacturing NEC

Appendix 9a – High temperature

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	27 Manufacture of basic metals 26 Manufacture of other non-metallic mineral products 15 Manufacture of food products and beverages 24 Manufacture of chemicals and chemical products 25 Manufacture of rubber and plastic products
Belgium	27 Manufacture of basic metals 28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction C-D: Mining, quarrying and manufacturing
Denmark	Insufficient information available
Finland	27 Manufacture of basic metals 45 Construction 75 Public administration and defence, compulsory social security 26 Manufacture of other non-metallic mineral products (glass) 15 Manufacture of food products and beverages
France	27 Manufacture of basic metals 21 Manufacture of paper and paper products 55 Hotels and restaurants 15 Manufacture of food products and beverages 05 Fishing, operation of fish hatcheries and fish farms, service activities incidental to fishing
Germany	10 Mining of coal and lignite, extraction of peat 14 Other mining and quarrying 25 Manufacture of rubber and plastic products 27 Manufacture of basic products 28 Manufacture of fabricated metal products, except machinery
Greece	45 Construction 14 Other mining and quarrying 01 Agriculture, hunting and related service industries 35 Manufacture of other transport equipment 27 Manufacture of basic metals
Netherlands	Exposure to hot and humid indoor work climate 01 Agriculture, hunting and related service industries 15 Manufacture of food products and beverages 18 Manufacture of wearing apparel, dressing and dyeing of fur 55 Hotels and restaurants 75 Public administration and defence, compulsory social security Exposure to intense heat radiation 15 Manufacture of food products and beverages 24 Manufacture of chemicals and chemical products 28 Manufacture of fabricated metal products, except machinery 34 Manufacture of vehicles, trailers and semi-trailers 55 Hotels and restaurants
Ireland	Insufficient data
Italy	27 Manufacture of basic metals 26 Manufacture of other non-metallic mineral products 15 Manufacture of food products and beverages 17 Manufacture of textiles 28 Manufacture of fabricated metal products, except machinery
Luxembourg	26 Manufacture of other non-metallic mineral products 28 Manufacture of fabricated metal products, except machinery 15 Manufacture of food products and beverages

Focal Point	Sectors identified
Portugal	27 Manufacture of basic metals 26 Manufacture of other non-metallic mineral products 18 Manufacture of wearing apparel, dressing and dying of fur
Spain	27 Manufacture of basic metals 15 Manufacture of food products and beverages 26 Manufacture of other non-metallic mineral products 28 Manufacture of fabricated metal products, except machinery and equipment 01 Agriculture, hunting and related service industries 45 Construction
Sweden	55 Hotels and restaurants 27 Manufacture of basic metals 21 Manufacture of paper and paper products 26 Manufacture of other non-metallic mineral products 15 Manufacture of food products and beverages
United Kingdom	26 Manufacture of other non-metallic mineral products 01 Agriculture, hunting and related service industries 18 Manufacture of wearing apparel, dressing and dying of fur 15 Manufacture of food products and beverages 45 Construction

Appendix 9a – Low temperature

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	15 Manufacture of food and beverages 45 Construction 52 Retail trade, except of motor vehicles and motorcycles, repair of personal and household goods 51 Wholesale and trade commission trade, except of motor vehicles and motorcycles 90 Sewage and refuse disposal, sanitation and similar activities
Belgium	45 Construction C-D Mining, quarrying and manufacturing
Denmark	40 Electricity, gas, steam and hot water supply 02 Forestry, logging and related service activities 45 Construction 15 Manufacture of food and beverages
Finland	15 Manufacture of food and beverages 20 Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials 01 - 05 Agriculture, hunting, forestry and fishing 45 Construction 90 Sewage and refuse disposal, sanitation and similar activities 93 Other Service activities 95 Private households with employed persons 40 Electricity, gas, steam and hot water supply 41 Collection purification and distribution of water
France	20 Manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials 45 Construction 15 Manufacture of food and beverages 01 Agriculture, hunting and related services activities 52 Retail trade, except of motor vehicles and motorcycles, repair of personal and household goods
Germany	05 Fishing, operation of fish hatcheries and fish farms, services activities incidental to fishing 15 Manufacture of food and beverages 60 Land transport, transport via pipelines 63 Supporting and auxiliary transport activities of travel agencies
Greece	45 Construction 14 Other mining and quarrying 01 Agriculture, hunting and related services activities 35 Manufacture of other transport equipment 40 Electricity, gas, steam and hot water supply
Netherlands	15 Manufacture of food and beverages 24 Manufacture of chemical and chemical products 28 Manufacture of fabricated metal products, except machinery and equipment 51 Wholesale and trade commission trade, except of motor vehicles and motorcycles 75 Public administration and defence; compulsory social security
Ireland	Insufficient information available
Italy	15 Manufacture of food and beverages 05 Fishing, operation of fish hatcheries and fish farms, services activities incidental to fishing 24 Manufacture of chemical and chemical products 45 Construction
Luxembourg	52 Retail trade, except of motor vehicles and motorcycles, repair of personal and household goods 60 Land transport, transport via pipelines (food products) 45 Construction 55 Hotels and restaurants 15 Manufacture of food and beverages

Focal Point	Sectors identified
Portugal	A-B Agriculture, hunting, forestry and fishing
Spain	05 Fishing, operation of fish hatcheries and fish farms, services activities incidental to fishing 15 Manufacture of food and beverages 01 Agriculture, hunting and related services activities 45 Construction 14 Other mining and quarrying
Sweden	05 Fishing, operation of fish hatcheries and fish farms, services activities incidental to fishing 02 Forestry, logging and other related services 90 Sewage and refuse disposal, sanitation and similar activities 10 Mining of coal and lignite, extraction of peat 45 Construction 15 Manufacture of food and beverages
United Kingdom	26 Manufacture of other non-metallic mineral products 01 Agriculture, hunting and related services activities 18 Manufacture of wearing apparel, dressing and dyeing of fur 15 Manufacture of food and beverages 45 Construction

Appendix 9a – Lifting/moving heavy loads

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	45 Construction 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household Goods 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles 85 Health and social work 01 Agriculture, hunting and related service activities
Belgium	45 Construction 15 Manufacture of food products and beverages 27 Manufacture of basic metals 85 Health and social work 60 Land transport; transport via pipelines 61 Water transport 62 Air transport 63 Supporting and auxiliary transport activities; activities of travel agencies
Denmark	28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction
Finland	01 Agricultural, hunting and related service activities 02 Forestry, logging and related service activities 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing 28 Manufacture of fabricated metal products, except machinery and equipment 55 Hotels and restaurants 45 Construction 85 Health and social work
France	01 Agricultural, hunting and related service activities 45 Construction 20 Manufacture of wood and of wood and cork products; manufacture of luggage, handbags, saddlery, harness and foot wear 85 Health and social work 15 Manufacture of food products and beverages
Germany	45 Construction 01 Agriculture, hunting and related services 20 Manufacture of wood and of wood and cork products; manufacture of luggage, handbags, saddlery, harness and foot wear 85 Health and social work 14 Other mining and quarrying
Greece	63 Supporting and auxiliary transport activities; activities of travel agencies 45 Construction 01 Agriculture, hunting and related services 28 Manufacture of fabricated metal products, except machinery and equipment 14 Other mining and quarrying
Netherlands	45 Construction 01 Agriculture, hunting and related services 20 Manufacture of wood and of wood and cork products; manufacture of luggage, handbags, saddlery, harness and foot wear 28 Manufacture of fabricated metal products, except machinery and equipment 35 Manufacture of other transport equipment
Ireland	Insufficient data available
Italy	01 Agriculture, hunting and related services 45 Construction 85 Health and social work 15 Manufacture of food products and beverages 75 Public administration and defence; compulsory social security

Focal Point	Sectors identified
Luxembourg	60 Land transport; transport via pipelines 45 Construction 62 Air transport 64 Post and telecommunications 01 Agriculture, hunting and related service activities
Portugal	01 Agriculture, hunting and related service activities 02 Forestry, logging and related service activities 05 Fishing, operation of fish hatcheries and fish farms, service activities incidental to fishing 45 Construction
Spain	45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 14 Other mining and quarrying 20 Manufacture of wood and of wood and cork products; manufacture of luggage, handbags, saddlery, harness and foot wear
Sweden	01 Agriculture, hunting and related service activities 90 Sewage and refuse disposal, sanitation and similar activities 45 Construction 60 Land transport; transport via pipelines 85 Health and social work
United Kingdom	28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction 62 Air transport 85 Health and social work 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household good

Appendix 9a – Repetitive movements

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	15 Manufacture of food products and beverages 28 Manufacture of fabricated metal products, except machinery and equipment 18 Manufacture of wearing apparel; dressing and dyeing of fur 31 Manufacture of electrical machinery and apparatus NEC 17 Manufacture of textiles
Belgium	45 Construction 15 Manufacture of food products and beverages 27 Manufacture of basic metals 85 Health and social work 60 Land transport, transport via pipelines 61 Water transport 62 Air transport 63 Supporting and auxiliary transport activities; activities of travel agencies
Denmark	Insufficient information available
Finland	01-05 Agriculture, hunting, forestry and fishing 15 Manufacture of food products and beverages 32 Manufacture of radio, television and communication equipment and apparatus 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 17 Manufacture of textiles 18 Manufacture of wearing apparel; dressing and dyeing of fur 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
France	15 Manufacture of food products and beverages 34 Manufacture of motor vehicles, trailers and semi-trailers 64 Post and telecommunications 55 Hotels and restaurants 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
Germany	19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear 64 Post and telecommunications 15 Manufacture of food products and beverages 14 Other mining and quarrying 17 Manufacture of textiles
Greece	25 Manufacture of rubber and plastic products 45 Construction 16 Manufacture of tobacco products 60 Land transport, transport via pipelines 28 Manufacture of fabricated metal products, except machinery and equipment
Netherlands	A-B Agriculture, hunting, forestry and fishing F Construction I Transport, storage and communications C-D Mining, quarrying and manufacturing E-J Electricity, gas and water supply H, K Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods H Hotels and restaurants
Ireland	Insufficient information available

Focal Point	Sectors identified
Italy	18 Manufacture of wearing apparel; dressing and dyeing of fur 17 Manufacture of textiles 15 Manufacture of food products and beverages 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear 25 Manufacture of rubber and plastic products
Luxembourg	72 Computer and related activities 26 Manufacture of other non-metallic mineral products
Portugal	17 Manufacture of textiles 15 Manufacture of food products and beverages 28 Manufacture of fabricated metal products, except machinery and equipment 31 Manufacture of electrical machinery and apparatus NEC 72 Computer and related activities
Spain	72 Computer and related activities 16 Manufacture of tobacco products 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 93 Other service activities 60 Land transport, transport via pipelines 34 Manufacture of motor vehicles, trailers and semi-trailers
Sweden	02 Forestry, logging and related service activities 93 Other service activities 60 Land transport, transport via pipelines 36 Manufacture of furniture; manufacturing NEC 15 Manufacture of food products and beverages
United Kingdom	60 Land transport, transport via pipelines 55 Hotels and restaurants 18 Manufacture of wearing apparel; dressing and dyeing of fur 34 Manufacture of motor vehicles, trailers and semi-trailers

Appendix 9a – Strenuous working postures

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	45 Construction 14 Other mining and quarrying 85 Health and social work 01 Agriculture, hunting and related service activities 93 Other service activities
Belgium	45 Construction 15 Manufacture of food products and beverages 27 Manufacture of basic metals 85 Health and social work 60 Land transport; transport via pipelines 61 Water transport 62 Air transport 63 Supporting and auxiliary transport activities; activities of travel agencies
Denmark	Insufficient information available
Finland	45 Construction 01-05 Agriculture, hunting, forestry and fishing 85 Health and social work 15 Manufacture of food products and beverages 28 Manufacture of fabricated metal products, except machinery and equipment
France	93 Other service activities 45 Construction 01 Agriculture, hunting and related service activities 17 Manufacture of textiles 18 Manufacture of wearing apparel; dressing and dyeing of fur 28 Manufacture of fabricated metal products, except machinery and equipment
Germany	45 Construction 01 Agriculture, hunting and related service activities 10 Mining of coal and lignite; extraction of peat 34 Manufacture of motor vehicles, trailers and semi-trailers 35 Manufacture of other transport equipment
Greece	45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 25 Manufacture of rubber and plastic products 60 Land transport; transport via pipelines 17 Manufacture of textiles
Netherlands	F Construction A-B Agriculture, hunting, forestry and fishing M-Q Other services I Transport, storage and communications
Ireland	Insufficient information available
Italy	45 Construction 64 Post and telecommunications 01 Agriculture, hunting and related service activities 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 17 Manufacture of textiles
Luxembourg	62 Air transport 55 Hotels and restaurants 72 Computer and related activities 85 Health and social work 45 Construction

Focal Point	Sectors identified
Portugal	01 Agriculture, hunting and related service activities 02 Forestry, logging and related service activities 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing 45 Construction 15 Manufacture of food products and beverages 17 Manufacture of textiles
Spain	45 Construction 93 Other service activities 64 Post and telecommunications 40 Electricity, gas, steam and hot water supply 16 Manufacture of tobacco products
Sweden	45 Construction 85 Health and social work 93 Other service activities 55 Hotels and restaurants 01 Agriculture, hunting and related service activities 15 Manufacture of food products and beverages
United Kingdom	50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 93 Other service activities 60 Land transport; transport via pipelines 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear 55 Hotels and restaurants

Appendix 9a – Handling chemicals

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	24 Manufacture of chemicals and chemical products 22 Publishing, printing and reproduction of recorded media 85 Health and social work 01 Agricultural, hunting, and related services activities 45 Construction
Belgium	Insufficient information available
Denmark	Insufficient information available
Finland	A-B Agriculture, hunting, forestry and fishing F Construction E Electricity, gas and water supply C-D Mining, quarrying and manufacturing H Hotels and restaurants
France	01 Agriculture, hunting and related service activities 93 Other service activities 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 24 Manufacture of chemicals and chemical products 73 Research and development
Germany	24 Manufacturing of chemicals and chemical products 10 Mining of coal and lignite; extraction of peat 01 Agriculture, hunting and related service activities 35 Manufacture of other transport equipment 27 Manufacture of basic metals
Greece	01 Agriculture, hunting and related service activities 19 Training and dressing of leather; manufacture of luggage, handbags, saddlery, harness and foot wear 24 Manufacture of chemicals and chemical products 23 Manufacture of coke, refined petroleum products and nuclear fuel 22 Publishing printing and reproduction of recorded media
Netherlands	15 Manufacture of food products and beverages 93 Other service activities 45 Construction 85 Health and social work
Ireland	45 Construction 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 28 Manufacture of fabricated metal products, except machinery and equipment 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 85 Health and social work
Italy	24 Manufacture of chemicals and chemical products 01 Agriculture, hunting and related service activities 23 Manufacture of coke, refined petroleum products and nuclear fuel 25 Manufacture of rubber and plastic products 11 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
Luxembourg	23 Manufacture of coke, refined petroleum products and nuclear fuel 25 Manufacture of rubber and plastic products 15 Manufacture of food products and beverages 55 Hotels and restaurants 01 Agriculture, hunting and related service activities 37 Recycling

Focal Point	Sectors identified
Portugal	28 Manufacture of fabricated metal products, except machinery and equipment 24 Manufacture of chemicals and chemical products 26 Manufacture of other non-metallic mineral products 19 Training and dressing of leather; manufacture of luggage, handbags, saddlery, harness and foot wear 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 01 Agriculture, hunting and related service activities
Spain	24 Manufacture of chemicals and chemical products 23 Manufacture of coke, refined petroleum products and nuclear 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 93 Other service activities 36 Manufacture of furniture; manufacturing NEC
Sweden	28 Manufacture of fabricated metal products, except machinery and equipment 15 Manufacture of food products and beverages 24 Manufacture of chemicals and chemical products 21 Manufacture of paper and paper products 45 Construction
United Kingdom	Sectors handling chemicals 93 Other service activities 60 Land transport; transport via pipelines 27 Manufacture of basic metals 17 Manufacture of textiles 31 Manufacture of electrical machinery and apparatus NEC Sectors breathing chemicals 45 Construction 14 Other mining and quarrying 27 Manufacture of basic metals 60 Land transport; transport via pipelines 26 Manufacture of other non-metallic mineral products

Appendix 9a – High speed work

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	28 Manufacture of fabricated metal products, except machinery and equipment 15 Manufacture of food and beverages 22 Publishing, printing and reproduction of recorded media 18 Manufacture of wearing apparel; dressing and dyeing fur 45 Construction
Belgium	63 Supporting and auxiliary transport; activities of travel agencies 29-35 Manufacture of machinery and equipment nec/manufacture of other transport equipment 22 Publishing, printing and reproduction of recorded media 55 Hotels and restaurants
Denmark	Insufficient information available
Finland	60 Land transport; transport via pipelines 61 Water transport 62 Air transport 85 Health and social work 55 Hotels and restaurants 64 Post and telecommunications 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
France	18 Manufacture of wearing; dressing and dyeing fur 55 Hotels and restaurants 65 Financial intermediation, except insurance and pension funding 67 Activities auxiliary to financial intermediation 15 Manufacture of food products and beverages 74 Other business activities
Germany	30 Manufacture of office, accounting and computer machinery 92 Recreational, cultural and sporting activities 22 Publishing, printing and reproduction of recorded media 60 Land transport; transport via pipelines 35 Manufacture of other transport equipment
Greece	25 Manufacture of rubber and plastic products 45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 65 Financial intermediation, except insurance and pension Funding 01 Agriculture, hunting and related service activities
Netherlands	H Hotels and restaurants M Other services N Other services J Financial Intermediation K Real estate, renting and business activities
Ireland	Insufficient information available
Italy	51 Wholesale trade and commission trade, except of motor vehicles and motorcycles 45 Construction 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 01 Agriculture, hunting and related service activities 64 Post and telecommunications
Luxembourg	72 Computer and related activities
Portugal	Insufficient information available
Spain	55 Hotels and restaurants 72 Computer and related activities 65 Financial intermediation, except insurance and pension funding 66 Insurance and pension funding, except compulsory social security 91 Activities of membership organisation NEC

Focal Point	Sectors identified
Sweden	60 Land transport; transport via pipelines 64 Post and telecommunications 15 Manufacture of food products and beverages 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 29 Manufacture of machinery and equipment 31 Manufacture of electrical machinery and apparatus NEC 34 Manufacture of motor vehicles, trailers and semi trailers
United Kingdom	18 Manufacture of wearing apparel; dressing and dyeing fur 55 Hotels and restaurants 34 Manufacture of motor vehicles, trailers and semi trailers 93 Other service activities 19 Training and dressing of leather; manufacture of luggage, handbags, saddlery, harness and foot wear

Appendix 9a – Workplace dictated by social demand

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	28 Manufacture of fabricated metal products, except machinery and equipment 15 Manufacture of food products and beverages 18 Manufacture of wearing apparel; dressing and dyeing of fur 17 Manufacture of textiles 27 Manufacture of basic metals
Belgium	Insufficient information available
Denmark	Insufficient information available
Finland	Insufficient information available
France	93 Other service activities 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 55 Hotels and restaurants J Financial intermediation
Germany	35 Manufacture of other transport equipment 85 Health and social work 21 Manufacture of paper and paper products 92 Recreational, cultural and sporting activities 45 Construction
Greece	52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 55 Hotels and restaurants 85 Health and social work 75 Public administration and defence; compulsory social security
Netherlands	Insufficient information available
Ireland	Insufficient information available
Italy	Insufficient information available
Luxembourg	85 Health and social work 80 Education 55 Hotels and restaurants 75 Public administration and defence; compulsory social security
Portugal	Insufficient information available
Spain	55 Hotels and restaurants 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 93 Other service activities 64 Post and telecommunications
Sweden	55 Hotels and restaurants 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 75 Public administration and defence; compulsory social security 80 Education 85 Health and social work
United Kingdom	22 Publishing, printing and reproduction of recorded media 72 Computer and related activities 18 Manufacture of wearing apparel; dressing and dyeing of fur 31 Manufacture of electrical machinery and apparatus NEC 70 Real estate activities

Appendix 9a – Machine dictated workplace

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	28 Manufacture of fabricated metals, except machinery and equipment 15 Manufacture of food products and beverages 18 Manufacture of wearing apparel; dressing and dyeing of fur 17 Manufacture of textiles 27 Manufacture of basic metals
Belgium	15 Manufacture of food products and beverages 17 Manufacture of textiles 18 Manufacture of wearing apparel; dressing and dyeing of fur
Denmark	Insufficient information available
Finland	Insufficient information available
France	93 Other service activities 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 67 Activities auxiliary to financial intermediation 55 Hotels and restaurants
Germany	19 Training and dressing of leather; manufacture of luggage, handbags, saddlery, harness and foot wear 17 Manufacture of textiles 64 Post and telecommunications 27 Manufacture of basic metals 14 Other mining and quarrying
Greece	25 Manufacture of rubber and plastic products 28 Manufacture of fabricated metal products, except machinery and equipment 17 Manufacture of textiles 65 Financial intermediation, except insurance and pension funding 63 Supporting and auxiliary transport activities; activities of travel agencies
Netherlands	Insufficient information available
Ireland	Insufficient information available
Italy	17 Manufacture of textiles 18 Manufacturing of wearing apparel; dressing and dyeing of fur 19 Training and dressing of leather, manufacture of luggage, handbags, saddlery, harness and foot wear 60 Land transport; transport via pipelines
Luxembourg	72 Computer and related activities
Portugal	Insufficient information available
Spain	17 Manufacture of textiles 25 Manufacture of rubber and plastics products 26 Manufacture of other non-metallic mineral products 27 Manufacture of basic metals 23 Manufacture of coke, refined petroleum products of nuclear fuel
Sweden	15 Manufacture of food products and beverages 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 34 Manufacture of motor vehicles, trailers and semi-trailers 35 Manufacture of other transport equipment
United Kingdom	Insufficient information available

Appendix 9a – Physical violence

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	85 Health and social work 75 Public administration and defence; compulsory social security 55 Hotels and restaurants 93 Other service activities 74 Other business activities
Belgium	50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 64 Post and telecommunications 85 Health and social work 92 Recreational, cultural and sporting activities
Denmark	55 Hotels and restaurants 60 Land transport; transport via pipelines 85 Health and social work
Finland	85 Health and social work 75 Public administration and defence; compulsory social security 55 Hotels and restaurants 60 Land transport; transport via pipelines 61 Water transport 62 Air transport 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
France	Insufficient information available
Germany	52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 64 Post and telecommunications 75 Public administration and defence; compulsory social security 85 Health and social work 93 Other service activities
Greece	60 Land transport; transport via pipelines 45 Construction 75 Public administration and defence; compulsory social security 17 Manufacture of textiles 85 Health and social work
Netherlands	52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 60 Land transport; transport via pipelines 75 Public administration and defence; compulsory social security 85 Health and social work
Ireland	75 Public administration and defence; compulsory social security 60 Land transport; transport via pipelines 85 Health and social work 55 Hotels and restaurants 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	Insufficient information available
Spain	85 Health and social work 93 Other service activities 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 63 Supporting and auxiliary transport activities; activities of travel agencies

Focal Point	Sectors identified
Sweden	85 Health and social work 75 Public administration and defence; compulsory social security 60 Land transport; transport via pipelines 55 Hotels and restaurants 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
United Kingdom	85 Health and social work 41 Collection, purification and distribution of water 70 Real estate activities 19 Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear 93 Other service activities Note – based on actual physical attacks

Appendix 9a – Bullying and victimisation

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	Insufficient information available
Belgium	80 Education 85 Health and social work 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
Denmark	Insufficient information available
Finland	Insufficient information available
France	Insufficient information available
Germany	Insufficient information available
Greece	16 Manufacture of tobacco products 55 Hotels and restaurants 60 Land transport; transport via pipelines 01 Agriculture, hunting and related service activities 24 Manufacture of chemicals and chemical products
Netherlands	Insufficient information available
Ireland	75 Public administration and defence; compulsory social security 85 Health and social work 90 Sewage and refuse disposal, sanitation and similar activities 65 Financial intermediation, except insurance and pension funding
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	Insufficient information available
Spain	80 Education 55 Hotels and restaurants 65 Financial intermediation, except insurance and pension funding 45 Construction 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 85 Health and social work
Sweden	80 Education 85 Health and social work 61 Water transport 24 Manufacture of chemicals and chemical products 15 Manufacture of food products and beverages
United Kingdom	Insufficient information available

Appendix 9a – Sexual harassment

Listed below are the key sectors as identified by each Focal Point.

Focal Point	Sectors identified
Austria	Insufficient information available
Belgium	80 Education 85 Health and social work 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
Denmark	Insufficient information available
Finland	Insufficient information available
France	Insufficient information available
Germany	Insufficient information available
Greece	55 Hotels and restaurants 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 16 Manufacture of tobacco products 17 Manufacture of textiles 85 Health and social work
Netherlands	75 Public administration and defence; compulsory social security 80 Education M-Q Other services
Ireland	All sectors
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	Insufficient information available
Spain	52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 55 Hotels and restaurants 85 Health and social work 93 Other service activities
Sweden	32 Manufacture of radio, television and communication equipment and apparatus 15 Manufacture of food products and beverages 55 Hotels and restaurants 85 Health and social work 60 Land transport; transport via pipelines 92 Recreational, cultural and sporting activities
United Kingdom	Insufficient information available

Appendix 9a – Monotonous work

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	15 Manufacture of food products and beverages 28 Manufacture of fabricated metal products, except machinery and equipment 18 Manufacturing of wearing apparel; dressing and dyeing of fur 60 Land transport; transport via pipelines 17 Manufacture of textiles
Belgium	15 Manufacture of food products and beverages 17 Manufacture of textiles 18 Manufacture of wearing apparel; dressing and dyeing of fur
Denmark	Insufficient information available
Finland	17 Manufacture of textiles 18 Manufacture of wearing apparel; dressing and dyeing of fur 19 Training and dressing of leather; manufacture of luggage, handbags, saddlery, harness and foot wear manufacture of wood 25 Manufacture of rubber and plastic products 26 Manufacture of other non-metallic mineral products 28 Manufacture of fabricated metal products, except machinery and equipment 10 Mining of coal and lignite; extraction of peat 13 Mining of metal ores 14 Other mining and quarrying 27 Manufacture of basic metals
France	Insufficient information available
Germany	19 Training and dressing of leather; manufacture of luggage, handbags, saddlery, harness, foot wear 15 Manufacture of food products and beverages 17 Manufacture of textiles 21 Manufacture of paper and paper products 55 Hotels and restaurants
Greece	25 Manufacture of rubber and plastic products 52 Retail trade except of motor vehicles and motorcycles; repair of personal and household goods 40 Electricity, gas, steam and hot water supply 16 Manufacture of tobacco products 60 Land transport; transport via pipelines
Netherlands	A-B Agriculture, hunting, forestry and fishing C-D-E Mining, quarrying and manufacturing, electricity, gas and water supply H Hotels and restaurants I Transport, storage and communications K Real estate, renting and business activities
Ireland	Insufficient information available
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	17 Manufacture of textiles 19 Training and dressing of leather; manufacture of luggage, handbags, saddlery, harness and foot wear 21 Manufacture of paper and paper products
Spain	64 Post and telecommunications 62 Air transport 32 Manufacture of radio, television and communication equipment and apparatus 16 Manufacture of tobacco products 22 Publishing, printing and reproduction of recorded media

Focal Point	Sectors identified
Sweden	02 Forestry, logging and related service activities 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 36 Manufacture of furniture; manufacturing NEC 15 Manufacture of food products and beverages 64 Post and telecommunication
United Kingdom	Job demand – too much work 19 Training and dressing of leather; manufacture of luggage, handbags, saddlery, harness and foot wear 31 Manufacture of electrical machinery and apparatus NEC 85 Health and social work 28 Manufacture of fabricated metal products, except machinery and equipment 80 Education 73 Research and development 60 Land transport; transport via pipelines 41 Collection purification and distribution of water 63 Supporting and auxiliary transport activities; activities of travel agencies 67 Activities auxiliary to financial intermediation

Appendix 9a – Personal protective equipment (PPE)

Listed below are key sectors using PPE identified by each Focal Point.

