
European Agency
for Safety and Health
at Work
Priorities and Strategies
in Occupational
Safety and Health
Policy in the Member
States of the
European Union

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Priorities and Strategies in Occupational Safety and Health Policy in the Member States of the European Union

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Introduction

I. One of the main tasks of the European Agency for Safety and Health at Work is to facilitate