Focal Point	Sectors identified
Austria	45 Construction 27 Manufacture of basic metals 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 28 Manufacture of fabricated metal products, except machinery and equipment 24 Manufacture of chemicals and chemical products
Belgium	45 Construction 24 Manufacture of chemicals and chemical products 25 Manufacture of rubber and plastic products 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 30 Manufacture of office, accounting and computing machinery 31 Manufacture of electrical machinery and apparatus NEC 32 Manufacture of radio, television and communication equipment and apparatus 33 Manufacture of medical, precision and optical instruments, watches and clocks 34 Manufacture of motor vehicles, trailers and semi-trailers 35 Manufacture of other transport equipment 36 Manufacture of furniture; manufacturing NEC 37 Recycling 90 Sewage and refuse disposal, sanitation and similar activities
Denmark	Insufficient information available
Finland	A-B Agriculture, hunting, forestry and fishing F Construction C Mining, quarrying and manufacturing E Electricity, gas and water supply N Other services
France	27 Manufacture of basic metals 45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 21 Manufacture of paper and paper products
Germany	A-B Agriculture, hunting, forestry and fishing C-D Mining, quarrying and manufacturing E Electricity, gas and water supply F Construction
Greece	45 Construction 27 Manufacture of basic metals 24 Manufacture of chemicals and chemical products 23 Manufacture of coke, refined petroleum products and nuclear fuel 35 Manufacture of other transport equipment
Netherlands	A-D Agriculture, hunting, forestry and fishing C-D Mining, quarrying and manufacturing G Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods H Hotels and restaurants I Transport, storage and communications J Financial intermediation K Real estate, renting and business activities
Ireland	Insufficient information available

Focal Point	Sectors identified
Italy	45 Construction 24 Manufacture of chemicals and chemical products 15 Manufacture of food products and beverages
Luxembourg	23 Manufacture of coke, refined petroleum products and nuclear fuel 25 Manufacture of rubber and plastic products 28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction
Portugal	01 Agriculture, hunting and related service activities C-D Mining, quarrying and manufacturing 45 Construction 85 Health and social work
Spain	27 Manufacture of basic metals 45 Construction 23 Manufacture of coke, refined petroleum products and nuclear fuel 28 Manufacture of fabricated metal products, except machinery and equipment 37 Recycling
Sweden	01 Agriculture, hunting and related service activities 02 Forestry, logging and related service activities 15 Manufacture of food products and beverages 45 Construction 75 Public administration and defence; compulsory social security
United Kingdom	Insufficient information available

Appendix 9a – Accidents with more than 3 days absence

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 29 Manufacture of machinery and equipment NEC 15 Manufacture of food products and beverages
Belgium	45 Construction 74 Other business activities 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 28 Manufacture of fabricated metal products, except machinery and equipment 51 Wholesale trade and commission trade, except of motor vehicles and motorcycles
Denmark	01 Agriculture, hunting and related service activities 02 Forestry, logging and related service activities 26 Manufacture of other non-metallic mineral products 45 Construction 60 Land transport; transport via pipelines
Finland	28 Manufacture of fabricated metal products, except machinery and equipment 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 45 Construction 15 Manufacture of food products and beverages 21 Manufacture of paper and paper products 29 Manufacture of machinery and equipment NEC
France	F construction Manufacture of wood Transport and storage Mining of coal and lignite, extraction of peat Manufacture of food products and beverages
Germany	01 Agriculture, hunting and related service activities 28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction 63 Supporting and auxiliary transport activities; activities of travel agencies 85 Health and social work
Greece	27 Manufacture of basic metals 17 Manufacture of textiles 45 Construction 40 Electricity, gas, steam and hot water supply 21 Manufacture of paper and paper products
Netherlands	45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 36 Manufacture of furniture; manufacturing NEC 15 Manufacture of food products and beverages
Ireland	01 Agriculture, hunting and related service activities 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing 45 Construction 63 Supporting and auxiliary transport activities; activities of travel agencies 14 Other mining and quarrying

Focal Point	Sectors identified
Italy	13 Mining of metal ores 27 Manufacture of basic metals 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 01 Agriculture, hunting and related service activities 45 Construction
Luxembourg	45 Construction 26 Manufacture of other non-metallic mineral products 31 Manufacture of electrical machinery and apparatus NEC 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 28 Manufacture of fabricated metal products, except machinery and equipment 75 Public administration and defence; compulsory social security
Portugal	45 Construction 01 Agriculture, hunting and related service activities 28 Manufacture of fabricated metal products, except machinery and equipment 63 Supporting and auxiliary transport activities; activities of travel agencies 55 Hotels and restaurants
Spain	10 Mining of coal and lignite; extraction of peat 28 Manufacture of fabricated metal products, except machinery and equipment 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 90 Sewage and refuse disposal, sanitation and similar activities 26 Manufacture of other non-metallic mineral products
Sweden	27 Manufacture of basic metals 10 Mining of coal and lignite; extraction of peat 11 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying 12 Mining of uranium and thorium ores 13 Mining of metal ores 14 Other mining and quarrying 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 90 Sewage and refuse disposal, sanitation and similar activities 15 Manufacture of food products and beverages 16 Manufacture of tobacco products
United Kingdom	05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing 10 Mining of coal and lignite; extraction of peat 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 15 Manufacture of food products and beverages 16 Manufacture of tobacco products 27 Manufacture of basic metals

Appendix 9a – Fatal accidents

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	45 Construction 60 Land transport; transport via pipelines 75 Public administration and defence; compulsory social security 14 Other mining and quarrying 02 Forestry, logging and related service activities
Belgium	F Construction I Transport storage and communications C-D Mining, quarrying and manufacturing K Real estate, renting and business activities G Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
Denmark	01 Agriculture, hunting and related service activities 02 Forestry, logging and related service activities 26 Manufacture of other non-metallic mineral products 45 Construction 60 Land transport; transport via pipelines
Finland	45 Construction 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 21 Manufacture of paper and paper products
France	F construction Multisector activities Transport and handling Manufacture of base metals Manufacture of fabricated metal products Business activities
Germany	01 Agriculture, hunting and related service activities 28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction 60 Land transport; transport via pipelines 63 Supporting and auxiliary transport activities; activities of travel agencies
Greece	45 Construction 35 Manufacture of other transport equipment 24 Manufacture of chemicals and chemical products 40 Electricity, gas, steam and hot water supply 13 Mining and metal ores
Netherlands	45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 60 Land transport; transport via pipelines
Ireland	01 Agriculture, hunting and related service activities 05 Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing 45 Construction 50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel 63 Supporting and auxiliary transport activities; activities of travel agencies
Italy	01 Agriculture, hunting and related service activities 14 Other mining quarrying 37 Recycling 45 Construction 41 Collection, purification and distribution of water

Focal Point	Sectors identified
Luxembourg	60 Land transport; transport via pipelines
Portugal	45 Construction C-D Mining, quarrying and manufacturing A-B Agriculture, hunting, forestry and fishing 55 Hotels and restaurants
Spain	10 Mining of coal and lignite; extraction of peat 05 Fishing operation of fish hatcheries and fish farms; service activities incidental to fishing 14 Other mining and quarrying 60 Land transport; transport via pipelines 61 Water transport
Sweden	A-B Agriculture, hunting, forestry and fishing C-D Mining, quarrying and manufacturing I Transport, storage and communications 90 Sewage and refuse disposal, sanitation and similar activities 27 Manufacture of basic metals
United Kingdom	14 – Other mining and quarrying 45 – Construction 05 – Fishing, operation of fish hatcheries and fish farms; service activities incidental to fishing 90 – Sewage and refuse disposal, sanitation and similar activities 20 – Manufacture of wood & products of wood & cork, except furniture; manufacture of articles of straw & plaiting

Appendix 9a – Occupational diseases

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	45 Construction 93 Other service activities 15 Manufacture of food products and beverages 85 Health and social work 28 Manufacture of fabricated metal products, except machinery and equipment
Belgium	45 Construction 85 Health and social work M-Q Other services I Transport, storage and communications 27 Manufacture of basic metals
Denmark	15 Manufacture of food products and beverages 29 Manufacture of machinery and equipment NEC 45 Construction 75 Public administration and defence; compulsory social security 85 Health and social work
Finland	01 Agriculture, hunting and related service activities 15 Manufacture of food products and beverages 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction
France	19 Tanning and dressing of leather, manufacture of luggage, handbags, saddlery, harness and footwear 18 Manufacture of wearing apparel, dressing and dyeing of fur 10 Mining of coal and lignite (mines, quarries and working with materials) 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 45 Construction
Germany	10 Mining of coal and lignite; extraction of peat 28 Manufacture of fabricated metal products, except machinery and equipment 45 Construction
Greece	45 Construction 01 Agriculture, hunting and related service activities 35 Manufacture of other transport equipment 14 Other mining and quarrying 31 Manufacture of electrical machinery and apparatus NEC
Netherlands	01 Agriculture, hunting and related service activities 35 Manufacture of other transport equipment 45 Construction 85 Health and social work
Ireland	27 Manufacture of basic metals 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 30 Manufacture of office, accounting and computing machinery 31 Manufacture of electrical machinery and apparatus NEC 32 Manufacture of radio, television and communication equipment and apparatus 33 Manufacture of medical, precision and optical instruments, watches and clocks 34 Manufacture of motor vehicles, trailers and semi-trailers 35 Manufacture of other transport equipment 36 Manufacture of furniture; manufacturing NEC 37 Recycling 45 Construction

Focal Point	Sectors identified
	85 Health and social work 90 Sewage and refuse disposal, sanitation and similar activities 91 Activities of membership organisations NEC — Social and personal service activities
Italy	45 Construction 28 Manufacture of fabricated metal products, except machinery and equipment 27 Manufacture of basic metals 29 Manufacture of machinery and equipment NEC 26 Manufacture of other non-metallic mineral products
Luxembourg	Insufficient information available
Portugal	27 Manufacture of basic metals 28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 30 Manufacture of office, accounting and computing machinery 31 Manufacture of electrical machinery and apparatus NEC 32 Manufacture of radio, television and communication equipment and apparatus 33 Manufacture of medical, precision and optical instruments, watches and clocks 34 Manufacture of motor vehicles, trailers and semi-trailers 35 Manufacture of other transport equipment 36 Manufacture of furniture; manufacturing NEC 37 Recycling 45 Construction 01 Agriculture, hunting and related service activities 17 Manufacture of textiles 85 Health and social work
Spain	10 Mining of coal and lignite; extraction of peat 34 Manufacture of motor vehicles, trailers and semi-trailers 25 Manufacture of rubber and plastic products 27 Manufacture of basic metals 15 Manufacture of food products and beverages
Sweden	15 Manufacture of food products and beverages 16 Manufacture of tobacco products 26 Manufacture of other non-metallic mineral products 90 Sewage and refuse disposal, sanitation and similar activities 13 Mining of metal ores 27 Manufacture of basic metals 36 Manufacture of furniture; manufacturing NEC 37 Recycling
United Kingdom	Insufficient information available

Appendix 9a – Work-induced musculoskeletal disorders

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	45 Construction 85 Health and social work 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 28 Manufacture of fabricated metal products, except machinery and equipment 01 Agriculture, hunting and related service activities
Belgium	28 Manufacture of fabricated metal products, except machinery and equipment 29 Manufacture of machinery and equipment NEC 30 Manufacture of office, accounting and computing machinery 31 Manufacture of electrical machinery and apparatus NEC 32 Manufacture of radio, television and communication equipment and apparatus 33 Manufacture of medical, precision and optical instruments, watches and clocks 34 Manufacture of motor vehicles, trailers and semi-trailers 35 Manufacture of other transport equipment 36 Manufacture of furniture; manufacturing NEC 37 Recycling 65 Financial intermediation, except insurance and pension funding 45 Construction 85 Health and social work
Denmark	Insufficient information available
Finland	A-B Agriculture, hunting, forestry and fishing C-D Mining, quarrying and manufacturing N Other services H Hotels and restaurants
France	Insufficient information available
Germany	02 Forestry, logging and related service activities 25 Manufacture of rubber and plastic products 27 Manufacture of basic metals 75 Public administration and defence; compulsory social security
Greece	01 Agriculture, hunting and related service activities 45 Construction 63 Supporting and auxiliary transport activities; activities of travel agencies 27 Manufacture of basic metals 14 Other mining and quarrying
Netherlands	A-B Agriculture, hunting, forestry and fishing F Construction O Other services H Hotels and restaurants I Transport, storage and communications
Ireland	Insufficient information available
Italy	Insufficient information available
Luxembourg	27 Manufacture of basic metals 28 Manufacture of fabricated metal products, except machinery and equipment 20 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials 15 Manufacture of food products and beverages 55 Hotels and restaurants 45 Construction
Portugal	01 Agriculture, hunting and related service activities 17 Manufacture of textiles 45 Construction 75 Public administration and defence; compulsory social security

Focal Point	Sectors identified
Spain	73 Research and development 23 Manufacture of coke, refined petroleum products and nuclear fuel
Sweden	36 Manufacture of furniture; manufacturing NEC 93 Other service activities 55 Hotels and restaurants 01 Agriculture, hunting and related service activities 28 Manufacture of fabricated metal products, except machinery and equipment
United Kingdom	Insufficient information available

Appendix 9a – Stress

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	85 Health and social work 55 Hotels and restaurants 52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods 45 Construction 75 Public administration and defence; compulsory social security
Belgium	85 Health and social work 80 Education 55 Hotels and restaurants I Transport, storage and communications 24 Manufacture of chemicals and chemical products 25 Manufacture of rubber and plastic products
Denmark	01 Agriculture, hunting and related service activities 60 Land transport; transport via pipelines
Finland	M Other services E Electricity, gas and water supply J Financial intermediation K Real estate, renting and business activities A Agriculture, hunting, forestry and fishing
France	Insufficient information available
Germany	80 Education 92 Recreational, cultural and sporting activities 60 Land transport; transport via pipelines 85 Health and social work 91 Activities of membership organisation NEC
Greece	45 Construction 01 Agriculture, hunting and related service activities 35 Manufacture of other transport equipment 75 Public administration and defence; compulsory social security 60 Land transport; transport via pipelines
Netherlands	Insufficient information available
Ireland	80 Education 85 Health and social work 01 Agriculture, hunting and related service activities 60 Land transport; transport via pipelines
Italy	65 Financial intermediation, except insurance and pension funding 67 Activities auxiliary to financial intermediation 85 Health and social work 27 Manufacture of basic metals 66 Insurance and pension funding, except compulsory social security
Luxembourg	Insufficient information available
Portugal	80 Education 85 Health and social work 75 Public administration and defence; compulsory social security 72 Computer and related activities
Spain	85 Health and social work 80 Education 65 Financial intermediation, except insurance and pension funding 62 Air transport 75 Public administration and defence; compulsory social security

Focal Point	Sectors identified
Sweden	80 Education 55 Hotels and restaurants 36 Manufacture of furniture; manufacturing NEC 26 Manufacture of other non-metallic mineral products 28 Manufacture of fabricated metal products, except machinery and equipment
United Kingdom	Insufficient information available

Appendix 9a – Occupational sickness absence

Listed below are the key sectors identified by each Focal Point.

Focal Point	Sectors identified
Austria	Insufficient information available
Belgium	Insufficient information available
Denmark	Insufficient information available
Finland	Insufficient information available
France	Insufficient information available
Germany	60 Land transport; transport via pipelines 61 Water transport 64 Post and telecommunications 75 Public administration and defence; compulsory social security
Greece	27 Manufacture of basic metals 31 Manufacture of electrical machinery and apparatus NEC 24 Manufacture of chemicals and chemical products 01 Agriculture, hunting and related service activities 17 Manufacture of textiles
Netherlands	Health care Education Electricity, gas and water Public transport Food processing
Ireland	Insufficient information available
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	A-B Agriculture, hunting, forestry and fishing 45 Construction 75 Public administration and defence; compulsory social security 85 Health and social work
Spain	75 Public administration and defence; compulsory social security 80 Education 45 Construction 64 Post and telecommunications 85 Health and social work
Sweden	60 Land transport; transport via pipelines 15 Manufacture of food products and beverages 85 Health and social work 34 Manufacture of motor vehicles, trailers and semi-trailers 64 Post and telecommunications
United Kingdom	Insufficient information available

APPENDIX 9B

Occupation categories identified in the national reports

Exposure indicators/OSH outcomes
Noise
Vibration
High temperature
Low temperature
Lifting/moving heavy loads
Repetitive movements
Strenuous working postures
Handling chemicals
High speed work
Workpace dictated by social demand
Machine dictated workplace
Physical violence
Bullying and victimisation
Sexual harassment
Monotonous work
Personal Protective Equipment (PPE)
Accidents with more than three days absence
Fatal accidents
Occupational diseases
Musculoskeletal disorders
Stress
Occupational sickness absence

Appendix 9b – Noise

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	72 Metal, machinery and related trades workers 82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 92 Agricultural, fishery and related labourers
Belgium	71 Extraction and building trades workers 72 Metal, machinery and related trades workers 82 Machine operators and assemblers 83 Drivers and mobile plant operators 93 Labourers in mining, construction, manufacturing and transport
Denmark	80 Plant and machine operators 74 Other craft and related trades workers 93 Labourers in mining, construction, manufacturing and transport 81 Stationary-plant and related operators 82 Machine operators and assemblers
Finland	71 Labourers in mining, 61 Skilled agricultural labourers, etc. 72 Metal, machinery, workers 82 Machine operator 81 Stationary-plant and related operators 01 Armed forces
France	81 Stationary-plant and related operators 82 Machine operators and assemblers 72 Metal, machinery and related trades workers 93 Labourers in mining, construction, manufacturing and transport 83 Drivers and mobile plant operators
Germany	81 Stationary plant operators 93 Labourers in mining 92 Agricultural labourers 82 Machine operators and assemblers 83 Drivers; mobile plant operators
Greece	85 Textile machines operators 73 Casters, welders, blacksmiths 84 Wood processing machines operators 72 Building trade workers 81 Stationery-plant and related operators
Netherlands	81 Stationery-plant and related operators 82 Machine operators and assemblers 72 Metal, machinery and related trades workers 73 Precision handicraft, craft painting and related trade workers 74 Other craft and related trade workers
Ireland	93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 72 Metal, machinery and related trades workers 73 Precision, handicraft, craft printing and related trades workers 82 Machine operators and assemblers
Italy	72 Metal, machinery and related trades workers 93 Laboures in mining, construction, manufacturing 82 Machine operators and assemblers 74 Other craft and related trades workers 81 Stationery-plant and related operators

Focal Point	Occupations identified
Luxembourg	81 Stationery-plant and related operators 91 Sales and services elementary occupations 82 Machine operators and assemblers 83 Drivers; mobile plant operators
Portugal	82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport 83 Drivers and mobile plant operators 72 Metal, machinery and related trades workers
Spain	71 Extraction and building trades workers 72 Metal, machinery and related trades workers 73 Precision, handicraft, craft printing and related trades workers 74 Other craft and related trade workers 82 Machine operators and assemblers
Sweden	02 Forestry, Logging and related service activities 20 Manufacture of wood and of products of wood and cork, except furniture 10-14 Mining and quarrying 21 Manufacture of paper and paper products 45 Construction
United Kingdom	73 Precision, handicraft, craft printing & related trades workers 82 Machine operators and assemblers 72 Metal, machinery and related trades workers 81 Stationary-plant and related operators 74 Other craft and related trades workers

Appendix 9b – Vibration

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 72 Extraction and building trades workers 92 Agricultural, fishery and related labourers 83 Drivers and mobile plant operators
Belgium	07 Craft and related trades workers
Denmark	82 Machine operators and assemblers 92 Agricultural, fishery and related labourers 83 Drivers and mobile plant operators 71 Extraction and building trades workers
Finland	83 Drivers and mobile plant operators 71 Extraction and building trades workers 72 Extraction and building trades workers 81 Stationary-plant and related operators 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
France	83 Drivers and mobile plant operators 61 Skilled agricultural and fishery workers 71 Extraction and building trades workers 01 Armed forces 72 Extraction and building trades workers
Germany	83 Drivers and mobile plant operators 81 Stationary-plant and related operators 61 Skilled agricultural and fishery workers 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
Greece	72 Extraction and building trades workers 71 Extraction and building trades workers 73 Precision, handicraft, craft printing and related trades workers 82 Machine operators and assemblers 85 Textile machine operators
Netherlands	71 Extraction and building trades workers 72 Extraction and building trades workers 74 Other craft and related trades workers 81 Stationary-plant and related operators 82 Machine operators and assemblers
Ireland	93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 72 Extraction and building trades workers
Italy	71 Extraction and building trades workers 74 Other craft and related trades workers 72 Extraction and building trades workers 93 Labourers in mining, construction, manufacturing and transport 83 Drivers and mobile plant operators
Luxembourg	82 Machine operators and assemblers 83 Drivers and mobile plant operators 93 Labourers in mining, construction, manufacturing and transport
Portugal	93 Labourers in mining, construction, manufacturing and transport 83 Drivers and mobile plant operators 92 Agricultural, fishery and related labourers

Focal Point	Occupations identified
Spain	71 Extraction and building trades workers 72 Extraction and building trades workers 82 Machine operators and assemblers 83 Drivers and mobile plant operators 93 Labourers in mining, construction, manufacturing and transport
Sweden	72 Extraction and building trades workers 61 Skilled agricultural and fishery workers 82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers
United Kingdom	83 Drivers and mobile plant operators 61 Skilled agricultural and fishery workers 93 Labourers in mining, construction, manufacturing and transport 01 Armed forces 92 Agricultural, fishery and related labourers

Appendix 9b – High temperature

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	72 Metal, machinery and related trades workers 74 Other craft and related trades workers 82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport 81 Stationary-plant and related operators
Belgium	07 Craft and related trade workers
Denmark	74 Other craft and related trades workers 82 Machine operators and assemblers 81 Stationary plant and related operator 72 Metal, machinery and related trades workers
Finland	81 Stationary plant and related operator 51 Personal and protective services workers 93 Labourers in mining, construction, manufacturing and transport 82 Machine operators and assemblers 74 Other craft and related trade workers
France	81 Stationary-plant and related operators 74 Other craft and related trades workers 51 Personal and protective services workers 61 Skilled agricultural and fishery workers 32 Life science and health associate professionals 71 Extraction and building trades workers
Germany	51 Personal and protective service workers 72 Metal, machinery and related trades workers 82 Machine operators and assemblers 93 Labourers in mining, construction, manufacture and transport
Greece	72 Metal, machinery and related trades workers 73 Precision, handicraft printing and related trades workers 71 Extraction and building trades workers 61 Skilled agricultural and fishery workers 93 Labourers in mining, construction, manufacturing and transport
Netherlands	Insufficient data available
Ireland	Insufficient data available
Italy	72 Metal, machinery and related trades workers 93 Labourers in mining, construction, manufacture and transport 71 Extraction and building trades workers
Luxembourg	93 Labourers in mining, construction, manufacture and transport 92 Agricultural, fishery and related labourers
Portugal	93 Labourers in mining, construction, manufacture and transport 81 Stationary plant and related operator
Spain	72 Metal, machinery and related trades workers 71 Extraction and building trades workers 93 Labourers in mining, construction, manufacturing and transport 92 Agricultural, fishery and related labourers 61 Skilled agricultural and fishery workers
Sweden	81 Stationary-plant and related operators 74 Other craft and related trades workers 93 Labourers in mining, construction, manufacturing and transport 73 Precision, handicraft, craft printing and related trades workers 72 Metal, machinery and related trades workers

Focal Point	Occupations identified
United Kingdom	93 Labourers in mining, construction, manufacturing and transport 61 Skilled agricultural and fishery workers 83 Drivers and mobile plant operators 82 Machine operators and assemblers 72 Metal, machinery and related trades workers

Appendix 9b – Low temperature

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	Other activities Activities of membership organisations NEC Renting of machinery and equipment without operator and of personal and household goods Retail trade, except of motor vehicles and motorcycles, repair of personal and household goods 82 Machine operators and assemblers
Belgium	7 Craft and related trades workers
Denmark	74 Other craft and related trades workers 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
Finland	61 Skilled agricultural and fishery workers 74 Other craft and related trades workers 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 83 Drivers and mobile plant operators
France	71 Extraction and building trades workers 93 Labourers in mining, construction, manufacturing and transport 74 Other craft and related trades workers 61 Skilled agricultural and fishery workers 52 Models, sales persons and demonstrators
Germany	52 Models, sales persons and demonstrators 61 Skilled agricultural and fishery workers 92 Agricultural, fishery and related labourers
Greece	72 Metal, machinery and related trades workers 71 Extraction and building trades workers 61 Skilled agricultural and fishery workers 92 Agricultural, fishery and related labourers
Netherlands	Insufficient information available
Ireland	Insufficient information available
Italy	93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 74 Other craft and related trades workers 61 Skilled agricultural and fishery workers 92 Agricultural, fishery and related labourers
Luxembourg	Insufficient information available
Portugal	92 Agricultural, fishery and related labourers
Spain	92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport 61 Skilled agricultural and fishery workers 71 Extraction and building trades workers 81 Stationary plant and related operators
Sweden	83 Drivers and mobile plant operators 93 Labourers in mining, construction, manufacturing and transport 61 Skilled agricultural and fishery workers 71 Extraction and building trades workers 74 Other craft and related trades workers
United Kingdom	93 Labourers in mining, construction, manufacturing and transport 61 Skilled agricultural and fishery workers 83 Drivers and mobile plant operators 82 Machine operators and assemblers 72 Metal, machinery and related trades workers

Appendix 9b – Lifting/moving heavy loads

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	93 Labourers in mining, construction, manufacturing and transport 91 Sales and services elementary occupations 72 Metal, machinery and related trade workers 32 Life science and health associate professionals 92 Agricultural, fishery and related labourers
Belgium	72 Metal, machinery and related workers 91 Sales and service elementary occupations 93 Labourers in mining, construction, manufacturing and transport 82 Machine operators and assemblers
Denmark	74 Other craft and related trades workers 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
Finland	60 Skilled agricultural and fishery workers 70 Skilled agricultural and fishery workers 91 Sales and service elementary occupations 40 Clerks 41 Office clerks 42 Customer services clerks 82 Machine operators and assemblers 10 Legislators, senior officials and managers 11 Legislators and senior officials 12 Corporate managers
France	71 Extraction and building trade workers 61 Skilled agricultural and fishery workers 93 Labourers in mining, construction, manufacturing and transport 74 Other craft and related trade workers 32 Life science and health associate professionals
Germany	61 Skilled agricultural and fishery workers 81 Stationary plant and related operators 93 Labourers in mining, construction, manufacturing and transport 83 Drivers and mobile plant operators 32 Life science and health associate professionals
Greece	93 Labourers in mining, construction, manufacturing and transport 72 Metal, machinery and related workers 61 Skilled agricultural and fishery workers 71 Extraction and building trade workers 82 Machine operators and assemblers
Netherlands	71 Extraction and building trade workers 74 Other craft and related trade workers 93 Labourers in mining, construction, manufacturing and transport 61 Skilled agricultural and fishery workers 72 Metal, machinery and related workers
Ireland	Insufficient data available
Italy	93 Labourers in mining, construction, manufacturing and transport 92 Agricultural, fishery and related labourers 71 Extraction and building trade workers 91 Sales and services elementary occupations 32 Life science and health associate professionals
Luxembourg	91 Sales and services elementary occupations 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport

Focal Point	Occupations identified
Portugal	Insufficient data
Spain	93 Labourers in mining, construction, manufacturing and transport 72 Metal, machinery and related trade workers 82 Machine operators and assemblers 74 Other craft and related trade workers 32 Life science and health professionals
Sweden	61 Skilled agricultural and fishery workers 71 Extraction and building trade workers 51 Personal and protective service workers 83 Drivers and mobile plant operators 93 Labourers in mining, construction, manufacturing and transport
United Kingdom	32 Life science and health associate professionals 71 Extraction and building trade workers 82 Machine operators and assemblers 72 Metal, machinery and related workers 93 Labourers in mining, construction, manufacturing and transport

Appendix 9b – Repetitive movements

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	72 Metal, machinery and related trades workers 82 Machine operators and assemblers 91 Sales and services elementary occupations 93 Labourers in mining, construction, manufacturing and transport 74 Other craft and related trades workers
Belgium	72 Metal, machinery and related trades workers 91 Sales and services elementary occupations 93 Labourers in mining, construction, manufacturing and transport 82 Machine operators and assemblers
Denmark	91 Sales and services elementary occupations
Finland	40 Clerks 41 Office clerks 42 Customer services clerks 60 Skilled agricultural and fishery workers 91 Sales and services elementary occupations 70 Craft and related trades workers 50 Service workers and shop and market sales workers 82 Machine operators and assemblers 10 Legislators, senior officials and managers 11 Legislators and senior officials 12 Corporate managers
France	82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport 81 Stationary-plant and related operators 42 Customer services clerks 52 Models, salespersons and demonstrators
Germany	82 Machine operators and assemblers 71 Extraction and building trades workers 91 Sales and services elementary occupations 42 Customer services clerks 81 Stationary-plant and related operators
Greece	73 Precision, handicraft, craft printing and related trades workers 85 Textile Machine operators 82 Machine operators and assemblers 72 Metal, machinery and related trades workers 93 Labourers in mining, construction, manufacturing and transport
Netherlands	93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 42 Customer services clerks 82 Machine operators and assemblers 72 Metal, machinery and related trades workers
Ireland	Insufficient information available
Italy	74 Other craft and related trades workers 82 Machine operators and assemblers 41 Office clerks 73 Precision, handicraft, craft printing and related trades workers 93 Labourers in mining, construction, manufacturing and transport
Luxembourg	41 Office clerks 42 Customer services clerks 91 Sales and services elementary occupations 93 Labourers in mining, construction, manufacturing and transport

Focal Point	Occupations identified
Portugal	Insufficient information available
Spain	82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport 73 Precision, handicraft, craft printing and related trades workers 74 Other craft and related trades workers 83 Drivers and mobile plant operators
Sweden	92 Agricultural, fishery and related labourers 82 Machine operators and assemblers 83 Drivers and mobile plant operators 42 Customer services clerks 91 Sales and services elementary occupations
United Kingdom	82 Machine operators and assemblers 74 Other craft and related trades workers 42 Customer services clerks 91 Sales and services elementary occupations 73 Precision, handicraft, craft printing and related trades workers

Appendix 9b – Strenuous working postures

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	71 Extraction and building trades workers 93 Labourers in mining, construction, manufacturing and transport 72 Metal, machinery and related trades workers 61 Skilled agricultural and fishery workers 92 Agricultural, fishery and related labourers
Belgium	72 Metal, machinery and related trades workers 91 Sales and services elementary occupations 93 Labourers in mining, construction, manufacturing and transport 82 Machine operators and assemblers
Denmark	Insufficient information available
Finland	60 Skilled agricultural and fishery workers 70 Craft and related trades workers 80 Plant and machine operators and assemblers 40 Clerks 10 Legislators, senior officials and managers
France	71 Extraction and building trades workers 61 Skilled agricultural and fishery workers 74 Other craft and related trades workers 93 Labourers in mining, construction, manufacturing and transport 91 Sales and services elementary occupations
Germany	92 Agricultural, fishery and related labourers 71 Extraction and building trades workers 61 Skilled agricultural and fishery workers 93 Labourers in mining, construction, manufacturing and transport 91 Sales and services elementary occupations
Greece	72 Metal, machinery and related trades workers 74 Other craft and related trades workers 85 Textile machine operators 82 Machine operators and assemblers
Netherlands	71 Extraction and building trades workers 72 Metal, machinery and related trades workers 32 Life science and health associate professionals 82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport
Ireland	Insufficient information available
Italy	93 Labourers in mining, construction, manufacturing and transport 83 Drivers and mobile plant operators 92 Agricultural, fishery and related labourers 74 Other craft and related trades workers 71 Extraction and building trades workers
Luxembourg	82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport
Portugal	Insufficient information available
Spain	93 Labourers in mining, construction, manufacturing and transport 92 Agricultural, fishery and related labourers 72 Metal, machinery and related trades workers 83 Drivers and mobile plant operators

Focal Point	Occupations identified
Sweden	71 Extraction and building trades workers 72 Metal, machinery and related trades workers 93 Labourers in mining, construction, manufacturing and transport 74 Other craft and related trades workers 51 Personal and protective services workers
United Kingdom	72 Metal, machinery and related trades workers 71 Extraction and building trades workers 32 Life science and health associate professionals 51 Personal and protective services workers 93 Labourers in mining, construction, manufacturing and transport

Appendix 9b – Handling chemicals

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	72 Metal, machinery and related trade workers 92 Agricultural, fishery and related labourers 61 Skilled agricultural, and fishery workers 93 Labourers in mining, construction, manufacturing and transport 32 Life science and health associate professionals
Belgium	Insufficient information available
Denmark	Insufficient information available
Finland	61 Skilled agricultural and fishery workers 71 Extraction and building trade workers 72 Metal, machinery and related workers 81 Stationary-plant and related operators 73 Precision, handicraft, craft printing and related trade workers
France	73 Precision, handicraft, craft printing and related trade workers 61 Skilled agricultural and fishery workers 32 Life science and health associate professionals 71 Extraction and building trade workers 81 Stationary-plant and related operators
Germany	81 Stationary-plant and related operators 32 Life science and health associate professionals 71 Extraction and building trade workers 22 Life science and health professionals 92 Agricultural, fishery and related
Greece	63 Supporting and auxiliary transport activities; activities of travel agencies 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport 83 Drivers and mobile plant operators 75 Public administration and defence; compulsory social security
Netherlands	51 Personal and protective services worker 81 Stationary-plant and related operators 83 Drivers and mobile plant operators 82 Machine operators and assemblers
Ireland	93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trade workers 74 Other craft and related trade workers 81 Stationary-plant and related operators 82 Machine operators and assemblers
Italy	93 Labourers in mining, construction, manufacturing and transport 92 Agricultural, fishery and related labourers 22 Life science and health professionals 72 Metal, machinery and related workers 74 Other craft and related trades workers
Luxembourg	91 Sales and services elementary occupations 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
Portugal	72 Metal, machinery and related trade worker 61 Skilled agricultural and fishery worker 22 Life science and health professionals 73 Precision, handicraft, craft printing and related trade workers 81 Stationary-plant and related operators

Focal Point	Occupations identified
Spain	92 Agricultural, fishery and related labourers 22 Life science and health professionals 32 Life science and associate health professionals 73 Precision, handicraft, craft printing and related trade workers 81 Stationary-plant and related operators
Sweden	93 Labourers in mining, construction, manufacturing and transport 72 Metal, machinery and related workers 71 Extraction and building trade workers 92 Agricultural, fishery and related labourers 82 Machine operators and assemblers
United Kingdom	Occupations handling chemicals 71 Extraction and building trade workers 81 Stationary-plant and related workers 93 Labourers in mining, construction, manufacturing and transport 82 Machine operators and assemblers 32 Life science and health associate professionals Occupations breathing chemicals 93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building workers 82 Machine operators and assemblers 74 Other craft and related trades workers 81 Stationary-plant and related operators

Appendix 9b – High speed work

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	72 Metal, machinery and related workers 74 Other craft and related workers 93 Labourers in mining, construction, manufacturing and Transport 91 Sales and services elementary occupations 92 Agricultural, fishery and related labourers
Belgium	22 Life science and health professionals 32 Life science and health associate professionals 83 Drivers and mobile plant operators
Denmark	Insufficient information available
Finland	10 Legislators, senior officials and managers 11 Legislators and senior officials 12 Corporate managers 50 Service workers and shop and market sales workers 91 Sales and services elementary occupations 20 Professionals 82 Machine operators and assemblers 30 Technicians and associate professionals
France	12 Corporate managers 74 Other craft and related trade workers 42 Customer service clerks 21 Physical, mathematical and engineering science professionals 82 Machine operators and assemblers
Germany	11 Legislators and senior officials 12 Corporate managers 22 Life science and health professionals 21 Physical, mathematical and engineering science professionals 83 Drivers and mobile plant operators
Greece	42 Customer service clerks 83 Drivers and mobile plant operators 12 Corporate managers 72 Metal, machinery and related workers 60 Skilled agricultural and fishery workers
Netherlands	12 Corporate managers 32 Life science and health associate professionals 24 Other professionals 23 Teaching professionals
Ireland	Insufficient information available
Italy	42 Customer service clerks 61 Skilled agricultural and fishery workers 51 Personal and protective services workers 72 Metal, machinery and related trades workers 83 Drivers and mobile plant operators
Luxembourg	91 Sales and service elementary occupations 93 Labourers in mining, construction, manufacturing and transport 41 Office clerks 42 Customer service clerks
Portugal	Insufficient information available

Focal Point	Occupations identified
Spain	22 Life science and health professionals 32 Life science and health associate professionals 21 Physical, mathematical and engineering science professionals 24 Other professionals 31 Physical and engineering science associate professionals
Sweden	42 Customer service clerks 82 Machine operators and assemblers 83 Drivers and mobile plant operators 71 Extraction and building trade workers 72 Metal, machinery and related workers
United Kingdom	74 Other craft and related workers 51 Personal and protective services workers 41 Office clerks 73 Precision, handicraft, craft printing and related trade workers 71 Extraction and building trade workers

Appendix 9b – Workspace dictated by social demand

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	72 Metal, machinery and related trades workers 82 Machine operators and assemblers 81 Stationary-plant and related operators 73 Precision, handicraft, craft printing and related trades workers 74 Other craft and related trades workers
Belgium	Insufficient information available
Denmark	Insufficient information available
Finland	Insufficient information available
France	52 Models, sales persons and demonstrators 22 Life science and health professionals 42 Customer services clerks 32 Life science and health associate professionals 74 Other craft and related trades workers
Germany	01 Armed forces 22 Life science and health professionals 11 Legislators and senior officials 12 Corporate managers 33 Teaching associate professionals
Greece	42 Customer services clerks 51 Personal and protective services workers 24 Other professionals 34 Other associate professionals
Netherlands	Insufficient information available
Ireland	Insufficient information available
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	Insufficient information available
Spain	32 Life science and health associate professionals 42 Customer services clerks 51 Personal and protective services workers 52 Models, sales persons and demonstrators 22 Life science and health professionals
Sweden	13 Managers of small enterprises 22 Life science and health professionals 23 Teaching professionals 32 Life science and health associate professionals 42 Customer services clerks 51 Personal and protective services workers
United Kingdom	31 Physical and engineering science associate professionals 12 Corporate managers 21 Physical, mathematical and engineering science professionals 73 Precision, handicraft, craft printing and related trades workers 23 Teaching professionals

Appendix 9b – Machine dictated workplace

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	72 Metal, machinery and related trades workers 82 Machine operator and assemblers 81 Stationary plant and related operators 73 Precision, handicraft, craft printing and related trade workers 74 Other craft and related
Belgium	8 Plant and machine operators and assemblers 72 Metal, machinery and related workers 93 Labourers in mining, construction, manufacturing and transport
Denmark	Insufficient information available
Finland	Insufficient information available
France	22 Life science and health professionals 42 Customer service clerks 32 Life science and health associate professional 74 Other craft and related trade workers
Germany	71 Extraction and building trade workers 81 Stationary plant and related operators 82 Machine operators and assemblers 83 Drivers and mobile plant operators 42 Customer service clerk
Greece	73 Precision, handicraft, craft printing and related trade workers 85 Textile machine operators 82 Machine operators and assemblers 83 Drivers and mobile plant operators 93 Labourers in mining, construction, manufacturing and transport
Netherlands	Insufficient information available
Ireland	Insufficient information available
Italy	93 Labourers in mining, construction, manufacturing and transport 83 Drivers and mobile plant operators
Luxembourg	81 Stationary plant and related operators 82 Machine operators and assemblers 83 Drivers and mobile plant operators 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
Portugal	Insufficient information available
Spain	82 Machine operators and assemblers 74 Other craft and related trade workers 73 Precision, handicraft, craft printing and related trades workers 71 Extraction and building trade workers 93 Labourers in mining, construction, manufacturing and transport
Sweden	82 Machine operators and assemblers 83 Drivers and mobile plant operators 74 Other craft and related trades workers
United Kingdom	Insufficient information available

Appendix 9b – Physical violence

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	51 Personal and protective services workers 91 Sales and services elementary occupations 93 Labourers in mining, construction, manufacturing and transport 32 Life science and health associate professionals 74 Other craft and related trades workers
Belgium	42 Customer services clerks 91 Sales and services elementary occupations 51 Personal and protective services workers 52 Models, salespersons and demonstrators 23 Teaching professionals 33 Teaching associate professionals
Denmark	22 Life science and health professionals 91 Sales and services elementary occupations
Finland	90 Elementary occupations 10 Legislators, senior officials and managers 92 Agricultural, fishery and related labourers 50 Service workers and shop and market sales workers
France	Insufficient information available
Germany	22 Life science and health professionals 32 Life science and health associate professionals 42 Customer services clerks 51 Personal and protective services workers 52 Models, salespersons and demonstrators
Greece	80 Plant and machine operators 42 Customer services clerks 93 Labourers in mining, construction, manufacturing and transport 51 Personal and protective services workers 72 Metal, machinery and related trades workers
Netherlands	22 Life science and health professionals 32 Life science and health associate professionals 42 Customer services clerks 52 Models, salespersons and demonstrators 91 Sales and services elementary occupations
Ireland	32 Life science and health associate professionals 34 Other associate professionals 51 Personal and protective services workers 83 Drivers and mobile plant operators 91 Sales and services elementary occupations
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	Insufficient information available
Spain	51 Personal and protective services workers 91 Sales and services elementary occupations 52 Models, salespersons and demonstrators 83 Drivers and mobile plant operators 32 Life science and health associate professionals

Focal Point	Occupations identified
Sweden	51 Personal and protective services workers 32 Life science and health associate professionals 22 Life science and health professionals 42 Customer services clerks 23 Teaching professionals
United Kingdom	32 Life science and health associate professionals 22 Life science and health professionals 51 Personal and protective services workers 13 Managers of small enterprises 20 Professionals Note – based on actual physical attacks

Appendix 9b – Bullying and victimisation

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	91 Sales and services elementary occupations 93 Labourers in mining, construction, manufacturing and transport 52 Models, salesperson and demonstrators 51 Personal and protective services workers 42 Customer services clerks
Belgium	23 Teaching professionals 22 Life science and health professionals 51 Personal and protective services workers
Denmark	Insufficient information available
Finland	Insufficient information available
France	Insufficient information available
Germany	Insufficient information available
Greece	42 Customer services clerks 85 Textile machine operators 93 Labourers in mining, construction, manufacturing and transport 51 Personal and protective services workers
Netherlands	Insufficient information available
Ireland	41 Office clerks 42 Customer services clerks 51 Personal and protective services workers 71 Extraction and building trade workers 91 Sales and services elementary occupations
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	Insufficient information available
Spain	42 Customer services clerks 52 Models, salespersons and demonstrators 23 Teaching professionals 51 Personal and protective services workers 91 Sales and services elementary occupations
Sweden	22 Life science and health professionals 74 Other craft and related trades workers 24 Other professionals 32 Life science and health associate professionals 31 Physical and engineering science associate professionals
United Kingdom	Insufficient information available

Appendix 9b – Sexual harassment

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	51 Personal and protective services workers 41 Office clerks 42 Customer services clerks 52 Models, salespersons and demonstrators 91 Sales and services elementary occupations
Belgium	Insufficient information available
Denmark	Insufficient information available
Finland	Insufficient information available
France	Insufficient information available
Germany	Insufficient information available
Greece	51 Personal and protective services workers 50 Service workers and shop and market sales workers 42 Customer services clerks 41 Office clerks 85 Textile machine operators
Netherlands	21 Physical, mathematical and engineering science professionals 51 Personal and protective services workers
Ireland	All occupations
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	Insufficient information available
Spain	52 Models, salespersons and demonstrators 41 Office clerks 91 Sales and services elementary occupations 51 Personal and protective services workers
Sweden	93 Labourers in mining, construction, manufacturing and transport 52 Models, salespersons and demonstrators 82 Machine operators and assemblers 32 Life science and health associate professionals 51 Personal and protective services workers 42 Customer services clerks 22 Life science and health professionals
United Kingdom	Insufficient information available

Appendix 9b – Monotonous work

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	41 Office clerks 82 Machine operators and assemblers 91 Sales and services elementary occupations 72 Metal, machinery and related trade workers 93 Labourers in mining, construction, manufacturing and transport
Belgium	93 Labourers in mining, construction, manufacturing and transport 72 Metal, machinery and related trade workers 80 Plant and machine operators and assemblers
Denmark	Insufficient information available
Finland	61 Skilled agricultural and fishery workers 74 Other craft and related trades workers 81 Stationary plant and related operators 82 Machine operators and assemblers 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport 70 Craft and related trades workers 71 Extraction and building trade workers 72 Metal, machinery and related trade workers 82 Machine operators and assemblers 81 Stationary plant and related operators 83 Drivers and mobile plant operators 84 Wood processing and machine operators 85 Textile Machine operator
France	Insufficient information available
Germany	82 Machine operators and assemblers 81 Stationary plant and related operators 91 Sales and services elementary occupations 42 Customer service clerks 83 Drivers and mobile plant operators
Greece	83 Drivers and mobile plant operators 85 Textile machine operator 73 Precision, handicraft, craft printing and related trades workers 81 Stationary plant and related operators
Netherlands	91 Sales and services elementary occupations 82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport 42 Customer service clerks
Ireland	Insufficient information available
Italy	Insufficient information available
Luxembourg	81 Stationary plant and related operators 91 Sales and services elementary occupations
Portugal	82 Machine operators and assemblers 81 Stationary plant and related operators 42 Customer service clerks 91 Sales and services elementary occupations
Spain	73 Precision, handicraft, craft printing and related trades workers 82 Machine operators and assemblers 91 Sales and services elementary occupations 42 Customer service clerks

Focal Point	Occupations identified
Sweden	91 Sales and services elementary occupations 81 Stationary plant and related operators 93 Labourers in mining, construction, manufacturing and transport 82 Machine operators and assemblers 42 Customer service clerks
United Kingdom	22 Life science and health professionals 12 Corporate managers 32 Life science and health associate professionals 21 Physical, mathematical and engineering science professionals 23 Teaching professionals 41 Office clerks 83 Drivers and mobile plant operators 24 Other professionals 42 Customer service clerks 74 Other craft and related trade workers

Appendix 9b – Personal protective equipment (PPE)

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	72 Metal, machinery and related trades workers 93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 74 Other craft and related trades workers 82 Machine operators and assemblers
Belgium	51 Personal and protective services workers 71 Extraction and building trades workers 93 Labourers in mining, construction, manufacturing and transport 80 Plant and machine operators 61 Skilled agricultural and fishery workers
Denmark	Insufficient information available
Finland	61 Skilled agricultural and fishery workers 71 Extraction and building trades workers 72 Metal, machinery and related trades workers 81 Stationary-plant and related operators 91 Sales and services elementary occupations
France	71 Extraction and building trades workers 72 Metal, machinery and related trades workers 81 Stationary-plant and related operators 01 Armed forces 82 Machine operators and assemblers
Germany	6 Skilled agricultural and fishery workers 7 Craft and related trades workers 8 Plant and machine operators and assemblers 9 Elementary occupations
Greece	73 Precision, handicraft, craft printing and related trades workers 72 Metal, machinery and related trades workers 83 Drivers and mobile plant operators 71 Extraction and building trades workers 52 Models, salespersons and demonstrators
Netherlands	Insufficient information available
Ireland	No data available
Italy	93 Labourers in mining, construction, manufacturing and transport
Luxembourg	Insufficient information available
Portugal	7 Craft and related trades workers 8 Plant and machine operators and assemblers 9 Elementary occupations
Spain	71 Extraction and building trades workers 72 Metal, machinery and related trades workers 81 Stationary-plant and related operators 82 Machine operators and assemblers 32 Life science and health associate professionals
Sweden	01 Armed forces 61 Skilled agricultural and fishery workers 71 Extraction and building trades workers 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
United Kingdom	Insufficient information available

Appendix 9b – Accidents with more than 3 days absence

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	Insufficient data available
Belgium	93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 72 Metal, machinery and related trades workers 82 Machine operators and assemblers 41 Office clerks
Denmark	71 Extraction and building trades workers 72 Extraction and building trades workers 83 Drivers and mobile plant operators 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
Finland	6 Skilled agricultural and fishery workers 7 Craft and related trades workers 82 Machine operators and assemblers 8 Plant and machine operators and assemblers
France	9 Elementary occupations 8 Plant and machine operators and assemblers 6 Skilled agricultural and fishery workers
Germany	71 Extraction and building trades workers 72 Metal, machinery and related trades workers 74 Other craft and related trades workers 83 Drivers and mobile plant operators
Greece	81 Stationary-plant and related operators 84 Wood processing and machine operators 85 Textile Machine operators 72 Metal, machinery and related trades workers
Netherlands	71 Extraction and building trades workers 72 Metal, machinery and related trades workers 81 Stationary-plant and related operators 82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport
Ireland	61 Skilled agricultural and fishery workers 71 Extraction and building trades workers 82 Machine operators and assemblers 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
Italy	83 Drivers and mobile plant operators 74 Other craft and related trades workers 71 Extraction and building trades workers 92 Agricultural, fishery and related labourers 82 Machine operators and assemblers
Luxembourg	93 Labourers in mining, construction, manufacturing and transport 41 Office clerks 42 Customer services clerks 52 Models, salespersons and demonstrators 81 Stationary-plant and related operators 82 Machine operators and assemblers

Focal Point	Occupations identified
Portugal	93 Labourers in mining, construction, manufacturing and transport 92 Agricultural, fishery and related labourers 82 Machine operators and assemblers 74 Other craft and related trades workers 72 Metal, machinery and related trades workers
Spain	Insufficient information available
Sweden	81 Stationary-plant and related operators 82 Machine operators and assemblers 71 Extraction and building trades workers 83 Drivers and mobile plant operators 72 Metal, machinery and related trades workers
United Kingdom	01 Armed forces 93 Labourers in mining, construction, manufacturing and transport 72 Metal, machinery and related trades workers 82 Machine operators and assemblers

Appendix 9b – Fatal accidents

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	Insufficient information available
Belgium	91 Sales and services elementary occupations 71 Extraction and building trades workers 83 Drivers and mobile plant operators 72 Metal, machinery and related trade workers 93 Labourers in mining, construction, manufacturing and transport
Denmark	71 Extraction and building trade workers 72 Metal, machinery and related trade workers 83 Drivers and mobile plant operators 92 Agriculture, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
Finland	Platters Turners, machinists, toolmakers Building workers Plumbers Machine setters
France	Insufficient information available
Germany	61 Skilled agriculture and fishery workers 71 Extraction and building trade workers 72 Metal, machinery and related trade workers 83 Drivers and mobile plant operators
Greece	72 Metal, machinery and related workers 73 Precision, handicraft, craft printing and related trade workers 81 Stationary plant and related operators 83 Drivers and mobile plant operators 93 Labourers in mining, construction, manufacturing and transport
Netherlands	71 Extraction and building trade workers 93 Labourers in mining, construction, manufacturing and transport 72 Metal, machinery and related trade workers 83 Drivers and mobile plant operators
Ireland	13 Managers of small enterprises 61 Skilled agricultural and fishery workers 71 Extraction and building trade workers 92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport
Italy	92 Agricultural, fishery and related labourers 71 Extraction and building trade workers 83 Drivers and mobile plant operators 82 Machine operators and assemblers 51 Personal and protective service workers
Luxembourg	Insufficient information available
Portugal	93 Labourers in mining, construction, manufacturing and transport 92 Agricultural, fishery and related labourers 72 Metal, machinery and related trade workers 83 Drivers and mobile plant operators 13 Managers of small enterprises
Spain	Insufficient information available

Focal Point	Occupations identified
Sweden	Pilots Reindeer herdsman/keeper Fishery labourers Labourers in mining and quarrying Car mechanics
United Kingdom	Insufficient information available

Appendix 9b – Occupational diseases

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	Insufficient information available
Belgium	93 Labourers in mining, construction, manufacturing and transport 74 Other craft and related trades workers 71 Extraction and building trades workers 72 Metal, machinery and related trades workers
Denmark	51 Personal and protective services workers 72 Metal, machinery and related trades workers 82 Machine operators and assemblers 91 Sales and services elementary occupations 93 Labourers in mining, construction, manufacturing and transport
Finland	4 Clerks 6 Skilled agricultural and fishery workers 7 Craft and related trades workers 82 Machine operators and assemblers 83 Drivers and mobile plant operators
France	Insufficient information available
Germany	Insufficient information available
Greece	72 Metal, machinery and related trades workers 6 Skilled agricultural and fishery workers 93 Labourers in mining, construction, manufacturing and transport 73 Precision, handicraft, craft printing and related trades workers 83 Drivers and mobile plant operators
Netherlands	71 Extraction and building trades workers 72 Metal, machinery and related trades workers 61 Skilled agricultural and fishery workers 82 Machine operators and assemblers 83 Drivers and mobile plant operators
Ireland	51 Personal and protective services workers 71 Extraction and building trades workers 72 Metal, machinery and related trades workers 82 Machine operators and assemblers 93 Labourers in mining, construction, manufacturing and transport
Italy	72 Metal, machinery and related trades workers 71 Extraction and building trades workers 74 Other craft and related trades workers 82 Machine operators and assemblers 51 Personal and protective services workers
Luxembourg	93 Labourers in mining, construction, manufacturing and transport
Portugal	93 Labourers in mining, construction, manufacturing and transport 92 Agricultural, fishery and related labourers 72 Metal, machinery and related trades workers 32 Teaching associate professionals 13 Managers of small enterprises
Spain	Insufficient information available

Focal Point	Occupations identified
Sweden	Assemblers Police officers Helpers and cleaners 82 Machine operators (except assemblers) 01 Armed forces 81 Stationary plant and related operators 93 Labourers in mining, construction, manufacturing and transport
United Kingdom	Insufficient information available

Appendix 9b – Work-induced musculoskeletal disorders

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	93 Labourers in mining, construction, manufacturing and transport 71 Extraction and building trades workers 72 Metal, machinery and related trades workers 91 Sales and services elementary occupations 74 Other craft and related trades workers
Belgium	8 Plant and machine operators and assemblers 4 Clerks 7 Craft and related trades workers 9 Elementary occupations 61 Skilled agricultural and fishery workers
Denmark	Insufficient information available
Finland	93 Labourers in mining, construction, manufacturing and transport 61 Skilled agricultural and fishery workers 74 Other craft and related trades workers 82 Machine operators and assemblers 83 Drivers and mobile plant operators
France	Insufficient information available
Germany	61 Skilled agricultural and fishery workers 71 Extraction and building trades workers 82 Machine operators and assemblers 91 Sales and services elementary occupations 92 Agricultural, fishery and related labourers
Greece	6 Skilled agricultural and fishery workers 72 Metal, machinery and related trades workers 73 Precision, handicraft, craft printing and related trades workers 93 Labourers in mining, construction, manufacturing and transport 92 Agricultural, fishery and related labourers
Netherlands	Insufficient information available
Ireland	Insufficient information available
Italy	Insufficient information available
Luxembourg	72 Metal, machinery and related trades workers 41 Office clerks 71 Extraction and building trades workers 91 Sales and services elementary occupations 93 Labourers in mining, construction, manufacturing and transport
Portugal	92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport 82 Machine operators and assemblers 91 Sales and services elementary occupations
Spain	93 Labourers in mining, construction, manufacturing and transport 42 Customer services clerks 41 Office clerks
Sweden	74 Other craft and related trades workers 72 Metal, machinery and related trades workers 91 Sales and services elementary occupations 93 Labourers in mining, construction, manufacturing and transport 61 Skilled agricultural and fishery workers
United Kingdom	Insufficient information available

Appendix 9b – Stress

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	91 Sales and services elementary occupations 51 Personal and protective services workers 34 Other associate professionals 42 Customer services clerks 12 Corporate managers
Belgium	23 Teaching professionals 32 Life science and health associate professionals 11 Legislators and senior officials 12 Corporate managers 13 Managers of small enterprises 93 Labourers in mining, construction, manufacturing and transport 8 Plant and machine operators and assemblers
Denmark	93 Labourers in mining, construction, manufacturing and transport
Finland	13 Managers of small enterprises 23 Teaching professionals 24 Other professionals 22 Life science and health professionals 34 Other associate professionals
France	Insufficient information available
Germany	23 Teaching professionals 33 Teaching associate professionals 22 Life science and health professionals 12 Corporate managers 24 Other professionals
Greece	72 Metal, machinery and related trades workers 6 Skilled agricultural and fishery workers 93 Labourers in mining, construction, manufacturing and transport 8 Plant and machine operators and assemblers 51 Personal and protective services workers
Netherlands	Insufficient information available
Ireland	83 Drivers and mobile plant operators 33 Teaching associate professionals 22 Life science and health professionals
Italy	13 Managers of small enterprises 22 Life science and health professionals 12 Corporate managers 93 Labourers in mining, construction, manufacturing and transport 01 Armed forces
Luxembourg	Insufficient information available
Portugal	23 Teaching professionals 33 Teaching associate professionals 22 Life science and health professionals 83 Drivers and mobile plant operators 24 Other professionals
Spain	22 Life science and health professionals 23 Teaching professionals 12 Corporate managers 13 Managers of small enterprises 42 Customer services clerks

Focal Point	Occupations identified
Sweden	13 Managers of small enterprises 23 Teaching professionals 91 Sales and services elementary occupations 74 Other craft and related trades workers 22 Life science and health professionals
United Kingdom	Insufficient information available

Appendix 9b – Occupational sickness absence

Listed below are the key occupations identified by each Focal Point.

Focal Point	Occupations identified
Austria	Insufficient information available
Belgium	Insufficient information available
Denmark	Insufficient information available
Finland	Insufficient information available
France	Insufficient information available
Germany	11 Legislators and senior officials 71 Extraction and building trades workers 73 Precision, handicraft, craft printing and related trades workers 83 Drivers and mobile plant operators 92 Agricultural, fishery and related labourers
Greece	73 Precision, handicraft, craft printing and related trades workers 71 Extraction and building trades workers 6 Skilled agricultural and fishery workers 93 Labourers in mining, construction, manufacturing and transport 72 Metal, machinery and related trades workers
Netherlands	Insufficient information available
Ireland	Insufficient information available
Italy	Insufficient information available
Luxembourg	Insufficient information available
Portugal	92 Agricultural, fishery and related labourers 93 Labourers in mining, construction, manufacturing and transport 22 Life science and health professionals 1 Armed forces
Spain	42 Customer services clerks 23 Teaching professionals 41 Office clerks 22 Life science and health professionals 33 Other associate professionals
Sweden	93 Labourers in mining, construction, manufacturing and transport 74 Other craft and related trades workers 91 Sales and services elementary occupations 83 Drivers and mobile plant operators 51 Personal and protective services workers
United Kingdom	Insufficient information available

APPENDIX 10

Data situation for risk categories: company size, gender, age and employment status

Exposures/OSH Outcomes	Company Size	Gender	Age	Employment Status
Noise	●	●	○	○
Vibration	○	●	○	○
High temperature	○	●	○	○
Low temperature	○	●	○	○
Lifting/moving heavy loads	○	●	○	○
Repetitive movements	○	●	○	○
Strenuous working postures	○	○	○	○
Handling chemicals	○	○	○	○
High speed work	○	○	○	○
Workpace dictated by social demand	○	○	○	○
Machine dictated workplace	○	○	○	○
Physical violence	○	○	○	○
Bullying and victimisation	○	○	○	○
Sexual harassment	○	●	○	○
Monotonous work	○	○	○	○
Accidents with more than three days absence	●	●	●	○
Fatal accidents	○	●	●	○
Occupational diseases	○	●	●	○
Musculoskeletal disorders	○	○	○	○
Stress	○	○	○	○
Occupational sickness absence	○	○	○	○

Legend:

● Data provided in national reports allowed the European picture to be given.

○ Data not provided in the national reports and therefore a European picture could not be given.

APPENDIX 11

Sample pages from the manual

NOISE IN THE WORKPLACE: ADDITIONAL QUANTITATIVE DATA

Question (ESWC-data): 'Are you in your work exposed to noise so loud that you would have to raise your voice to talk to people?'

Please provide information available in your Member State about the issue mentioned above. Please provide us with the exact question posed in your Member State.

Exact question:

Source: Year:

If additional relevant questions were asked on this subject in that survey, please copy this section and complete it for the other questions.

Sample size: please refer to size of the sample on which information is based		% of workers exposed during: If data is available according to other measuring categories, try to present your data according to above requested division. If not possible, please include both data and definitions used.			
N	%	(almost) All the time %	1/2 to 3/4 of the time %	Around 1/4 of the time %	(almost) Never %
Total:					
Gender:					
Male					
Female					
Age:					
< 25 years					
25 – 54 years					
≥ 55 years					
Sector. Please use 2-digit level (annex 1). The electronic version of the document can be expanded. If other divisions of the break-down variables are available, please include both data and definitions used.					
Company size:					
1 - 9					
10 - 49					
50 - 99					
100 - 499					
≥ 500					
Occupation: Use the 2-digit level (annex 2). In electronic version you can expand the table. If other divisions of the break- down variables are available, please include both data and definitions used.					
Employment status:					
1. Employment on permanent basis					
2. Fixed term contract					
3. Temporary employment agency contract					
4. Apprenticeship or other training scheme					
5. Self-employed					

EVALUATION

1. COMPARISON OF ESWC-DATA AND NATIONAL DATA: NOISE AT THE WORKPLACE

If you have presented quantitative national data on the listed exposure category, you are now asked to come forward with conclusions on the national data, particularly in comparison with the ESWC-data, taking the following questions into account:

Comparison of ESWC-data and national data:
--

* Are there differences between the national data and the data from European sources?

* Does the additional national information highlight sectors or occupations that are not evident from ESWC-data?

* Other comments?

2 RISK CATEGORIES: NOISE AT THE WORKPLACE

In the following tables you are requested to give your assessment of the categories at highest risk with respect to the listed exposure category. To determine which 5 sectors and 5 occupations are at highest risk you should take into account quantitative information and relevant qualitative considerations. Qualitative considerations can be e.g. expert opinions, inspection reports, national priorities, research studies, emission data, etc. If you consider it to be relevant for the categories company size, gender, age groups and employment status, please follow the same procedure. Please state in the tables also briefly the qualitative considerations which you have taken into account in this assessment.

Please indicate the 5 sectors with the highest risk. Please indicate them at the 2-digit level (use the categories mentioned in Annex I, NACE -1993 (Reference 18)).

Sector	Qualitative considerations
•	...
•	...
•	...
•	...
•	...

Please indicate the 5 occupations with the highest risk. Please indicate them at the 2-digit level (use the categories mentioned in Annex II, ISCO-1988).

Occupation	Qualitative considerations
•	...
•	...

In case relevant, indicate in general terms the size of companies with the highest risk. Small company 1-49, Medium size company 50 - 499 or Large company >500).

Company size	Qualitative considerations
•	...

In case relevant, state which gender-category has a particular high risk.

Gender	Qualitative considerations
•	...

In case relevant, state which age-category has a particular high risk.

Age	Qualitative considerations
•	...

In case relevant, state if the employment status is of importance.

Employment Status	Qualitative considerations
•	...

3. TRENDS: NOISE AT THE WORKPLACE

Is there a significant trend regarding the listed exposure category?

The number of workers exposed has over the last 3 - 5 years :

- ☐ decreased
- ☐ remained stable
- ☐ increased

Are there any particular categories in sectors, professions, company size, gender, age or employment status that are expected to deviate from this development?

.....

4. EVALUATION OF PRESENT STATE: NOISE AT THE WORKPLACE

How is the present state regarding this exposure category and the related health and safety effects evaluated in your Member State? Take into consideration national statistics on occupational diseases and other data sources about the health situation of workers (incl. research, studies, opinions of experts).

- ☐ Preventive actions taken/planned are sufficient to deal with the existing exposure related problems;
- ☐ Development of additional preventive action is necessary;
- ☐ Other.....

Please elaborate, in case of additional preventive action.

.....

APPENDIX 12

Acronyms

AAA	Association d'Assurance contre les Accidents	Luxembourg
BIBB/IAB	Bundesinstitut für Berufsbildung/Institut für Arbeitsmarkt- und Berufsforschung	Germany
CE	Communauté Européenne	
CEN	European Committee for Standardisation	
DETR	Department of the Environment, Transport and Regions	UK
DfEE	Department for Employment and Education	UK
DSE	Display Screen Equipment	
DSS	Department of Social Services	UK
DTI	Department of Trade and Industry	UK
DVLA	Driver and Vehicle Licensing Agency	UK
ESWC –data	2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.	
EU	European Union	
EUROSTAT	Statistical Office of the European Commission	
FIOH	Finnish Institute of Occupational Health	Finland
FQWLS	Finnish Quality of Worklife Survey	Finland
HSC	Health and Safety Commission	UK
HSE	Health and Safety Executive	UK
IDICT	Instituto de Desenvolvimento e Inspeção das Condições de Trabalho	Portugal
IIMS	Italian Institute of Social Medicine	Italy
INAIL	National Institute of Insurance against Accidents at Work	Italy
INSHT	Instituto Nacional de Seguridad e Higiene en el Trabajo	Spain
ISCO	International Standards Classification of Occupations	Finland
ISPESL	National Institute of Occupational Safety and Health	Italy
IT	Information Technology	
ITM	L'Inspection du Travail et des Mines	Luxembourg
LFS	Labour Force Survey	
MoD	Ministry of Defence	UK
NHS	National Health Service	UK
OH	Occupational Health	
OSH	Occupational Safety and Health	
PC	Personal Computer	
POLS	Survey of Living Conditions	Netherlands
PPE	Personal Protective Equipment	
RSI	Repetitive Strain Injuries	
SSN	National Health Service	Italy
SZW	Ministry of Social Affairs and Employment	
UVT	Unfallversicherungsträger (statutory accident insurance funds)	Germany
VDU	Visual Display Unit	

APPENDIX 13

Bibliography

- 1 European Labour Force Survey, 1998
- 2 Swedish Working Environment Survey (Sweden Material)
- 3 Survey of self-reported working conditions (United Kingdom Material)
- 4 BIBB/IAB- Survey (Germany Material)
- 5 FQWLS (Finland Material)
- 6 POLS (Netherlands Material)
- 7 A survey on Home Teleworking in Flanders by the Research Institute for Labour and Employment in 1994. (Belgium Material)
- 8 The Development of telework – framework conditions in terms of labour law', the Fraunhofer Institute for Industrial Engineering, September 1997 (Germany Material)
- 9 Telefutures, a study completed on behalf of Forbairt and Telecom Eireann by Imogen Bertin and Gerard O'Neill (1996) (Ireland Material)
- 10 The Labour Force Survey, Spring 1998. (United Kingdom Material)
- 11 Regulation Work at Home, D.L 440/91 (Portugal Material)
- 12 The Agreement of Strategic Concertation, 1996 (Portugal Material)
- 13 Guide Managing health and safety on work experience (United Kingdom Material)
- 14 Work and Health Interview Survey of the FIOH in 1997 (Finland Material)
- 15 International Classification of Primary Care, 1987 (Finland Material)
- 16 Finnish Quality of Worklife Survey 1997 (Finland Material)
- 17 Burnout among Finnish Working People FIOH 1997 (Finland Material)
- 18 NACE - Code 1993
- 19 ESWC - Data 2nd European Survey on Working Conditions, European Foundation, 1996, Dublin.
- 20 Summary table of OSH inspector resources in the Member States (European Agency Newsletter 'news', 4/99)
- 21 'Good Health is Good Business' (United Kingdom Material)

NB SPECIFIC NAMES OF LEGISLATION AND ACTS HAVE NOT BEEN INCLUDED SUCH AS:

- 1 Safety at Work and the Welfare Code (Belgium)
- 2 National Working Environment Authority (Denmark)
- 3 Working Environment Act. (Denmark)
- 4 National Working Environment Service (Denmark)
- 5 General Contract Law (Greece)
- 6 Working Conditions Act Regulations (Netherlands)
- 7 Organisation of Working Time Act, 1997 (Ireland)
- 8 Federal Ministry for Labour, Health and Social Affairs (Austria)
- 9 Occupational Safety and Health Advisory Council (Austria)
- 10 Director of Central Labour Inspection (Austria)
- 11 General Regulations for Occupational Safety and Health (Belgium)
- 12 Royal Decree of 20 June 1975 (Belgium)
- 13 Well-being of Employees at Work Act (Belgium)
- 14 Higher Council for Safety and Prevention (Belgium)
- 15 Safety and Prevention Committees (Belgium)
- 16 Well-being of Employees at Work and its Orders (Belgium)
- 17 Ministry of Labour Domain (Denmark)
- 18 National Institute of Occupational Health (Denmark)
- 19 Federal Institute for Occupational Safety and Health (Germany)
- 20 Federal Ministry of Labour and Social Affairs (Germany)
- 21 Bundestag (Germany)
- 22 Bundesrat (Germany)
- 23 Länder Authorities (Germany)
- 24 Statutory Accident Insurance Funds (UVT) (Germany)
- 25 Greek Occupational Safety and Health Authorities System (Greece)
- 26 Greek Manufacturer Association (Greece)
- 27 General Greek Workers Federation (Greece)
- 28 Greek Institute of Safety and Health (Greece)
- 29 Greek Technical Chamber (Greece)
- 30 Greek Authorities from Ministries and Local Authorities (Greece)
- 31 Greek Council for Safety and Health at Work (Greece)
- 32 Presidency of the Minister of Labour and Social Affairs (Greece)
- 33 Labour Inspectorate of the Ministry of Social Affairs and Employment (Netherlands)
- 34 Occupational Safety and Health Services (Netherlands)

- 35 Institutions for Normalisation and Certification (Netherlands)
- 36 Operational social security institutions (Netherlands)
- 37 OSH healthcare and expert centres (Netherlands)
- 38 OSH Research & Consultancy organisations (Netherlands)
- 39 National Health Service (Italy)
- 40 Law 833/78 (first Health Reform) (Italy)
- 41 Ministry of Health (Italy)
- 42 Ministry of Labour and Social Security (Italy)
- 43 National Institute of Insurance against Accidents at Work (Italy)
- 44 Italian Institute of Social Medicine (Italy)
- 45 Permanent Advisory Committee for Accidents Prevention and Occupational Hygiene (Italy)
- 46 Ministry of Labour, Ministry of Health (Italy)
- 47 ISPESL (Italy)
- 48 Regions and Autonomous Provinces (Italy)
- 49 L'Inspection du Travail et des Mines (Luxembourg)
- 50 Association d'Assurance contre les Accidents (Luxembourg)
- 51 Berufsgenossenschaften (German but referred to by Luxembourg)
- 52 Ministry of Public Affairs (Luxembourg)
- 53 Ministry of Health (Luxembourg)
- 54 The Consultative Committee for Labour Inspection 1983 (Luxembourg)
- 55 The Ministry of Environment (Luxembourg)
- 56 The 1996–1999 Strategic Concertation Agreements (Portugal)
- 57 Social and Economic Board (Portugal)
- 58 IDICT's Board (Portugal)
- 59 National Board for Hygiene and Safety at Work (Portugal)
- 60 National Board of Occupational Safety and Health (Sweden)
- 61 Labour Inspectorate (Sweden)
- 62 Occupational Safety and Health Administration (Sweden: The National Board + the Labour Inspectorate)
- 63 Work Environment Act (Sweden)
- 64 'Good Health is Good Business' (United Kingdom)
- 65 Department of Health (United Kingdom)
- 66 Workplace Health Advisory Team (United Kingdom)
- 67 National Health Service (United Kingdom)
- 68 Department of Social Services (United Kingdom)
- 69 Industrial Injury Disablement Benefit (United Kingdom)
- 70 Disability Discrimination Act 1995 (United Kingdom)
- 71 Department of the Environment, Transport and Regions (United Kingdom)
- 72 The Driver and Vehicle Licensing Agency (United Kingdom)
- 73 Ministry of Defence (United Kingdom)
- 74 Civil Aviation Authority (United Kingdom)
- 75 Department for Employment and Education (United Kingdom)

APPENDIX 14

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Assistance was provided by WS Atkins Consultants Ltd, Instituto Nacional de Seguridad e Higiene en el Trabajo, TNO Arbeid

APPENDIX 15

National process for collating OSH information

A brief description how the Focal Points organised themselves for the collection and preparation of their nation report is given in this section.

AUSTRIA

The Austrian Focal Point used a method of questioning experts with reference to a questionnaire. The selected experts were chosen from the authorities concerned with occupational safety and health. The number of experts questioned in each authority was based pro-rata on the number of employees within each authority. Supplementary information from the Workers Compensation Board was also integrated into the study.

The experts were asked to give their evaluation of the individual risks and/or exposures, subdivided according to, occupation, size of operation, type of occupation, sex and age, as well as any trends within the individual classifications.

The Social Partners were sent a preliminary version of the report and their comments on the content and data were subsequently incorporated into the report.

A further component in the report was data regarding the working environment, the labour market, accidents at work, occupational illnesses and the presentation of the system of occupational safety and health in Austria.

BELGIUM

The Belgian Focal Point gave no specific information as to how they had gathered the data for the report other than they had followed the guidelines set out in the initial report and the manual for data collection.

DENMARK

The Danish Focal Point gave no specific information as to how they had gathered the data for the report other than they had followed the guidelines set out in the initial report and the manual for data collection.

FINLAND

The Ministry of Social Affairs and Health co-ordinated the work for the national report. An invited expert group completed preparatory work for the report. The background information tables provided by the European Agency have been revised by the more recent national research data on different risks within workplaces and working life. Under the contracts with the Finnish Institute of Occupational Safety and Health (FIOH) and the Statistics of Finland the revised data has been included in the national report. Furthermore the invited expert group completed the qualitative analysis on the risk data. The expert group met twelve times.

The draft report prepared by the expert group was thoroughly discussed at a seminar, which was organised by the Focal Point on Friday 26 February 1999. The representatives of the most relevant research institutes in the field of occupational safety and health as well as the funding organisations in this area attended the seminar. Furthermore representatives of the Social Partners in Finland attended the seminar. The draft report was discussed during the seminar and all relevant comments, proposals and changes were incorporated in the final national report.

FRANCE

Notes on the methodology of the French response (I) and sources (II):

I. Note on methodology:

Before analysing the data communicated, the following elements need to be taken into account:

Generally speaking, it must be remembered that the data transmitted to you are operating data; you should relate them to the relevant survey field and to the methodology used, which poses the problem of whether they will be compatible with data transmitted to you by the other EU Member States.

* *Thus with regard to the sources used and the survey protocols*, the results supplied come from two surveys organised by the Ministry (Working conditions 98 and Medical risk monitoring (SUMER) 94) and from various other sources (data from the National Health Insurance Fund for Employees and the ADAGE office survey)⁴, all of which cover different fields and use different protocols.

This technical problem will also affect surveys carried out by the [other] Member States. It will therefore be essential to take it into account.

* *As regards the questions*, all the questions asked in the report were taken from the European Survey on Working Conditions (ESWC) by the European Foundation in Dublin. I must point out that they do not correspond exactly to the

⁴ The sources used are explained in Annex II of the national report.

questions asked in national surveys. This poses the problem of the need to agree on the ways in which to harmonise the different answers, taking account of the way in which each country asked the questions in its national survey(s).

* *With regard to the survey methods used*, it must be borne in mind that these affect the results in the reports. Methods often vary from one country to another, as regards the selected sample size, the type of questions asked, the way in which employees are questioned, etc. These aspects must be taken into account if a valid comparison is to be made.

Finally, attention must be drawn to various other technical problems specific to the French response:

- it was not possible to make the sectoral distribution of the data supplied by national surveys correspond fully with that required by your survey (NACE 1993);

- it was not possible to compare data from European sources with data from national sources. This is because the basic elements of these surveys - namely the sample sizes - are very different, which means that it is almost impossible to compare the results;

- as regards trends in these data over time, the very relative nature of the results submitted to you must be noted when sufficiently meaningful comparative elements exist. The survey fields and methodologies compared are completely different. Moreover, each survey was conducted in a specific context, which undoubtedly influenced its results. For all these reasons, you should exercise the greatest possible caution when using the results submitted to you, and should not jump to conclusions. They represent "trends", which must be interpreted very cautiously;

- similarly, a number of questions have been answered with "No relevant data". This does not mean that France has no data on the subject concerned, but that the data it has come from analyses, surveys or monographs which, although they may otherwise be of great interest, are insufficiently representative of the national situation;

- with regard to the paragraph in Chapter IV relating to statistics on accidents at work involving sick leave, I must point out that in France the data include all accidents at work involving sick leave, even if this amounts to only one day. Thus the response from France will not tally exactly with what you requested, which was statistics on the number of accidents at work involving sick leave of more than three days.

It is essential that you take these technical aspects into account when the results of this survey are presented and compared, to ensure that they are valid.

II. The sources used:

The data taken as a basis for our response to this survey come from: the National Health Insurance Fund for Employees and two national surveys, one conducted in 1994-1995 and the other in 1998. The surveys were entitled "Medical risk monitoring" (SUMER 94) and "Working conditions 98" (CT98). Secondary data also used came from a survey conducted for the Ministry of Labour by an independent external consultancy, the ADIGE organisation.

a) *National Health Insurance Fund for Employees (CNAMTS) statistics - this body's role is explained in Chapter V of the survey:*

The mandate of the CNAMTS includes responsibility for publishing quarterly statistics on industrial accidents and occupational diseases. Since quarterly data may vary in the course of the year, it was decided to use the final statistical data from the CNAMTS for the response to the survey by the European Agency for Safety and Health at Work.

This very comprehensive document supplies, for 1996, the precise distribution by sector, by age and by category of accidents at work involving sick leave, together with a breakdown by sector of occupational diseases.

These data enabled us to answer some of the questions in Chapter IV on occupational diseases and accidents at work.

b) *The 1998 Working Conditions Survey:*

The 1998 Working Conditions Survey was conducted among representative samples of members of the working population in employment (employees and the self-employed), of whom there were just over 22.4 million in France in 1996.

The answers relate to working conditions: work-related stresses and risks, working hours, work organisation, working independence and work rates.

Organised and implemented by the DARES of the Ministry of Employment and Solidarity, this survey supplemented the Employment Survey conducted by INSEE, the National Institute of Statistical and Economic Information, the body responsible in France for organising censuses, among other things. The questionnaire was submitted to members of the working population in employment, which involved establishing a sample of around 22 000 people.

Certain categories were excluded from it, such as workers on temporary construction sites, young people and non-nationals living in hostels, and hospital, school and hotel staff living on the premises.

The questionnaire was put to each person in employment in the household, who had to answer it in person.

c) *The SUMER 94 survey:*

The “medical risk monitoring” survey (SUMER 94), designed by DARES and DRT, was conducted between June 1994 and June 1995 by regional medical inspectorates and company doctors.

SUMER 94 was a cross-disciplinary survey in which the statistical unit was the employee, who was asked by his/her company doctor about all the work activities actually performed by him/her in the most recent week at work. On this occasion, the company doctor interviewed respondents on all the work activities they had actually performed in the most recent week at work. The company doctor first had to itemise workplace exposures, before going on to give an opinion on the pathological risk.

The survey field comprised all employees covered by the labour laws and by occupational medical monitoring, plus agricultural employees. Thus the only exclusions were public companies and certain categories such as domestic staff.

Within this field, a representative sample was obtained by a two-level selection process: firstly company doctors, and then employees monitored by company doctors (cf. explanations of the role of the company doctor given in Chapter V of the survey).

In the French system, the company doctor is particularly well placed to conduct a survey of this type, given the extent of his responsibilities and of his knowledge of the company and the occupational risks in the broadest sense.

The statistics were extrapolated from 48 190 authenticated questionnaires. 680 survey recipients were unable to respond to it. Following statistical extrapolation, the data covered over 12 million employees.

d) *The ADIGE survey:*

In the context of evaluation of five European directives, the Ministry called on an independent external consultancy (ADIGE organisation)⁵, which it commissioned to conduct a survey on this subject.

The directives concerned are:

- Framework Directive no. 89/655 of 12 January 1989;
- Directive no. 89/654 of 30 November 1989 on workplaces;
- Directive no. 89/655 on work equipment;
- Directive no. 89/656 of 30 November 1989 on the use of personal protective equipment;
- Directive no. 92/57 of 24 June 1992 on temporary or mobile construction sites.

The survey took the form of telephone samplings in relation to 998 employees and 800 employers from four different sectors, on the basis of a sample consisting of 200 companies of different sizes in each sector. The sectors chosen were as follows: wood, public buildings and works, metalworking industry, and distribution. These choices took account of the aim of the directives.

GERMANY

The German Focal Point used a number of national data sources to compile their report:

BIBB/IAB (Federal Institute for Vocational Training Affairs/Institute for Employment Research) Statistics.

In the BIBB/IAB 1991 survey (Reference 04) questions were asked relating to different types of occupational risks and demands: the physical load in terms of heavy manual labour, negative environmental influences at work, onerous work times, such as night-time or shift work and finally, various aspects of mental strain and demands.

The Federal Institute for Occupational Safety and Health Data bank on Fatal Accidents at Work

The data medium is the questionnaire survey on fatal accidents at work compiled by the government authorities for labour protection and the Federal Institute for Occupational Safety and Health, which was revised in 1991.

The Social Economic Panel (SOEP)

The SOEP data provide information not only about the objective living conditions but also about the subjectively perceived quality of life, about the changing times in various areas of life and about the dependencies, which exist between various areas of life and the changes thereof.

The Federation of Company Health Insurance Funds (BKK) Disease Classification Statistics for 1997

The data from the BKK's disease classification statistics are based on benefit claims reported by approximately 660 company health insurance funds with more than 5.1 million members. All reports on unfitness for work from participating insurance funds are included in the evaluation. Unfitness for work data, occupational accidents, hospital treatments and clinic rehabilitation are also included in the reports.

1998 Occupational Accident Prevention Report

This report comprises the statistical reports of the public insurance funds and the annual report of the respective Länder authorities responsible for safety and health at work.

⁵ This consultancy was selected following a European call for tenders (announcement no. 130 in BOAM of 27 February 1998).

GREECE

A thorough review was carried out of occupational safety and health information sources in Greece and of data available. Also there has been a new survey using data from experienced technical inspectors of labour in industrial areas of Greece.

Data is included for those areas where available. The greatest part of the data presented in this report is from the Greek Ministry of Labour and Social Affairs and processed by Greek National Focal Point K.Y.A.E. (Centre for Occupational Health and Safety). The statistical data been presented in the national report has not officially been published in Greece. Also much of the information is anecdotal and in some important areas there was a lack of information available.

The data used in preparing the national report included earlier information from the Survey of the European Foundation for the Improvement of Living and Working Conditions of Dublin, data from a survey of working conditions collated by the Working Centre of Athens and on data collected by experienced technical inspectors of labour on industrial areas of Greece.

The data have been discussed in a Group of experienced technical inspectors of labour and within the Tripartite Committee in Greece which supports the operation of the Greek Focal Point.

NETHERLANDS

The Dutch Focal Point gave no specific information as to how they had gathered the data for the report other than they had followed the guidelines set out in the initial report and the manual for data collection.

IRELAND

A thorough review has been carried out of occupational safety and health information sources in Ireland and of data available. The survey has shown that relatively little occupational safety and health research has been done in Ireland to date and that considerable gaps exist.

Data is included for those areas where it is available. The greater part of the data presented in the report is from the Irish national Focal Point, the Health and Safety Authority. Although there is a significant amount of statistical data much of the information is anecdotal and in some important areas there is no information.

ITALY

The Italian National Focal Point carried out the study, following the planned activities for the project of the European Agency.

The matrixes used for the numerical data collection have been filled up only in those parts concerning the comprehensive data of professional accidents and disease. The evaluation and the considerations about the sectors and occupation with the highest risks, duly collected, come from experts' opinions and specific research studies.

LUXEMBOURG

In order to carry out this study a number of stakeholders were identified by the tripartite committee (C.C.S.H.S.T. LUX - Comité de la sécurité, de l'hygiène et de la santé au travail).

OSH division of the Health Ministry
Occupational Accidents Insurance (AAA)
OSH physicians
Craftsman- and Chamber Federation
Chamber of Commerce
Several institutions and companies and the Labour and Mines Inspectorate.

Participation was polarised, from bad to good. On one side there came no feedback, on the other side accurate and recent information was provided.

PORTUGAL

The qualitative answers to the questionnaire were done by a group of technicians of the Instituto de Desenvolvimento e Inspecção das Condições de Trabalho (I.D.I.C.T.) – Institute for the Development and Inspection of Working Conditions. This work group was composed by Labour Inspectors, Prevention Technicians and Professional Relations Technicians. However, the identification of several risk categories per sector and occupations was done in collaboration with external experts, namely from universities, research institutes and public organisations.

The first draft report was forwarded to the representatives of the employees and employers for their contribution, aiming to gather further information about the risk sectors and available data at their organisations.

SPAIN

A number of information sources were used by the Spanish Focal Point during their study:

a) *III National Survey of Work Conditions (1997)*

The main objective of the III National Work Conditions Survey was to estimate those work environmental factors which could modify the workers' health status. To reach this aim, capital exposures were characterised and studied in a descriptive way and also in relation to their associated damages and health changes.

b) *Official Statistics: Work Accidents and occupational Diseases statistics*

The Occupational Official statistics are based on information gathered from Work Accidents and Occupational Diseases registers. The information is treated by the Labour Ministry and on a yearly basis the whole computerised data is sent to the National Institute for Occupational Safety and Health (INSHT) in order to obtain more detailed analyses.

c) *National Network Organisms of Occupational Safety and Health*

The experiences and opinions of many organisms had been taken into account in order to correct and complete our first estimations. They were: Technicians from the regional Occupational Safety and Health Services, Trade unions, Social Partners and Work Accidents Insurance Companies.

Different information sources and methodologies were applied according to the different hazards. For all of them, a questionnaire, based on that designed by the European Agency, was translated and adapted to our country. The information concerning each hazard group had a particular way to be managed.

SWEDEN

The work for the national report on State of OSH in Sweden has been co-ordinated by the Swedish Focal Point at the National Board of Occupational Safety and Health (NBOSH). Preparatory work for the report has been completed by an expert group from NBOSH, from the National Institute of Working Life and from Statistics Sweden. The background information tables provided by the European Agency have been supplemented by the more recent and larger national data on corresponding issues supplied from Statistics Sweden or otherwise. These data have been included in the national report together with the qualitative analysis of the data by the expert group.

The draft report by the expert group has been presented to the Advisory Committee to NBOSH for Occupational Environment and Injury Statistics which includes representatives of the Social Partners on May 27 as well as to the Meeting of the Focal Point Network on June 18 with invitations for comments and proposals for amendments. Such proposals have been included in the present, final version of the national report.

The Swedish Focal Point intends to continue the development of the national report for publishing in paper as well as Internet versions.

The data used in the report was gathered from the 'Work Environment Statistics' which was established in 1989 by Statistics Sweden. Every second year since, a data collection of between 10,000 and 15,000 respondents has been done in connection with the Labour Force Surveys. In the text in the present report this study is usually abbreviated as the LFS/WES survey. By now there are answers from between 100-200 questions from over 60,000 people, which is reported on a regular basis.

The data was presented in such a way as to emphasise the importance of a breakdown by gender.

UNITED KINGDOM

The British Focal Point gave no specific information as to how they had gathered the data for the report other than they had followed the guidelines set out in the initial report and the manual for data collection.

APPENDIX 16

Preventive capacity of the occupational safety and health system for each member state

Details of the organisational structure of the occupational safety and health (OSH) system for each Member State is presented in this appendix. In addition, the Focal Points were asked to provide information about the preventative occupational safety and health services in the Member State and OSH training. Due to insufficient or lacking data there was no use to give a summarised European picture⁶. Information from those Focal Points who provided the available national data could be found in the national reports. The national reports are available on the Web page of the Focal Points:

Austria: http://at.osha.eu.int/statistics/statosh_.doc

Belgium: <http://be.osha.eu.int/systems/fr/index.stm>

Denmark: http://dk.osha.eu.int/statistics/index_en.stm

Finland: <http://fi.osha.eu.int/publications/indexen.stm>

France: <http://fr.osha.eu.int/statistics/>

Germany: http://de.osha.eu.int/statistics/osh_de.zip

Greece: <http://www.osh.gr/fp/statistics/oshstat.pdf>

Netherlands: <http://nl.osha.eu.int/statistics/>

Ireland: <http://ie.osha.eu.int/satistics/irereport.pdf>

Italy: <http://it.osha.eu.int/statistics/>

Luxembourg: http://www.itm.etat.lu/State_of_OSH/OSHLux.Doc

Portugal: <http://pt.osha.eu.int/statistics/inqueen.stm>

Spain: <http://es.osha.eu.int/statistics/#nacional>

Sweden: <http://se.osha.eu.int/statistics/>

United Kingdom: <http://uk.osha.eu.int/statistics/>

THE ORGANISATIONAL STRUCTURE OF THE NATIONAL OCCUPATIONAL SAFETY AND HEALTH SYSTEM

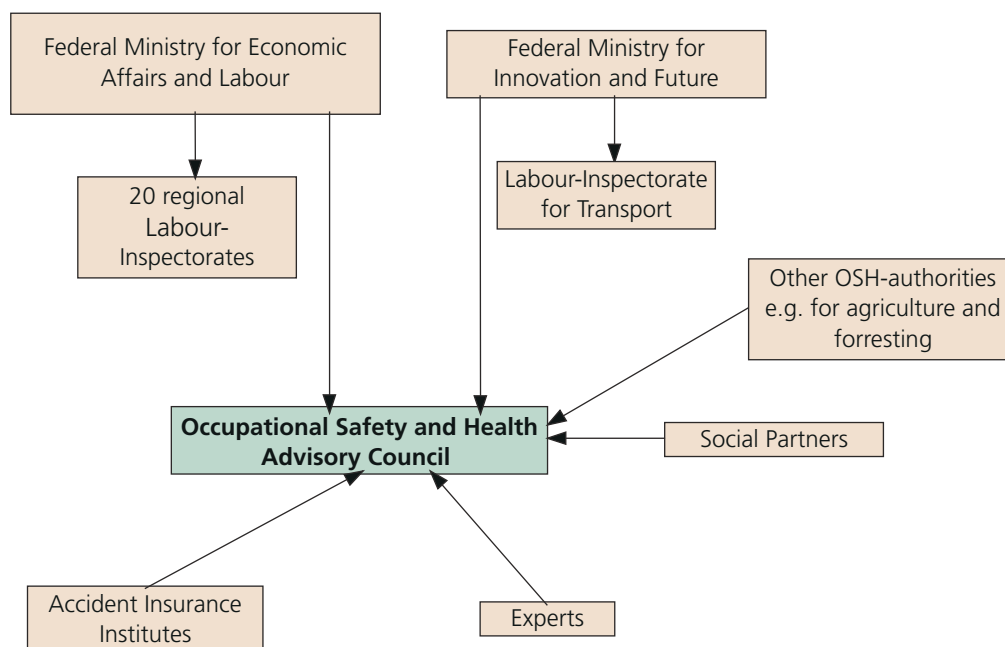
Each Focal Point was asked to *“Please present, by means of an organogram, an overview of the way the national OSH system is organised. Please include in your description all the public authorities, Social Partner organisations, mandatory insurance organisations, OSH-services and National Institute(s) involved in Occupational Safety and Health”*.

Summary details of the information submitted in relation to the organisational structure of the national OSH systems have been included in this section.

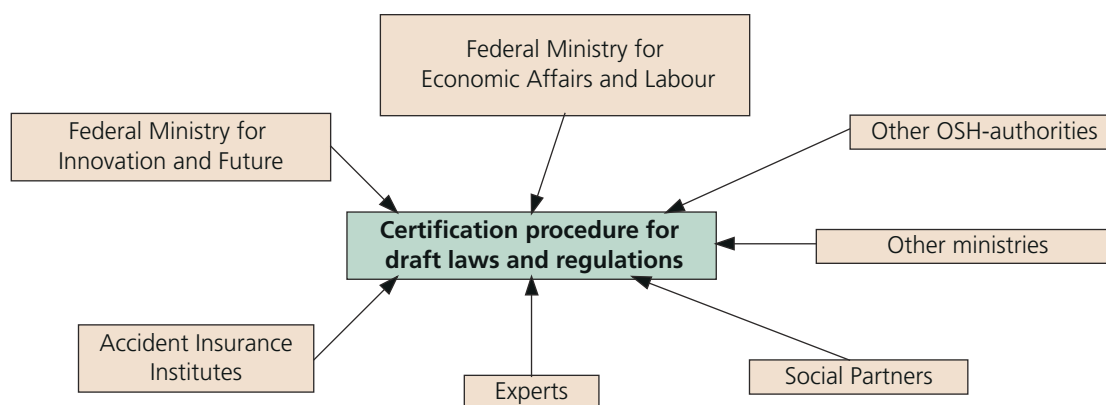
⁶ The questions used in the manual were: ‘Please estimate the percentage of workers in your Member State that are covered by preventive occupational safety and health services (use 1997 as the reference period)’ and ‘Please estimate the number of workers in your Member State that receive occupational safety and health training per year (use 1997 as the reference period)’.

AUSTRIA

The Organisational Structure of the National Occupational Safety and Health System



Structure regarding the roles of institutions in the field of OSH



Structure of co-operation regarding new laws and regulations in the field of OSH

Comments on the OSH Organisational Structure:

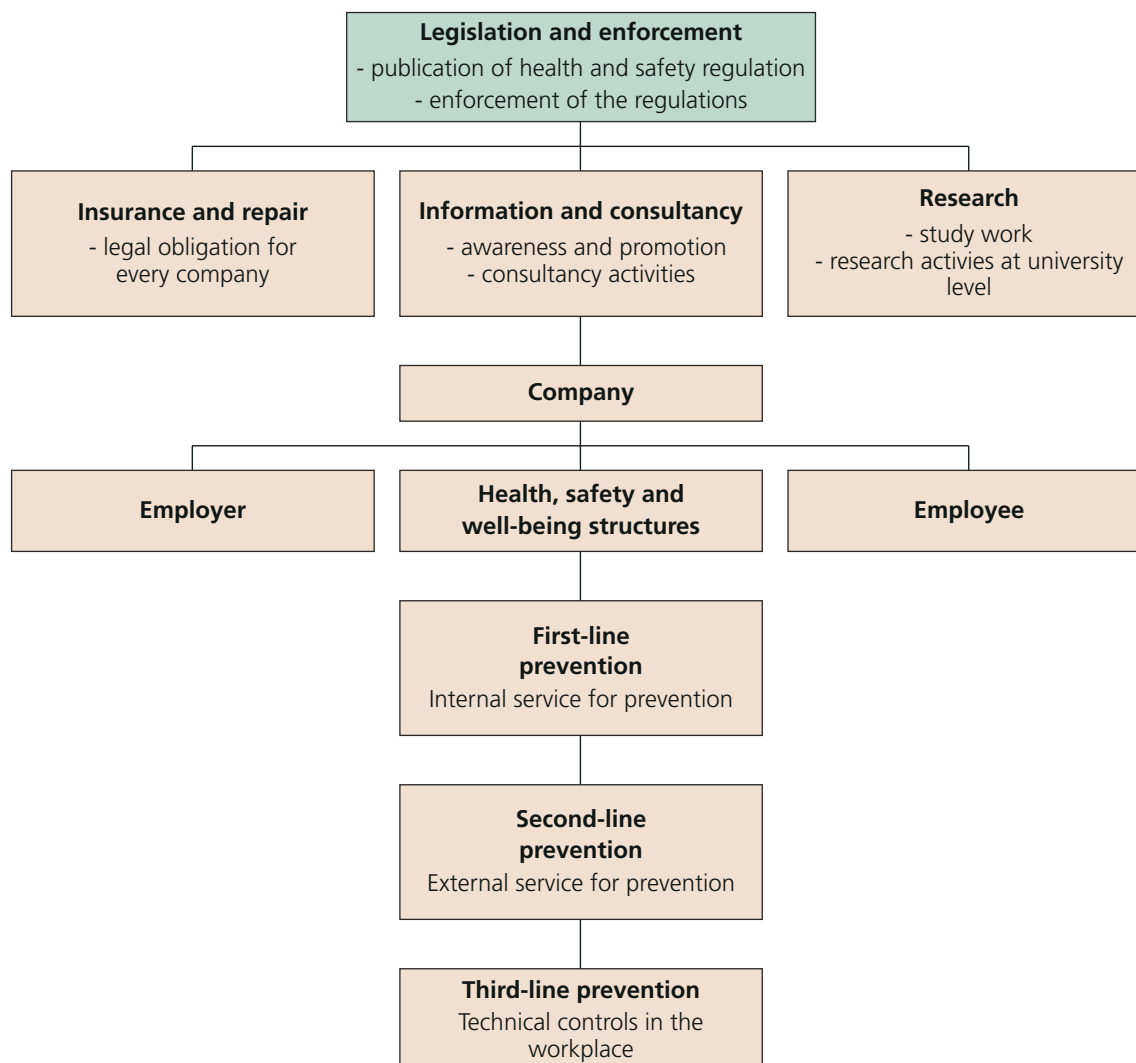
Occupational safety and health falls largely into the area of competence of the Federal Government, predominantly under the aegis of the *Federal Ministry for Economic Affairs and Labour*. Nine Federal States are responsible for agriculture and forestry and also occupational safety and health for regional public officials.

The *Occupational Safety and Health Advisory Council* is composed of representatives of the various Social Partners (employers and employees), accident insurance providers, other Federal Ministries and supervisory authorities. The *Occupational Safety and Health Advisory Council* acts primarily to advise the *Federal Minister for Economic Affairs and Labour* on basic questions relating to occupational safety and health. The *Occupational Safety and Health Advisory Council* holds regular meetings under the presidency of the *Director of Central Labour Inspection* to discuss matters relating to safety and health at work and to advise on plans for new laws and regulations.

Representatives of the interests of employers and employees are represented in the *Occupational Safety and Health Advisory Council* and therefore have the opportunity to influence the development of national policy and national laws on health and safety at work at an early stage.

BELGIUM

The Organisational Structure of the National Occupational Safety and Health System



Comments on the OSH Organisational Structure:

The central statute on working conditions is the *General Regulations for Occupational Safety and Health (ARAB, 1945)*, which has been subject to several amendments (*Royal Decree of 20 June 1975*). In addition, there are some specific statutes governing the technical aspects of several OSH issues.

Safety is covered by the *Well-being of Employees at Work Act*. This Act establishes a safety service to replace the current occupational health and safety services. The employer is required to call in the assistance of safety experts for the implementation of safety and preventive measures.

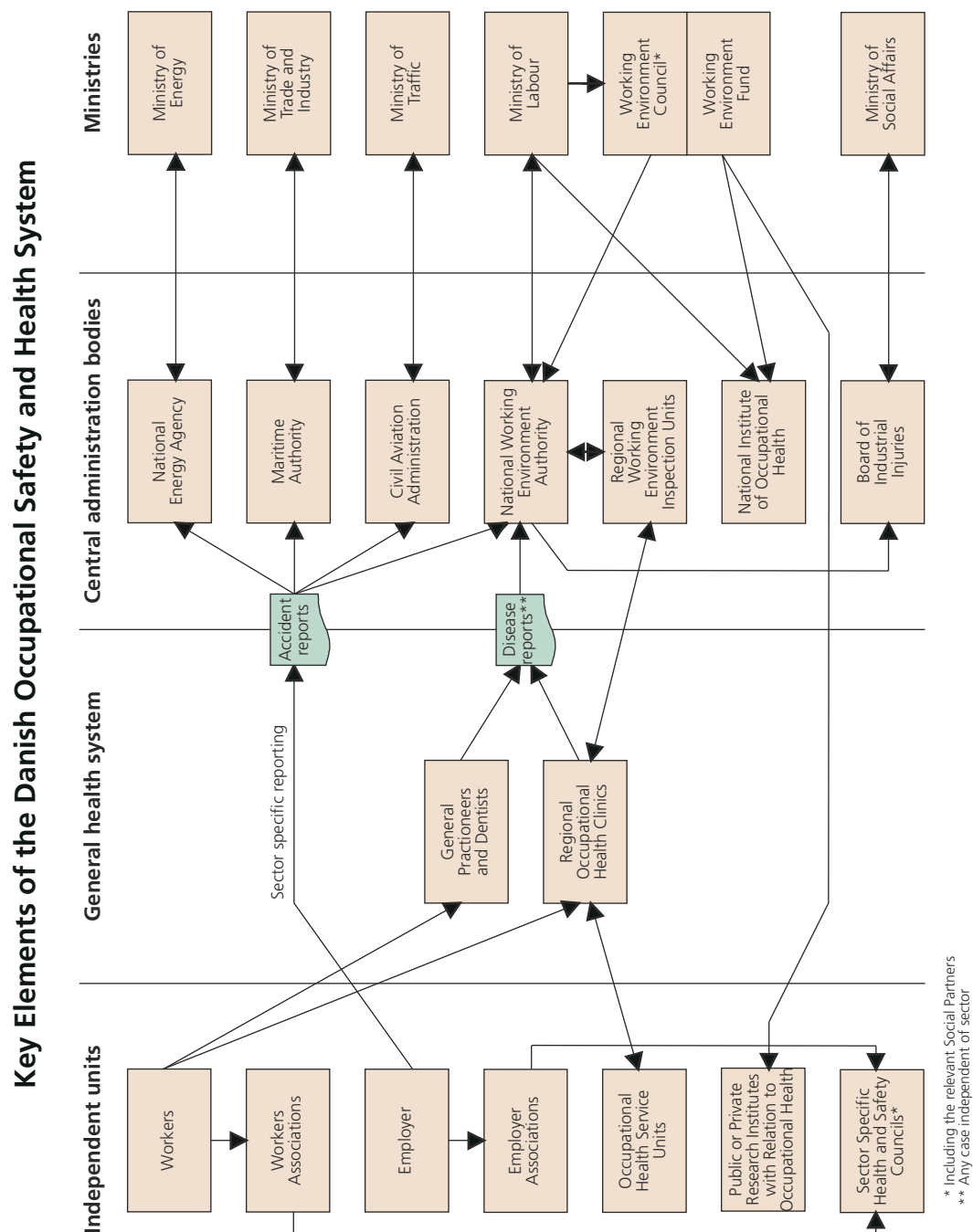
In addition to the *ARAB* and the *Well-being of Employees at Work Act*, OSH regulations are laid down in collective labour agreements. The requirements stipulated in them may involve further specification and extensions to general statutory regulations.

There are a number of important consultative bodies and compulsory services at various levels:

- The Higher Council for Safety and Prevention brings employer and employee representatives together on an equal basis. The Council advises the Minister on matters of policy, particularly with regard to legislation in preparation;
- There are sector-based Safety and Prevention Committees in the construction, metal and chemical industries, which make comments and recommendations on legislation; and
- At a company level, there are compulsory Safety and Prevention Committees in workplaces with fifty or more employees. Employee representatives are elected every four years. The employer representatives are appointed by the employer from management personnel. The safety officer attends in a consultative capacity. The powers of the committee are set out in the Act on the Well-being of Employees at Work and its Orders in implementation of it.

DENMARK

The Organisational Structure of the National Occupational Safety and Health System



Comments on the OSH Organisational Structure:

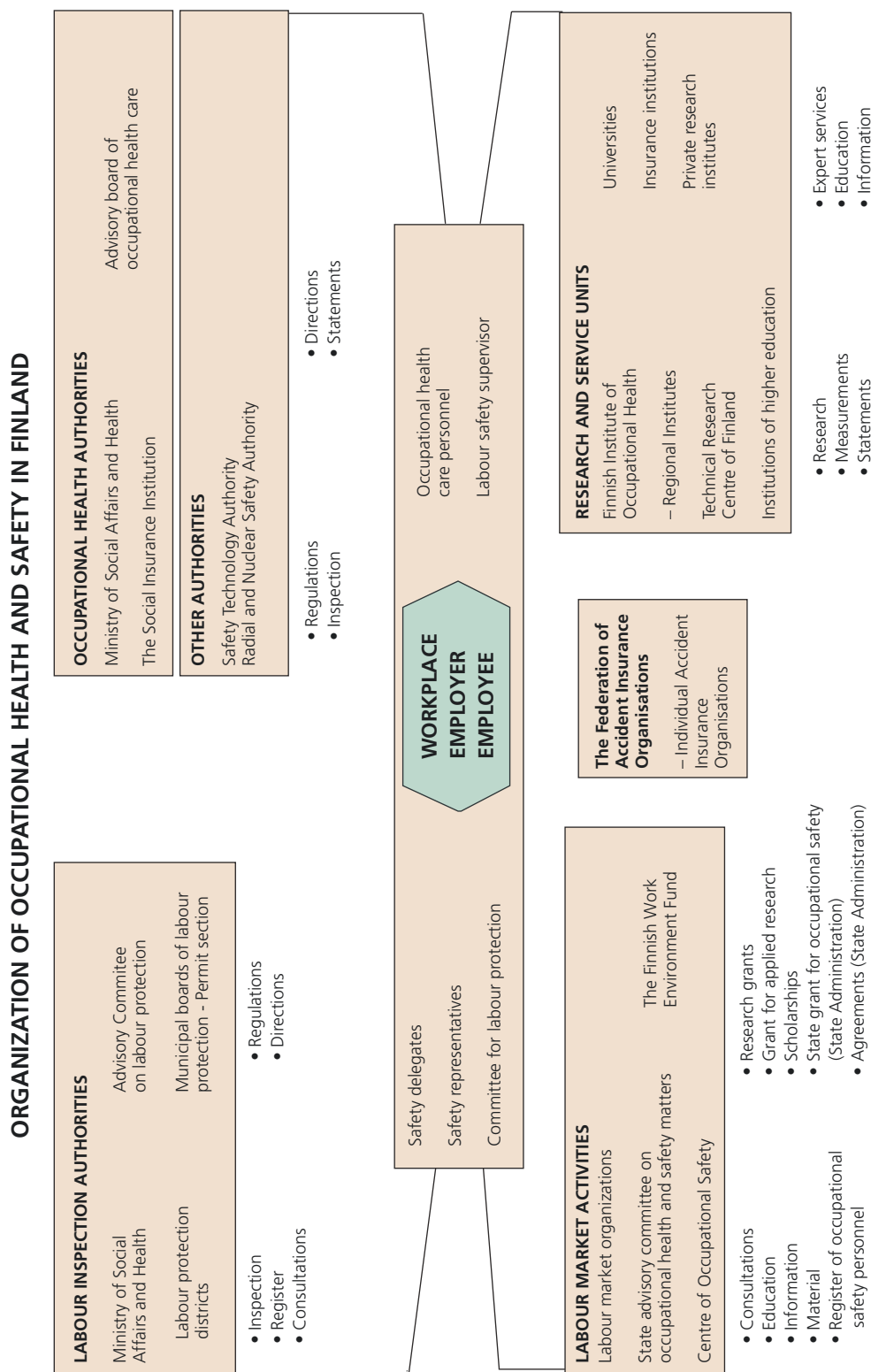
Within the domain of the *Ministry of Labour* there are fourteen regional inspection units responsible for ensuring compliance with all environmental and occupational health issues. *The Work Environment Council and the National Institute of Occupational Health* provide support to the ministry.

All occupational sectors are monitored for compliance to the Work Environment Act administered by the National Working Environment Service.

FINLAND

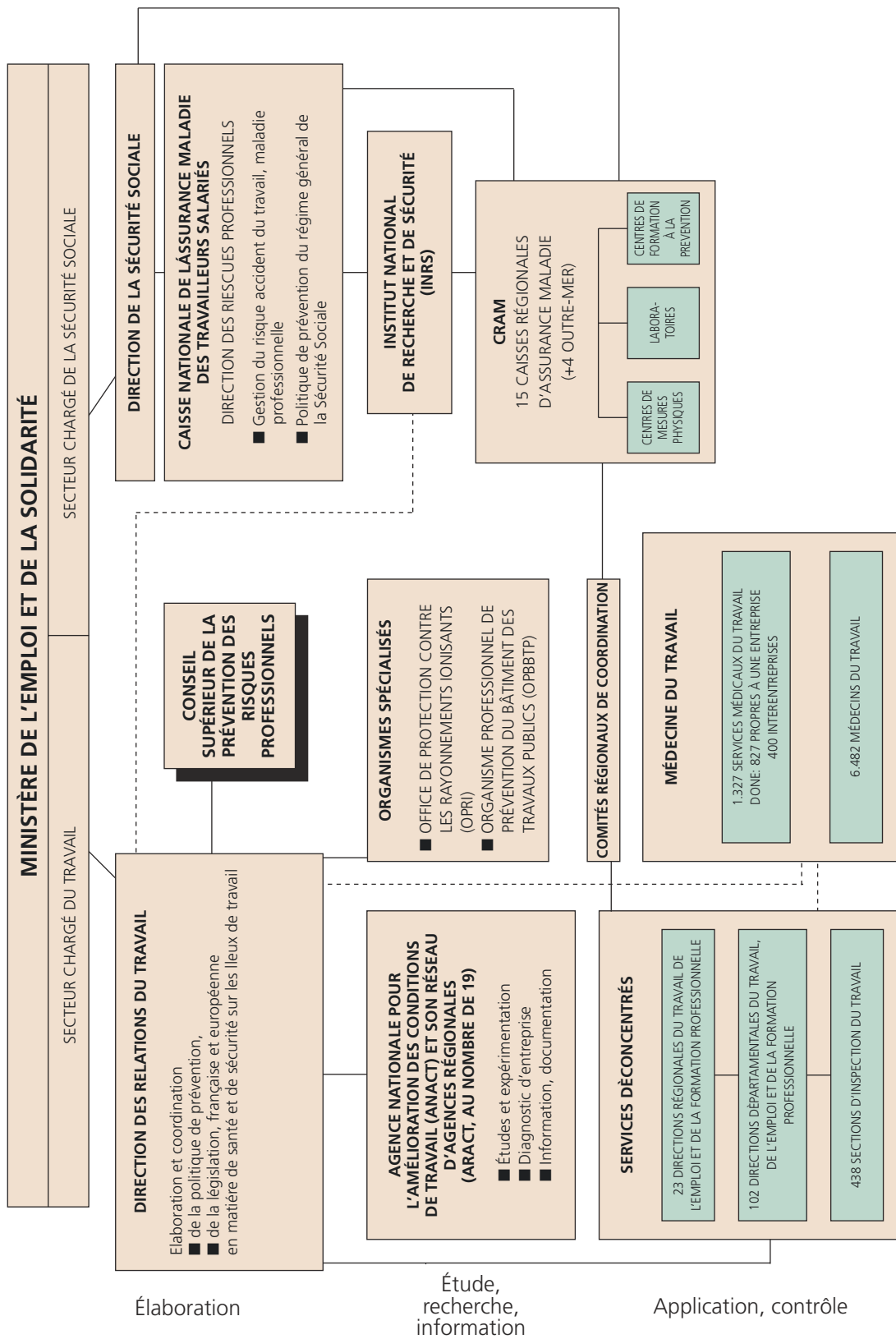
The Organisational Structure of the National Occupational Safety and Health System

The organogram below illustrates public authorities, social partner organisations, insurance organisations, OSH-services and National Institutes involved in Occupational Safety and Health.



FRANCE

The Organisational Structure of the National Occupational Safety and Health System



COMMENTS ON THE OSH ORGANISATIONAL STRUCTURE:

The attached diagram essentially describes the institutional players (both public and private: state, social security, occupational medicine, etc.). The French system of occupational risk prevention is based mainly on supplementary and concerted intervention by the following players:

- 1) Departments of the Ministry of Employment and Solidarity:
 - at central level (in particular, the working conditions subsection); and
 - at local level (in particular, labour inspectorates).
- 2) Social security as a whole:
 - at central level (social security department, National Health Insurance Fund for Employees); and
 - or local (regional health insurance funds, National Research and Safety Institute, etc.).
- 3) Occupational medicine.
- 4) The Social Partners.
- 5) Other players.

1) "WORK" IN GENERAL

The working conditions policy of the Ministry of Employment and Solidarity is based on the actions of the central administration (employment relationships directorate [DRT]) and of decentralised departments.

The central administration has a subsection responsible for working conditions policy in France, which also co-ordinates action by regional departments. There are 23 regional labour departments, 102 departmental labour departments and 436 labour inspectorate sections.

It is responsible for policy on safety and health at work and for occupational risk prevention, which involves a significant quantity of work on regulations (both national and European), as well as methodological support for training and information of employees, employers and their representatives.

It also steers consultations on working conditions with the various Social Partners, through an advisory committee, the Higher Committee for the Prevention of Occupational Risks (CSPRP). The latter brings together the Social Partners (employer and employee representatives), all the public administrations involved, French expert bodies in the field of prevention, and persons qualified by reason of their technical skills. The committee is consulted on all texts and measures relating to safety and health at work; it can also submit proposals to the Ministry in this field. It has several specialist committees and many working parties, each of which meets several times a year.

Several bodies assist the central administration in this task. We should mention the National Agency for the Improvement of Working Conditions (ANACT) and its network of regional agencies (ARACT), the National Research and Safety Institute (INRS), which comes under the heading of the National Health Insurance Fund for Employees (CNAMTS) in legal terms and will be discussed in this context, the Occupational body for Prevention in Construction and Public Works (OPPBTP) and the Office for Protection against Ionising Radiation (OPRI):

- ANACT is a public body under the supervision of the Ministry of Labour; it has a tripartite management structure involving representatives of the State and the Social Partners. It helps companies and professional bodies to analyse working conditions and helps to develop corporate innovations designed to improve both working conditions and global efficiency, particularly as regards work organisation and working hours.

- OPPBTP is a public body created to take account of the particular features of the construction sector and the significant risks it engenders. It is very active in areas involving the safety of workers: survey of accidents at work, visits to construction sites, research, etc. OPPBTP is also actively involved in training in the occupations concerned and arranging work experience. Financed by employers in this sector, it is managed by the Social Partners.

- OPRI is a public body that has been restructured since 1994. OPRI is mandated to check and monitor exposure to ionising radiation on the authority of the Ministry of Employment and Solidarity. To this end, it centralises and exploits the results of external and internal dosimetric monitoring of workers, and can be requested by labour inspectorates to implement numerous technical checks and measurements within companies. This specific competence gives it a clear view of levels of exposure of employees.

2) "SOCIAL SECURITY" AS A WHOLE

The Ministry of Employment and Solidarity has a social security department. This is under the supervision of the National Health Insurance Fund for Employees (CNAMTS). These two bodies also co-operate to play a key part in relation to managing occupational risk prevention.

Thus the CNAMTS, a public body, sets the rates for contributions payable by companies in respect of accidents at work and compensates victims of accidents at work and occupational diseases. As an insurer, it aims to promote occupational risk

prevention in companies. The National Health Insurance Fund also administers a national prevention fund fed by company contributions. This fund's resources are mainly used as follows:

- subsidies to regional health insurance funds;
- grant to the National Research and Safety Institute (INRS);
- grants to various bodies for education in prevention and safety training; and
- loans and grants to companies to facilitate funding of arrangements designed to ensure improved safety.

The Regional Health Insurance Funds (CRAM) are private-law bodies administered by the Social Partners.

Their role is to develop and work towards application of the rules fixing the rates of contributions for accidents at work. Their activities, based on the study of overt or potential occupational risks (visits, inspections, prompts of various kinds, statistics) are carried out in the context of the general policy on prevention drawn up with the help of the CNAMTS. The tenor of these activities is recommended by an administrative board with the aid of regional technical committees. In order that they can satisfactorily implement their measures, which combine inspection, advice and training, the CRAMs are equipped with human, technical and regulatory resources and the means to provide incentives, and have a prevention department mainly comprising engineering advisers and safety inspectors. This represents a total of 2372 officials responsible for administering prevention.

- INRS is the main French centre of prevention know-how (legally constituted as an association). It provides the authorities with essential scientific and technical assistance. It has significant research and investigation resources (a staff of almost 640 and a budget of FF 370 million in 1997). It is financed by the CNAMTS.

The INRS arranges traineeships and issues video aids and specialised brochures. It is authorised to inspect new chemical substances and to issue certificates of conformity for dangerous machinery. It also does a great deal of work in liaison with the Ministry of Labour.

3) OCCUPATIONAL MEDICINE

France has developed an original structure for health protection at work: occupational medicine, created in 1946, which has a preventive mandate. It makes it possible, through systematic monitoring, to relate the health status of all employees in all companies to the characteristics of their workplace in terms of constraints or risks to health or safety, and to implement ongoing adaptation of workplaces.

Occupational medicine is staffed by specialised company doctors whose mandate is to study action to be taken in the working environment and to propose corrective measures. All these doctors must devote one-third of their time to these non-medical preventive activities.

They make regular visits to workplaces and carry out on-the-spot analyses of the risks and working conditions specific to certain jobs. They arrange for sampling and measures they deem necessary to be carried out at the company's expense. The head of the company provides them with all relevant information on the composition of the products used, their mode of use, and the results of analyses effected. In companies or establishments with more than ten employees, the company doctor draws up and issues an information sheet showing occupational risks and the numbers of employees affected. This information sheet is given to the employer and submitted to the health, safety and working conditions committee (CHSCT, see below). The company doctor participates in CHSCT meetings in an advisory capacity.

All employees are seen by the company doctor when they join the company, are examined annually, and are seen by him on their return to work after an accident at work, an occupational disease or a lengthy period of sick leave.

4) THE SOCIAL PARTNERS

All the "institutions" described in points 1, 2 and 3 act in close consultation with the Social Partners, who also play a decisive part in French working conditions policy.

- At national level, employee and employer representative organisations help to design and implement policy on health and safety at work, particularly by means of the Higher Committee for the prevention of occupational risks mentioned earlier, and through their respective bodies.

- At local level, companies themselves and employee representatives play a fundamental part in applying working conditions policy. In this context, companies contain two essential bodies: the health, safety and working conditions committee and the committee of employee representatives.

Health, safety and working conditions committees (CHSCT) in which, in companies with more than 50 employees, the employer and employee representatives meet, play an essential part. The CHSCT is a specialist body that discusses all issues relating to health and safety and working conditions. It makes a fundamental contribution to health protection and improvements in the safety and working conditions of employees working in the establishment concerned. The CHSCT is involved in seeking solutions for equipping workstations, the physical working environment, fitting out workplaces and annexes to them, work organisation (rhythms, workload, etc.), the duration and arrangement of working hours, and the consequences for working conditions of investments. It analyses occupational risks, monitors application of rules relating to

protection of employees, and formulates proposals, either on its own initiative or at the request of the employer or representative bodies. It can call on independent experts accepted by management to analyse risk situations.

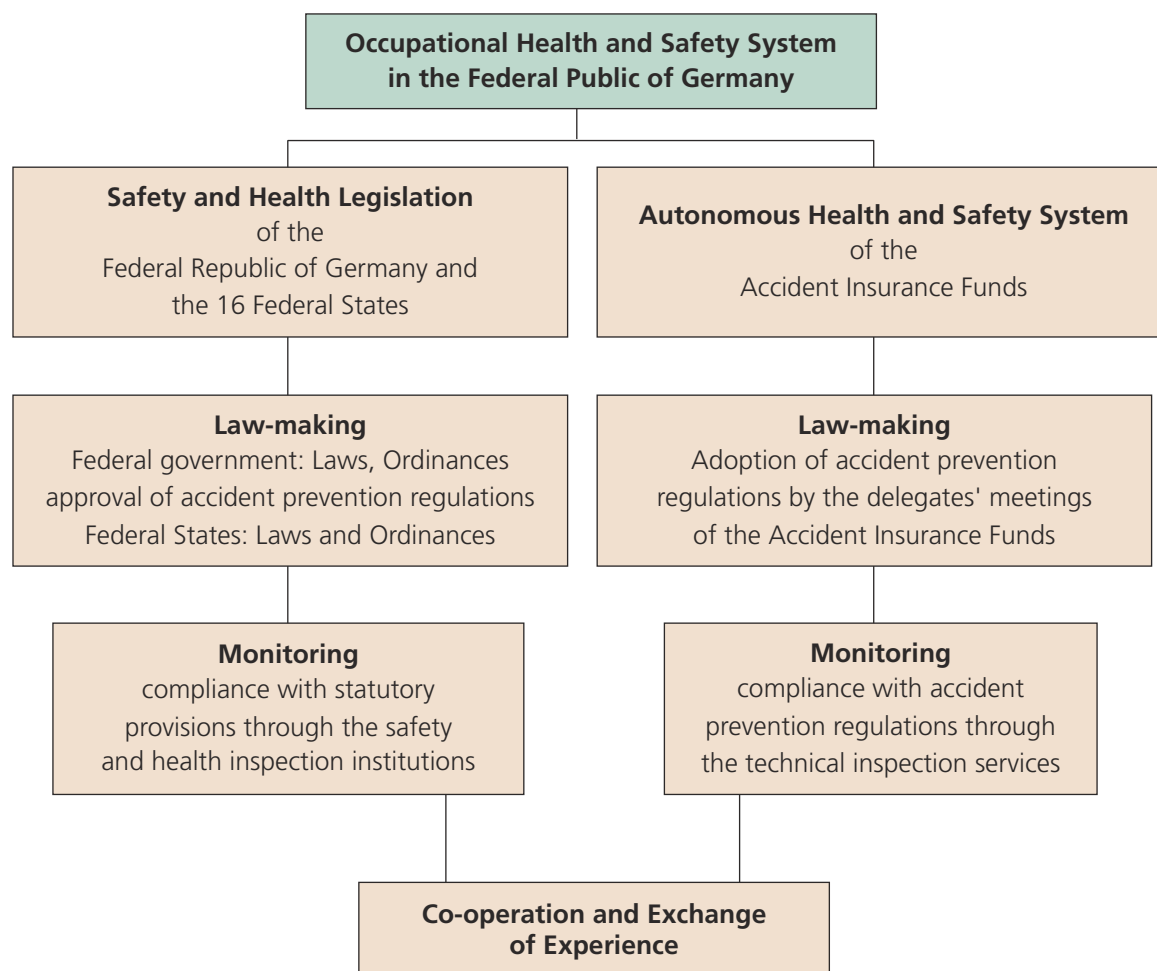
In companies with fewer than 50 employees, employee representatives take the place of the CHSCT.

5) OTHER PLAYERS

Finally, for the sake of completeness, it must also be pointed out that a number of other bodies and/or administrations such as the Ministry of Agriculture and the Ministry of Transport play an important part in French working conditions policy, each active in its own sphere and in consultation with the players mentioned above. In particular, these two Ministries act through the intermediary of their labour inspectorates, the staff of which are shown in the answer to question 5.2.

GERMANY

The Organisational Structure of the National Occupational Safety and Health System



Comments on the OSH Organisational Structure:

In Germany the term *Arbeitsschutz* refers to the safety and health of employees at work. It is used in a wide sense including the prevention of accidents and work-related health hazards as well as work humanisation. It also covers matters relating to working time (Sunday and public holiday working) and the protection of particularly vulnerable groups of workers (such as young people, pregnant women). The concept does not include, however, matters relating to employment (e.g. employment contracts), relations between employers and trade unions or pay.

Most of German safety and health legislation is part of public law. The basic laws governing safety and health at company level are the Occupational Safety Act and the Social Code, Part VII.

The system of safety and health at this level can be characterised by the following terms:

- Employers' responsibilities;
- Federalism;
- Dualism; and
- Information/Co-ordination/Co-operation.

Employers' responsibilities

The employer is responsible for the safety and health of his employees at work. To fulfil his responsibilities he is required to take measures for the prevention of industrial accidents and occupational diseases, to review their effectiveness and, where necessary, adjust them to changing conditions. It is his duty to seek improvements of the safety and health of his employees. For this purpose he is required to appoint safety experts and company doctors assisting and advising him in safety and health matters. This means that the State requires the employer to comply with the prescribed legal standards and the ensuing obligations are obligations towards the State.

FEDERALISM

Germany is a federal state. The German federal system with its constituent federal states is also reflected in the system of safety and health at work.

Legislation relating to safety and health is in most cases federal law and is enacted by the Bundestag with the consent of the Bundesrat, where necessary. Ordinances on the other hand are mostly adopted by the federal government but as a rule also require the consent of the Bundesrat for their final enactment. When laws and ordinances concerning occupational safety are prepared by the Federal Ministry of Labour and Social Affairs early and in-depth consultation of the Länder and of interested groups is taking place. The Social Partners represented by the umbrella organisations of the German trade unions and employers as well as the central associations of employers' liability accident insurance funds and relevant professional organisations are also included in the consultation process. The Federal Institute for Occupational Safety and Health provides technical support for the work of the Federal Ministry of Labour and Social Affairs.

Monitoring compliance with the federal laws is the responsibility of the federal states.

Each of the federal states established its own safety and health inspection institution. Their tasks include i.e.:

- monitoring compliance with legal requirements;
- consultancy for employers;
- in individual cases, issue of orders for the implementation of measures; and
- necessary to ensure the safety and health of employees.

DUALISM

In Germany the system of occupational safety rests on two pillars. Alongside the public system there is the safety and health system of the statutory accident insurance funds (UVT). The UVT include the industrial employers' liability insurance funds (HVBG), the agricultural employers' liability insurance funds and the liability insurance funds of the public sector. All companies, establishments and administrations are subject to compulsory membership, ensuring insurance coverage for industrial accidents and occupational diseases for all employees in Germany. The UVT, and hence any benefits in the case of industrial accidents and occupational diseases, are funded by employers' contributions.

It is the task of the UVT to take any suitable action to prevent industrial accidents, occupational diseases and work-related health hazards. As self-governing bodies under public law the UVT have the power to issue accident prevention regulations. Monitoring and enforcement of the regulations is the responsibility of the technical inspection institutions of each UVT. Another main function of the UVT is consultancy for fund members.

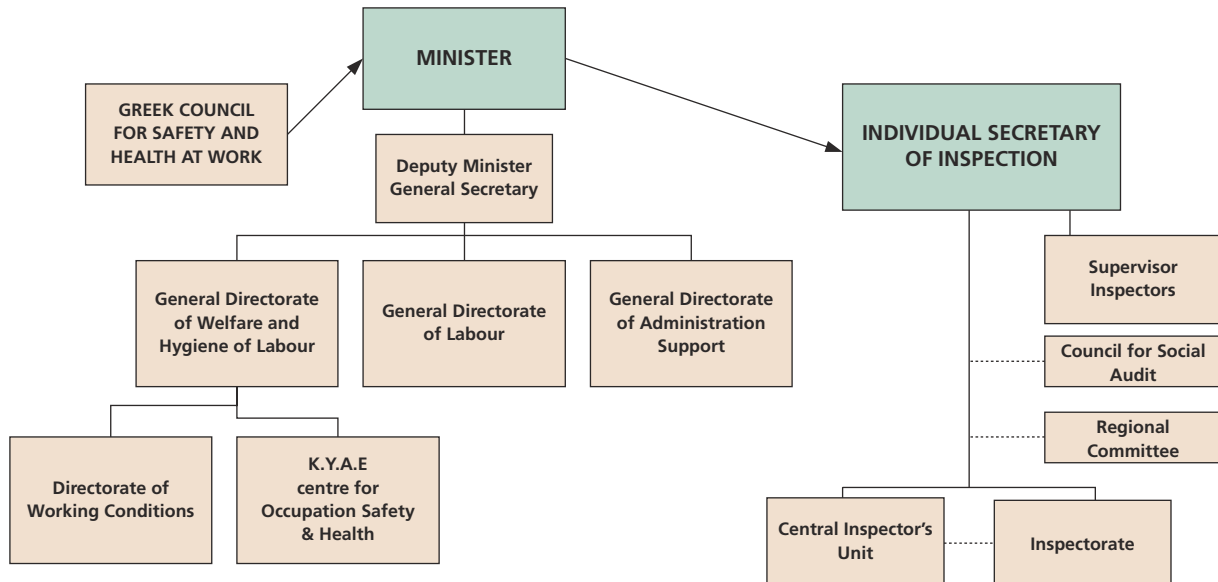
INFORMATION/CO-ORDINATION/CO-OPERATION

In order to avoid duplication of work between public and industrial safety and health surveillance the competent Land authorities and the UVT are obliged to co-operate closely and exchange their experience. They keep each other informed of company visits and their major results. There are several bodies where both sides exchange information, co-ordinate their activities and arrange for co-operation.

GREECE

The Organisational Structure of the National Occupational Safety and Health System

THE ORGANISATIONAL STRUCTURE OF THE NATIONAL OCCUPATIONAL SAFETY AND HEALTH SYSTEM



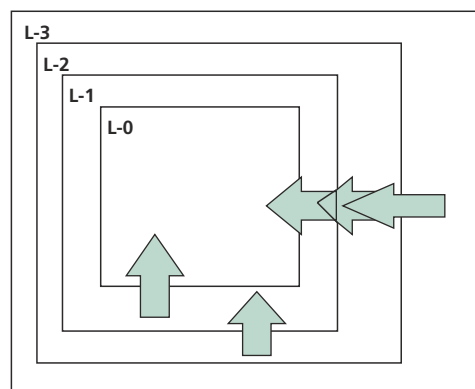
Comments on the OSH Organisational Structure:

The diagram above illustrates the organisation of the *Greek Occupational Safety and Health Authorities System*. This includes; Social Partners, such as *the Greek Manufacturer Association and the General Greek Workers Federation, the Greek Institute of Safety and Health, the Greek Technical Chamber, other Greek Authorities from Ministries and Local Authorities* etc. Also, there is the *Greek Council for Safety and Health at Work*, in which particular representatives from all of the above mentioned organisations meet under the *Presidency of the Minister of Labour and Social Affairs*. This Council determines the Greek's policy and priorities for Safety and Health at work matters, and also to give opinion for all the relevant legislation.

NETHERLANDS

The Organisational Structure of the National Occupational Safety and Health System

LINE MODEL OF THE OSH STRUCTURE IN THE NETHERLANDS



Comments on the OSH Organisational Structure:

The structure of the Dutch OSH-system is explained by a model, devised on the analogy of the patient healthcare system: (medical) professionals belong to the first, second, etc. line according to their 'distance' to the primary customer, the patient or client.

Companies, institutions (private or public) are the primary customers of the available occupational safety and health knowledge and services. The available OSH-knowledge and applications of OSH-knowledge here have to create good working conditions. In the model, companies and institutions are situated in 'line zero' (L-0). All other organisations in the system act as (operational, strategic) knowledge and/or services provider to L-0.

A number of organisations provide their services/knowledge direct to L-0. Most important here are the occupational safety and health services, the OSH services are situated in the first line (L-1). They are contracted by companies/institutions to provide OSH-services for their employees. In L-2 the OSH research and development (R&D) institutions are located; they provide knowledge and services mainly to L-1. The L-3 level finally, concerns the institutions working at the OSH strategy and policy (development) level. L-3 has an important impact on all other levels. Feedback loops are active between the various levels.

An abbreviated overview is given below of the type of organisations in L-1, L-2 and L-3 (the actual number is estimated in the order of three hundred). As stated, (almost) all organisations (L-0) are required by law to contract an occupational safety and health service. This also implies that a L-2 or L-3 organisation has to have a contract with an OSH services organisation for OSH services for its personnel (in this respect are considered as a L-0 organisation).

L-0

- All private and public companies and institutions;
- most companies have formal consultations of the works council and employer. Many works councils have a special committee for occupational safety and health; and
- for operational OSH activities in a number of companies there is an OSH/environment co-ordination capacity.

L-1 TYPE ORGANISATIONS

- *Occupational Safety and Health Services.* A small number of larger OSH service institutions operate on the national level (at present eight, nationally operating OSH services have 90% of the market); a larger number of small OSH service organisations work at a regional level. The majority are organised as private companies; only a few large companies still work with an in company OSH service;
- Branch and sector organisations and product boards also provide OSH (information) services to their members, be it employers or employees (to a majority, OSH services are one aspect of the support to the member organisations; to a smaller number it is a substantial activity. As whole their activities stimulate and facilitate the use of OSH knowledge). A number of sectors work with a sector oriented OSH organisation, e.g. the construction industry;
- *Institutions for Normalisation and Certification* (related to OSH aspects, - systems; operational level);
- the *Labour Inspectorate of the Ministry of Social Affairs and Employment*;

- at the operational level, activities related to social security are (or are expected to be) privatised. *Operational social security institutions* e.g. provide work disability compensations. Preventive OSH oriented activities are stimulated (e.g. by providing information);
- *OSH healthcare and expert centres*. Organisations that provide specific OSH services, e.g. the treatment of psychological problems at work, of low back complaints; and
- organisations for OSH consultancy and - education, i.e. organisations that provide services direct to the L-0 organisations.

L-2 TYPE ORGANISATIONS

- *OSH Research & Consultancy organisations*. OSH R&D and consultancy for L-1 and L-3 type organisations; university and non-university institutions. A classification of OSH topics shows: society and work organisation (approximately 20), management and technology (approximately 10), work and health (approximately 50), work disability/rehabilitation (about 10);
- OSH education institutions. Post academic education of OSH professionals (approximately 10). National institutions that stimulate the incorporation of OSH knowledge in vocational training;
- *Social security and insurance institutions*. National institutions that enforce legislation regarding unemployment and work disability insurance. In relation to OSH, rehabilitation of work disabled people is stimulated;
- Institutions for *Normalisation and Certification* (related to OSH aspects, - systems; R&D and policy support level);
- Societies of OSH professionals (approximately 10); and
- interests of the occupational safety and health services are represented by a OSH branch organisation.

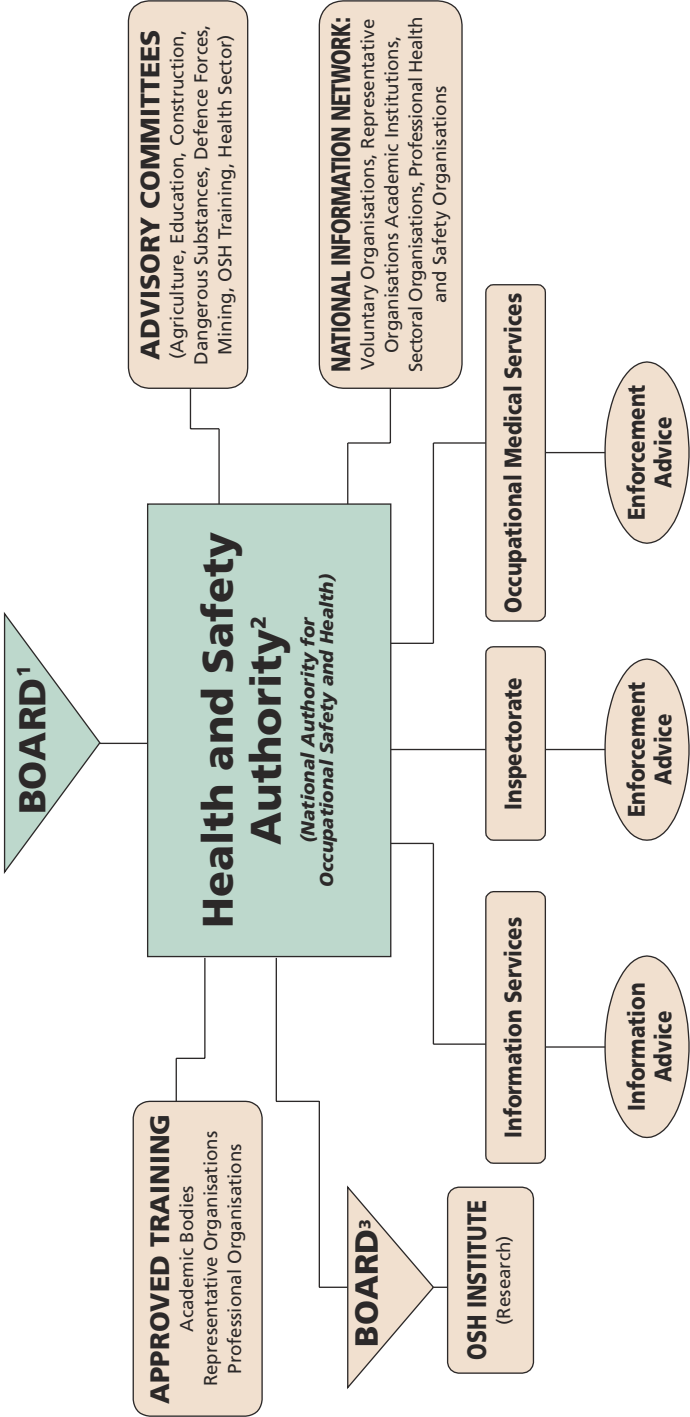
L-3 TYPE ORGANISATIONS

- Ministry of Social Affairs and Employment;
- Ministry of Health, - of Education;
- Employers organisations (national level);
- Trade Unions (national level);
- Social insurance's supervisory board; and
- Research funding organisations.

IRELAND

The Organisational Structure of the National Occupational Safety and Health System

The Organisational Structure of the National Occupational Safety and Health System



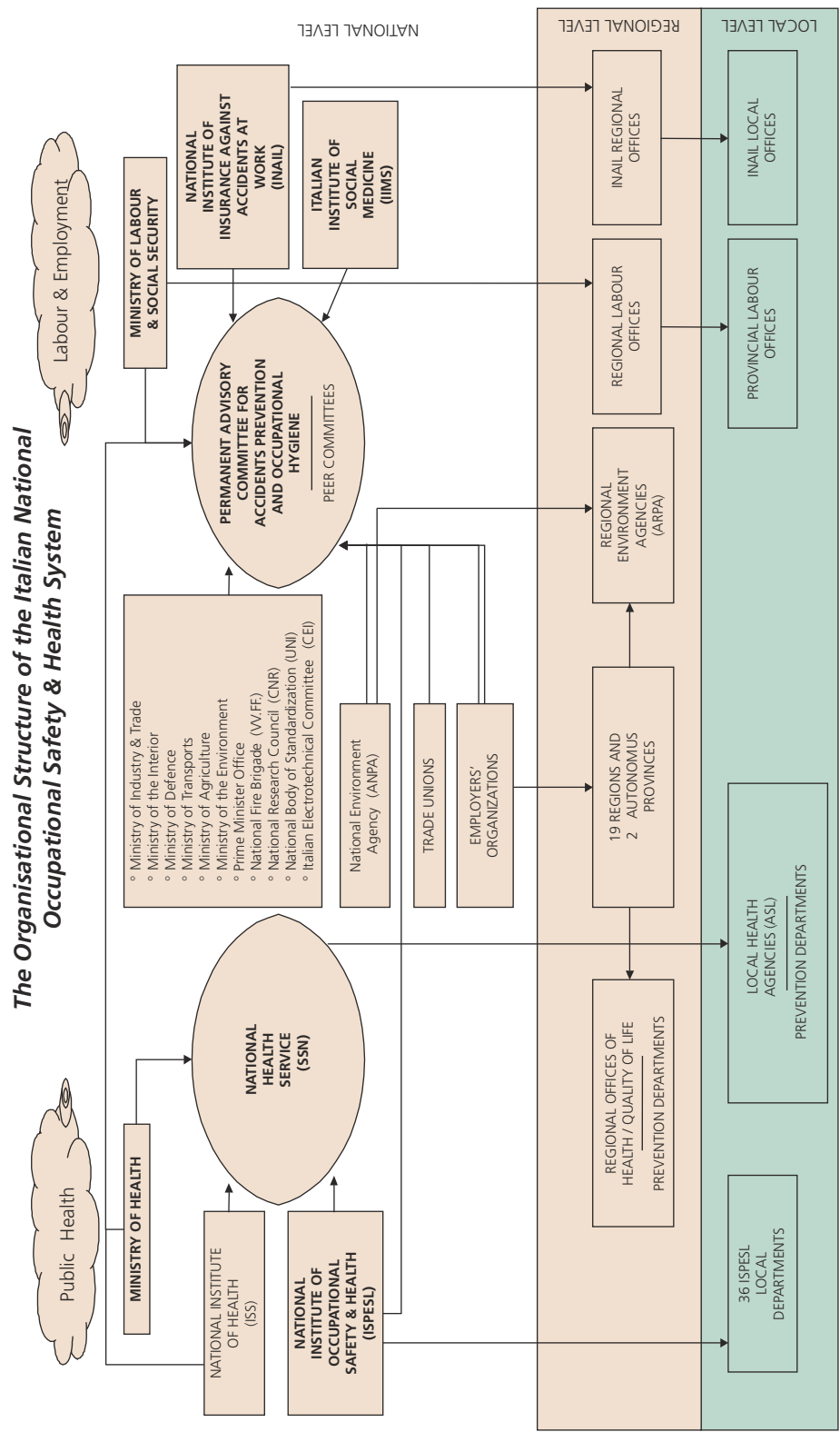
¹ The Board of the Authority is appointed by Minister for Enterprise, Trade and Employment (Government Nominees, Employers' Representatives, Employees' Representatives)

² The HSA is the Focal Point of EASHW

³ There is HSA representation on the Development Committee of the Institute.

ITALY

The Organisational Structure of the National Occupational Safety and Health System



Comments on the OSH Organisational Structure:

The Italian occupational safety and health system, as illustrated above, in its very broad meaning, has a quite complex and articulated structure, based on two fundamental aspects: public health and labour policy.

PUBLIC HEALTH

The Italian OSH system is organised around the *National Health Service (SSN)*, created by the *Law 833/78 (first Health Reform)*. The *Ministry of Health* is the central body of the SSN and its main tasks consist in the national planning and co-ordination of all matters regarding public health.

The National Institute of Occupational Safety and Health (ISPESL), depending on the Ministry of Health, is one of the technical-scientific bodies of the SSN and it operates on all occupational safety and health matters. The ISPESL is organised at the local level with 36 departments. The process of decentralization which is going on in Italy, assigns to the *19 Regions and 2 Autonomous Provinces* the task of regional planning and coordination in more and more areas, including OSH. All activities concerning prevention, monitoring, inspection, safety and health at work, fall under the competence of the *Local Health Agencies (ASL)*, through their *Departments of Prevention*, instituted by each Region according to the D.L. 502/92.

LABOUR POLICY

The *Ministry of Labour and Social Security* plans and co-ordinates labour and employment national policy and strategies. Labour inspectorates are present at the local level all over the country.

The *National Institute of Insurance against Accidents at Work (INAIL)* operates under the vigilance of the *Ministry of Labour*, managing the mandatory insurance funds against occupational accidents and pathologies. The *INAIL* has regional and local offices all over the country.

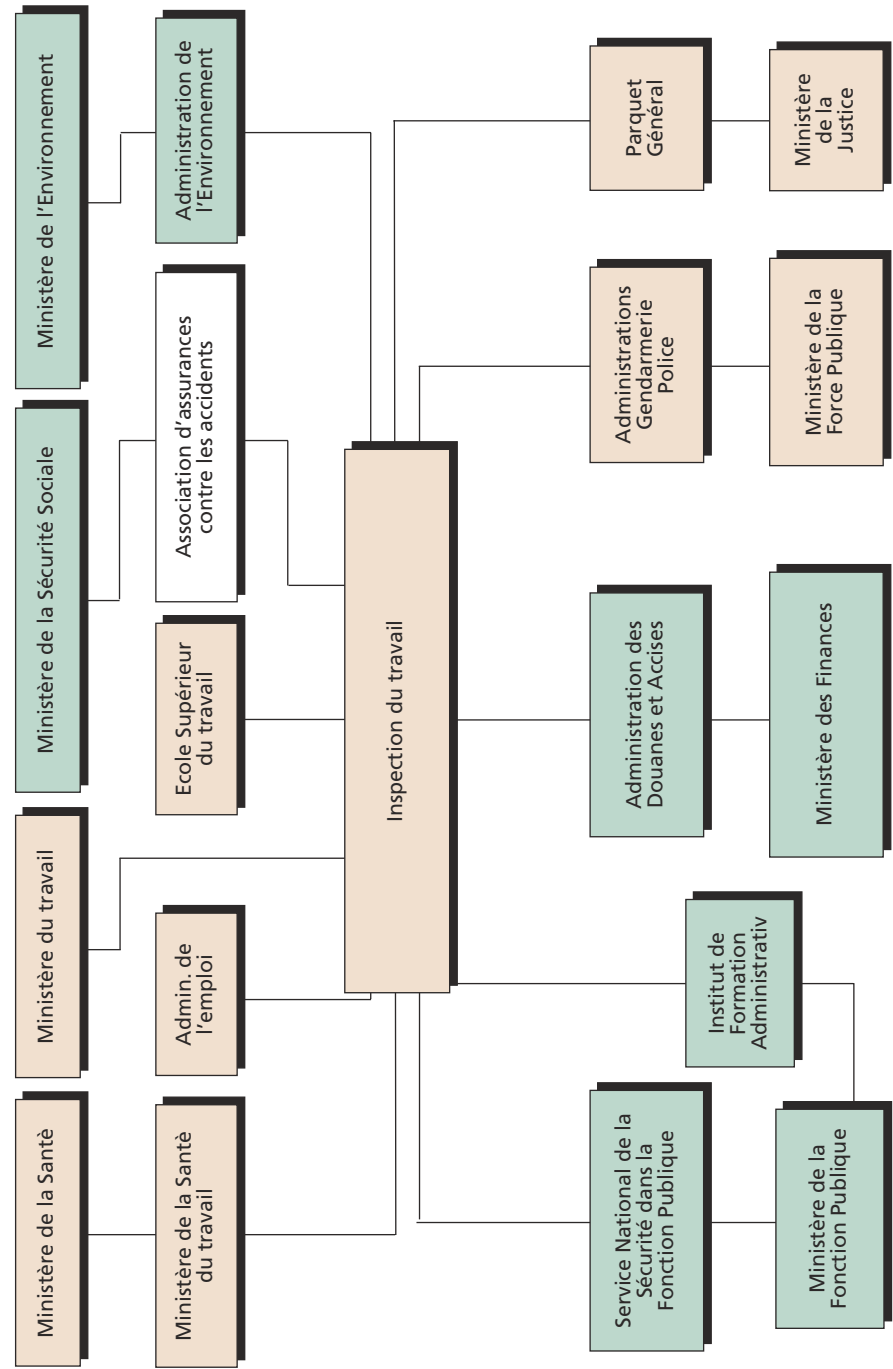
The *Italian Institute of Social Medicine (IIMS)* is an advisory body, under the *Ministry of Labour*, devoted to study and research regarding social diseases and prevention tools.

A *Permanent Advisory Committee for Accidents Prevention and Occupational Hygiene*, headed by the *Minister of Labour*, monitors the application of legislation, as well as its updating, and is composed of a great number of members regarding all aspects of OSH. The most represented bodies are the following: *Ministry of Labour, Ministry of Health, ISPESL, Regions and Autonomous Provinces, Trade Unions, Employers' Organisations*.

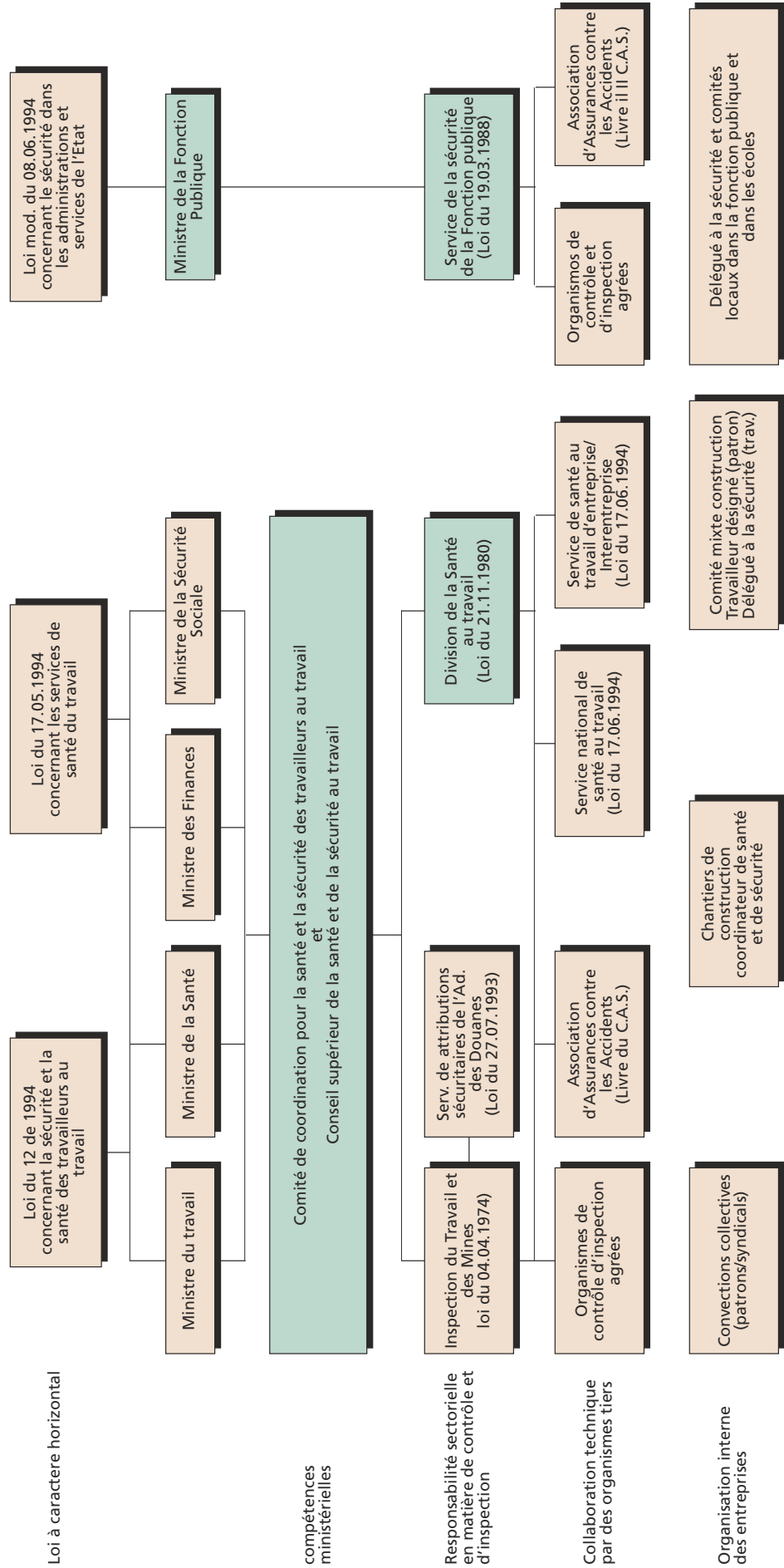
LUXEMBOURG

The Organisational Structure of the National Occupational Safety and Health System

Relation de l'Inspection du travail avec les Ministères et Administrations Publique



Promouvoir l'amélioration de la sécurité et de la santé des travailleurs au travail



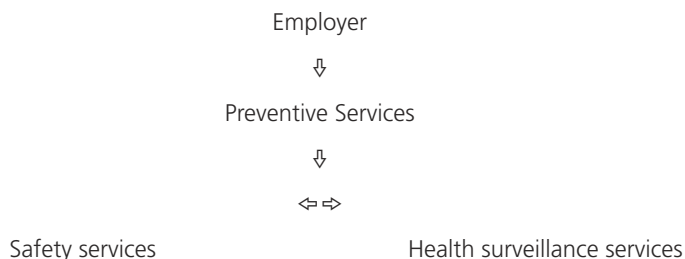
Comments on the OSH Organisational Structure:

The Labour Inspectorate - *L'Inspection du Travail et des Mines (ITM)* - forms part of the *Ministry of Labour* to whom it's Director reports. *ITM* has thirty eight staff with inspector, controller and administrative grades. It has close co-operation and collaboration with the following organisations interested in health and safety at work. These are:

- *Association d'Assurance contre les Accidents (AAA)*, a body who has its origins in the German insurance system and whose organisation is similar to that of the *Berufsgenossenschaften* of Germany. AAA is controlled by a management board consisting of representatives of employers and employees covering agriculture and other sectors of industry. In addition to its basic insurance function it has a preventive policy department which produces guidance both of a general and specific nature which is binding on its members. *ITM* has to be consulted on the content of the guidance before it is published. If members of the Association fail to follow the guidance, they are liable to a financial penalty which are used for the provision of training for safety representatives;
- The *Ministry of Health*, particularly with a small group of doctors whose interest lies in occupational medicine and the problems of health and hygiene at work;
- The *Ministry of Public Affairs* which has a small Inspectorate with the responsibility of overseeing the safety of employees in the public sector including those at work in the health service and education;
- Approved technical organisations - appointed by the *Minister of Labour* to carry out inspections and surveys in their designated areas of competence such as pressure vessels, lifting equipment, noise and occupational hygiene;
- The Customs Service whose officers are increasingly being used to assist the *ITM* in administrative work involving the checking of documentation in respect of periodic inspection of plant and machinery and the proactive inspection of low risk premises and of small construction sites;
- *The Consultative Committee for Labour Inspection*, set up in 1983 by the *Minister of Labour* consists of twelve members including representatives from employers, trades unions, *Ministry of Labour* and the *ITM*. Its function is to advise *the Minister on Labour* matters generally including health and safety, and on the effectiveness of the current legislation in this field; and
- The *ITM* is responsible for monitoring standards of health and safety of employees in all industrial sectors including commerce and the service industries but not those in the public services. This includes monitoring the use of radioactive substances at the workplace. The radio protection division of the *Ministry of Health* will also have an interest in the safety and health of employees who may be exposed to the hazards of radiation. *The Ministry of Environment* has responsibility for environmental pollution including that caused by waste disposal and noise.

PORTUGAL

The Organisational Structure of the National Occupational Safety and Health System



Comments on the OSH Organisational Structure:

In Portugal the concept of '*Professional Risks Prevention*' congregates the promotion of safety and health at the workplaces. The transposition of the framework Directive into the national Law aims to improve the development of a preventive culture, namely to ensure the safety and health promotion at the workplace.

This preventive culture involves a national system of professional risk prevention, which obligatory should be based on a national network on the domain.

This prevention net constitutes the basis for the implementation and development of the national system. The Government is responsible for the dynamics of all the available resources and capacities to ensemble the participation and social dialogue.

The 1996–1999 Strategic Concertation Agreements dedicates particular emphasis to provide and promote a system which offers an efficient intervention of public, private or co-operative entities with competence in the areas of legislation, industrial licensing, certification, participation, technical prevention services and health surveillance. It is intended that co-operation exists between the Government, employers and employees.

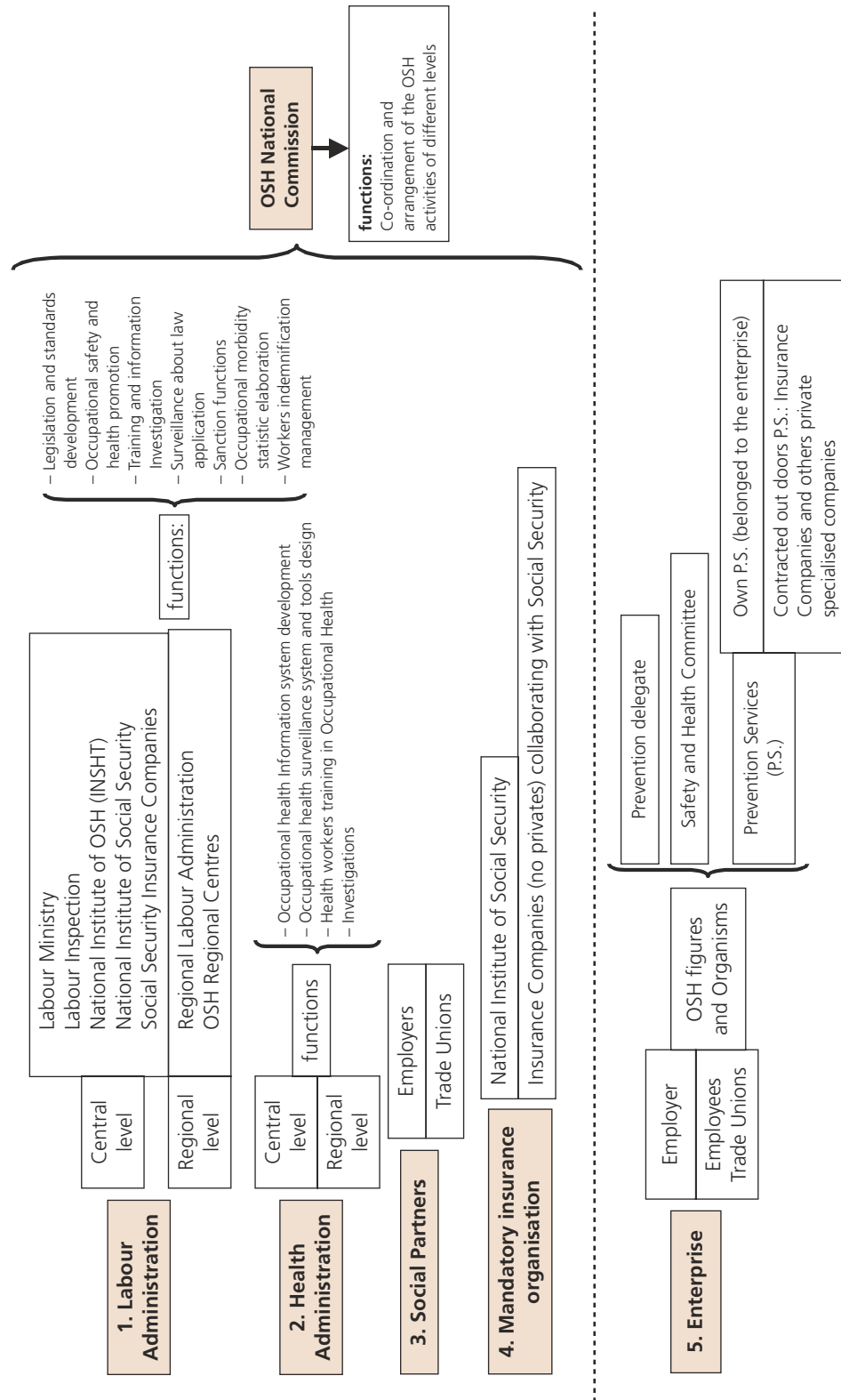
At this moment, the participation of the most representative organisations either from employers or employees, is legally foreseen in the following groups:

- Social and Economic Board;
- IDICT's Board; and
- National Board for Hygiene and Safety at Work.

SPAIN

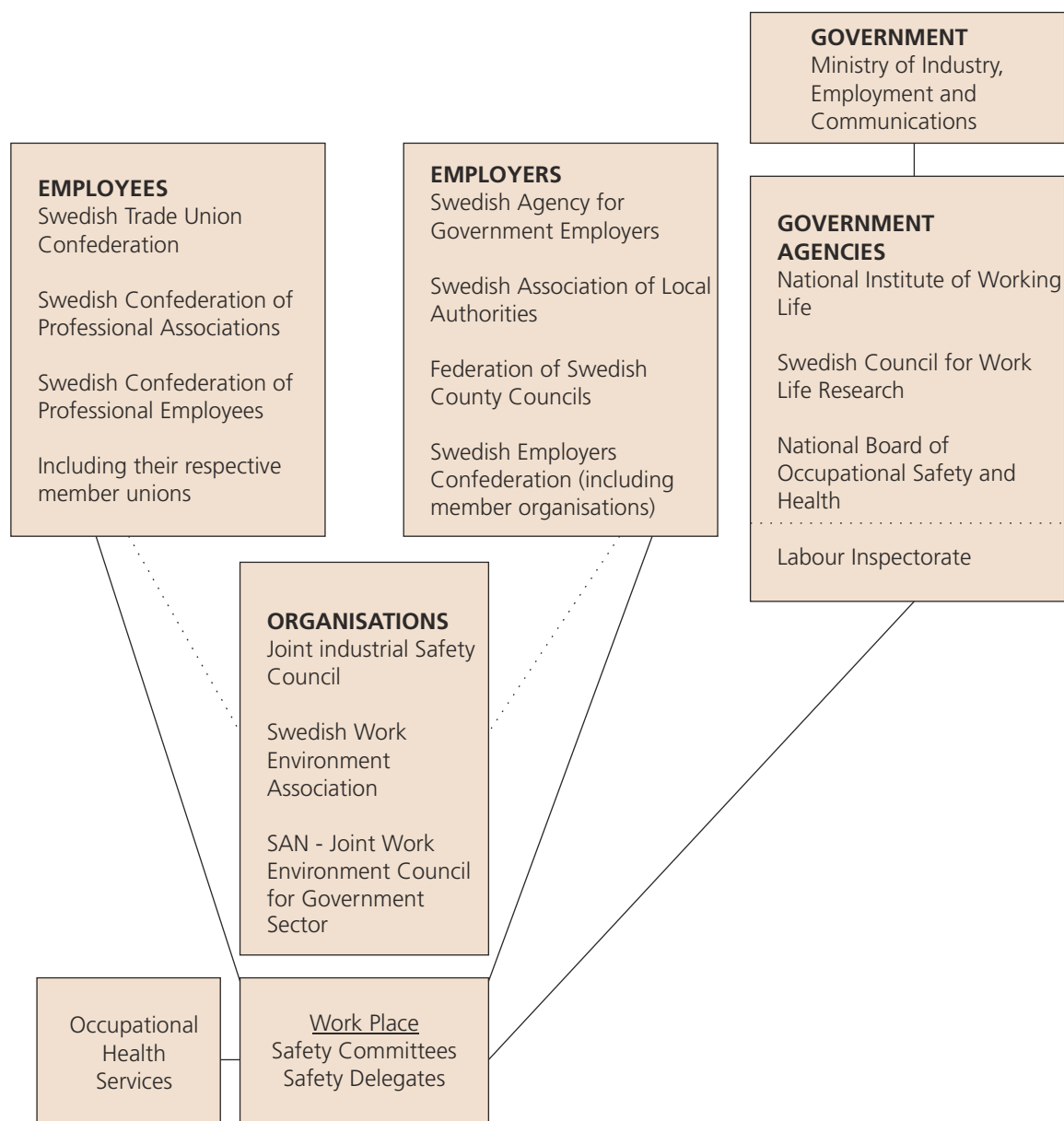
The Organisational Structure of the National Occupational Safety and Health System

The organisational structure of the national Occupational Safety and Health System:



SWEDEN

The Organisational Structure of the National Occupational Safety and Health System



Comments on the OSH Organisational Structure:

The *National Board of Occupational Safety and Health* is the central administrative authority for questions relating to the working environment and working hours and the authority to which the *Labour Inspectorate* is accountable.

The tasks of the Board include the following:

- Directing, co-ordinating and developing activities within the *Occupational Safety and Health Administration* (The National Board + the Labour Inspectorate);
- Taking the initiatives which working environment developments demand;
- Exercising national supervision of compliance with work environment and working hours legislation;
- Issuing Ordinances and General Recommendations;
- Producing and distributing information; and
- Maintaining an occupational injury information system.

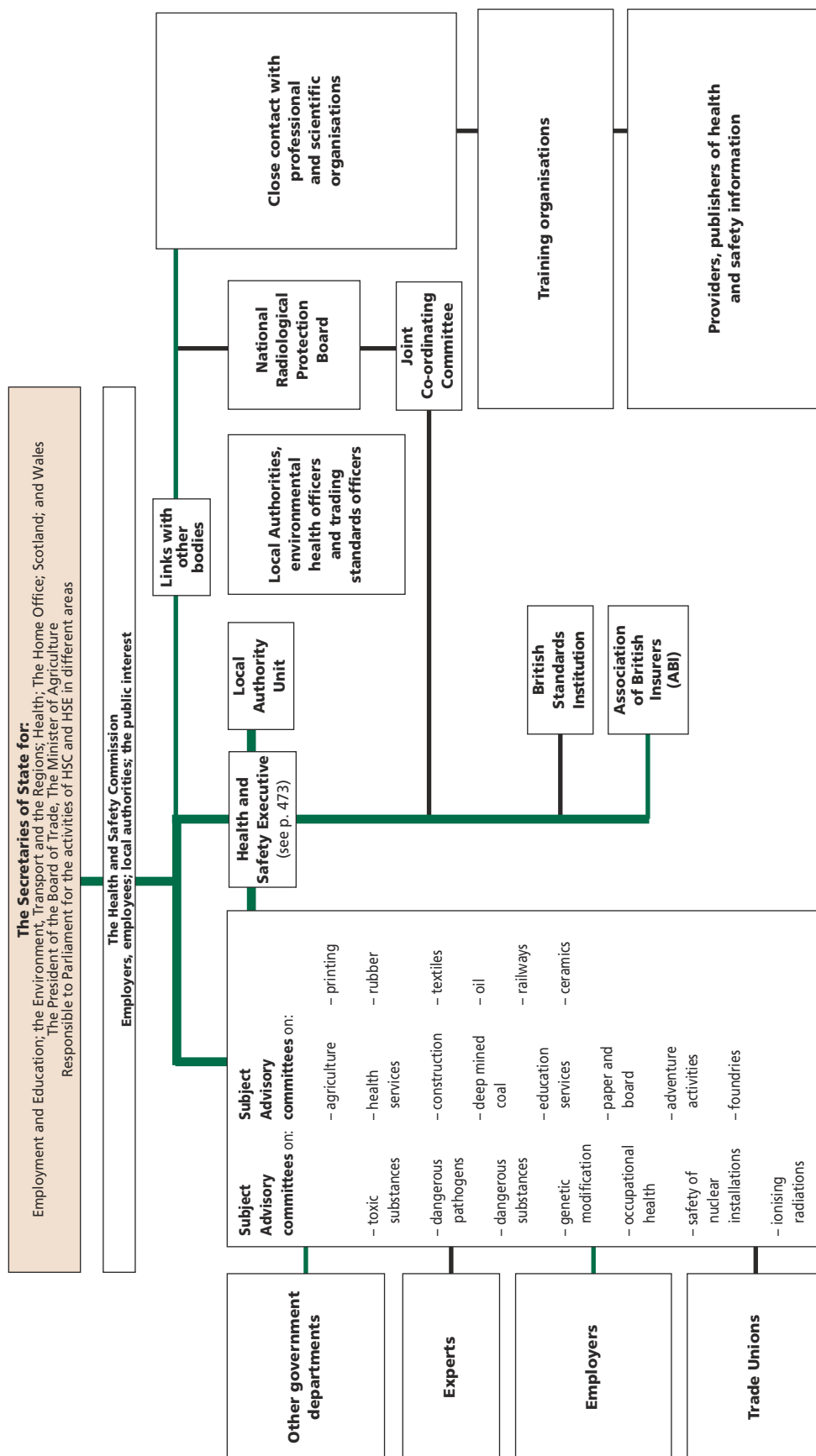
Basic rules on the working environment are contained in the *Work Environment Act*, further to which the Board issues Ordinances defining more detailed stipulations and obligations.

Approximately 120 persons are employed at the Supervision Departments, which are among other things responsible for the drafting of statutory instruments, as well as furnishing advice and information on compliance with work environment legislation. Much work is also being devoted to European standardisation work and EU harmonisation.

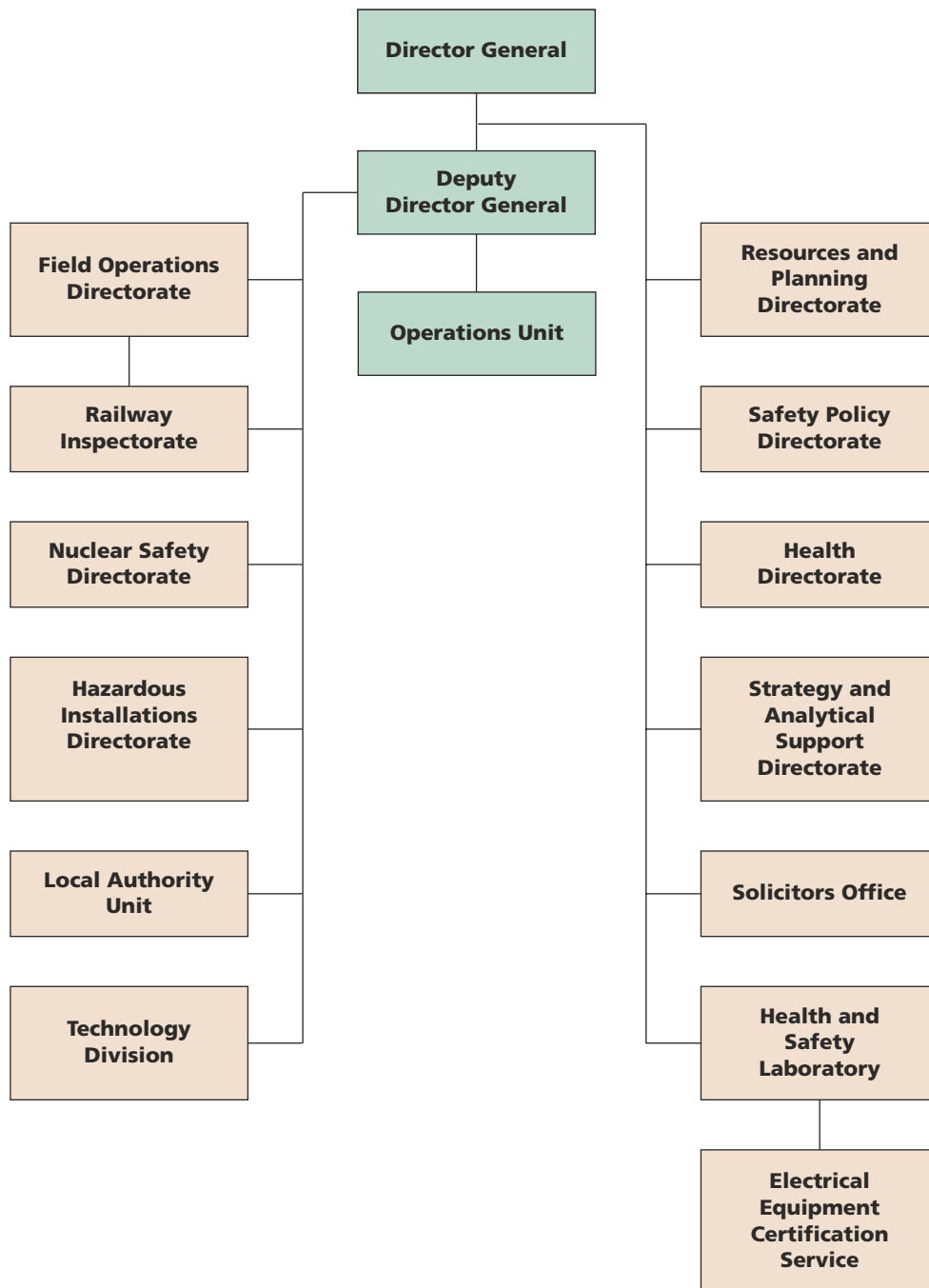
UNITED KINGDOM

The Organisational Structure of the National Occupational Safety and Health System

ORGANISATIONAL STRUCTURE OF THE NATIONAL OCCUPATIONAL SAFETY AND HEALTH SYSTEM IN THE UNITED KINGDOM



HEALTH AND SAFETY EXECUTIVE: a body of three people, the Executive advises and assists the Commission in its functions. It has specific statutory responsibilities in the enforcement of health and safety law. The Executive's staff numbers over 4,000.



Comments on the OSH Organisational Structure:

The Health and Safety Commission (HSC) and the Health and Safety Executive (HSE) seek to influence and help employers manage risks to workers effectively and comply with health and safety legislation by promoting the concept of *'Good Health is Good Business'* (Reference 21) and by taking enforcement action where persuasion and guidance do not work. HSC/E's interest in occupational health and safety covers the whole spectrum of exposure to health risks at work, including stress, back-pain, asbestos, chemical and other substances, biological agents, noise, etc. and the means of controlling and preventing such exposure, whether or not by occupational health and safety professionals.

HSE advises and assists the HSC in its functions. It has specific statutory responsibilities in the enforcement of health and safety law. The HSE's staff numbers over 4,000.

Department of Health (similar responsibilities also exercised by the Scottish Executive and the Office for Wales) is involved in occupational health in the following ways:

- Responsibility for general health promotion (e.g. smoking, pre-employment fitness for work, occupational health (OH) records where the query is not covered by health and safety legislation) including liaison with HSE e.g. on the *Workplace Health Advisory Team* and HSE's strategy;
- Provision of *National Health Services* (NHS). Executive guidance to the NHS on all aspects of health and safety management, including OH;
- Responsibility for medical and nursing resources planning and training; and
- Liaison with HSE on various aspects of risk assessment with both occupational and general applicability.

Other Department's policy responsibilities and management arrangements for occupational health.

- *Department of Social Security (DSS)* has the lead on *Industrial Injury Disablement Benefit* and partial responsibility for the *Disability Discrimination Act 1995*, although the Department for Education and Employment (DfEE) has the lead on the 1995 Act's employment provisions;
- *Department of Trade and Industry (DTI)* has the policy lead on bullying;
- *Department of the Environment, Transport and Regions (DETR)* has policy responsibilities for indoor air quality (e.g. smoking in public places that are also workplaces) and clinical standards for merchant shipping purposes;
- *The Driver and Vehicle Licensing Agency (DVLA)* sets clinical standards for professional drivers;
- Occupational health services for the armed forces are managed from within the *Ministry of Defence* (MOD);
- *The Prison Service* has responsibility for the occupational health care of prison officers and inmates;
- Occupational health services for fire fighters and the police are managed at local level by Chief Fire Officers and Chief Constables;
- *The Civil Aviation Authority* has responsibilities in relation to the fitness for work of pilots; and
- There are also a range of contractual arrangements and other provisions for the delivery of occupational health services to Departmental and Agency staff.

APPENDIX 17

Summary of inspector resources in the Member States

Each Focal Point was asked to provide data in relation to the number of inspectors available. This information was collected and compiled by the European Agency and published in the "Agency News", 4/99 (Reference 20).

Summary table of inspector resources in the Member States

Member State

A	B	DK	FIN	F	D	EL	IRL	I	L	NL	P	E	S	UK
<i>Number of persons in employment (x1,000)</i>														
3,077	3,300	2,700	1,905	22,350 (1)	35,805	3,886	1,545	22,203 (2)	243	6,013 (3)	4,251	13,205	3,500	26,947
<i>Year of data</i>														
1998	1998	1998	1998	1997	1997	1991 (4)	1998	1997	1999	1997	1996	1999	1998	1998
<i>Number of inspectors who have occupational safety and health as their responsibility or one of their responsibilities</i>														
313	175 (5)	320 (6)	350 (7)	1,620 (8)	9,858	160 (9)	70 (10)	ca. 4,000	22	321	300	696 (11)	350 (12)	7,912
<i>Year of data</i>														
1998	1998	1999	1999	1997	1997	1999	1999	1997	1999	1997	1998	1999	1998	1999 (13)
<i>Do any of these inspectors have other responsibilities?</i>														
Yes	No	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes
<i>If yes, Number of inspectors who have other responsibilities</i>														
313 (14)			350	1,620	N/A			ca. 250	14	321 (15)	N/A	696		6,350
<i>Time dedicated to occupational safety and health on average</i>														
N/A			95%	47.73% (16)	N/A			70%	64%	90%	N/A	40%		23%
<i>Full-time equivalent inspectors (17)</i>														
N/A	175	320	333	773	N/A	160	70	3,925	17	289	N/A	278	350	3,002

Source: "Agency News", 4/99, page 4; European Agency

A – Austria B – Belgium DK – Denmark FIN – Finland F – France D – Germany
 EL – Greece NL – Netherlands IRL – Ireland I – Italy L – Luxembourg P – Portugal
 E – Spain S – Sweden UK – United Kingdom

-
- 1 22,350,000 in employment, of whom 19,900,000 are workers, and 13,500,000 work in the competitive sector subject to monitoring by work inspection.
The remaining 6,500,000 are employed in the public sector and are covered by specific regulations and monitoring systems
 - 2 22,203,000 in employment, of whom 15,295,000 are in employment subject to monitoring by work inspection
 - 3 CBS 1997
 - 4 National Statistics Service Inventory
 - 5 Ministry of Economic Affairs has a small number of inspectors (max 10) who have OSH responsibility. They also have other responsibilities such as employment contract conditions, wages, hours of work etc.
 - 6 Danish Working Environment Authority employs approximately 320 inspectors who ensure at the enterprise level the compliance of the DWE legislation except for work at sea (shipping and fishing), work on off-shore installations and aviation. Inspection of OSH in these sectors is under the responsibility of the Danish Maritime Authority, the Danish Energy Agency and the Danish Civil Aviation Administration. These authorities have a small number of inspectors.
 - 7 A further 90 staff are employed by the occupational safety inspectorates in the roles of office workers, jurists and heads of inspectorates
 - 8 Total staff is 1,620, comprising 790 inspectors + 830 assistants. All have occupational safety and health responsibilities
 - 9 This number will be increased to 445 persons, as foreseen by the Regulation of the "Body of Labour Inspectors", to be established in the near future as part of the restructuring of the Labour Inspectorate
 - 10 This figure takes job-sharing into account. It does not include staff at Inspector grade who are employed on non-operational or non-OSH work
 - 10 This figure includes only inspectors of the Employment and Social Security Ministry. Not included are technicians of INSHT, staff of the Ministry for Work and Social Affairs, nor those of other administrations that also have responsibilities in the area of occupational safety: Health Administration, Industry Administration, and especially technicians from the centres or dependent services of the Autonomous Communities
 - 12 Not including managers (30) and lawyers (14)
 - 13 Financial year 1998-1999
 - 14 In principle, every inspector is obliged also to check the records on working hours within the scope of his inspection-activities in the enterprise
 - 15 'All' have other responsibilities with respect to 'hours of work'. In addition to the 321 inspectors in the field of safety & health, the labour inspectorate employed ca. 80 inspectors in the field of labour market and labour relations and 96 inspectors in monitoring in 1997 (Annual Report 1997)
 - 16 In one year, 47% of their time, on average, is dedicated to occupational safety and health. For 1997, this figure is 47.73%
 - 17 i.e. No of inspectors - (No of inspectors with other responsibilities x percentage of time spent on other responsibilities)

APPENDIX 18

Overview of the European working population

The follow section provides an overview of the working population within the EU. All data is from the *Labour Force Survey 1998* (Reference 1).

Reference: *Labour force survey - Results 1998, Eurostat Theme 3 Population and social conditions, 1999 Edition.*

People in employment by economic activity and gender

The following table shows an estimation as to the total number of people employed broken down by economic sector category. Also, provided in the table is a breakdown as to the number of men and women employed within each sector category.

Sector code	Sector description	Total number employed (x1000)	Men (x1000)	Women (x1000)
A - B	Agriculture, hunting, forestry and fishing	7,099	4,742	2,357
C - D	Mining, quarrying and manufacturing	32,146	23,161	8,984
E	Electricity, gas and water supply	1,252	1,016	236
F	Construction	11,719	10,726	993
G	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	22,624	12,315	10,309
H	Hotels and restaurants	5,964	2,806	3,158
I	Transport, storage and communications	9,061	6,860	2,201
J	Financial intermediation	5,197	2,753	2,444
K	Real estate, renting and business activities	12,006	6,670	5,335
L	Public administration and defence; compulsory social security	11,549	6,783	4,766
M - Q	Other services	33,413	10,476	22,937
	No responses	466	234	231
TOTALS		152,494	88,542	63,952

Source: Labour Force Survey 1998, Eurostat

People in employment by age groups and gender

The following table presents the estimated number of persons both in the European Union as well as those who are in employment broken down by three age groups. It also provides an estimation as to the breakdown of each age category with respect to the number of men and women.

Age group (years)	Total number of population	Total number employed (x1000)	Men (x1000)	Women (x1000)
15-24	46,383	17,400	9,551	7,849
25 - 49	135,566	102,251	58,753	43,498
50-64	64,876	30,926	18,976	11,949
TOTALS	246,825	152,494	88,542	63,952

Source: Labour Force Survey 1998, Eurostat

People in employment by professional status

The table below summarises the number of people employed on a professional status. Four professional categories are used and for each the corresponding total number of people employed is provided. These values are further broken down with respect to the number of men and women employed.

Professional status	Total number (x1000)	Men (x1000)	Women (x1000)
Employees	127,015	71,084	55,930
Employers and self-employed	22,423	16,428	5,995
Family workers	2,928	956	1,972
Non responses	127	74	53
All in employment	152,494	88,542	63,952

Source: Labour Force Survey 1998, Eurostat

Part-time employment by age group, as percentage of each age group total employment

The table below presents the percentage of people who are employed on a part time basis across the European Union for four age categories. For the same age categories the table also presents the total number of people employed across the European Union.

Age group	Part time employed (%)			Total employed (x1000)		
	Total	Men	Women	Total	Men	Women
15-24	22.4	16.2	29.9	17,400	9,551	7,849
25-49	15.7	3.8	31.9	102,251	58,753	43,498
50-64	18.0	5.7	37.5	30,926	18,976	11,949
All ages	17.4	6.1	33.0	152,494	88,542	63,952

Source: Labour Force Survey 1998, Eurostat

Average hours usually worked by sector and gender

The table below presents data with respect to the total number of people employed and the number of hours worked. From the "all in employment figures" it indicates that men work more hours than women. However, the individual employee categories indicate that this differential is not so significant, particularly in industry group. In total the employees in agriculture work more hours.

Economic activity – NACE Rev 1	Total hours	Men (Hours)	Women (Hours)
All in employment:	38,1	41,6	33,3
EMPLOYEES:	36,7	40,0	32,5
Agriculture	43,0	43,5	41,4
Industry	40,6	40,9	39,5
Services	40,3	41,5	38,8

Source: Labour Force Survey 1998, Eurostat

European Agency for Safety and Health at Work

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In order to encourage improvements, especially in the working environment, as regards the protection of the health and safety of workers as provided for in the Treaty and successive action programmes concerning health and safety at the workplace, the aim of the Agency shall be to provide the Community bodies, the Member States and those involved in the field with the technical, scientific and economic information of use in the field of health and safety at work.

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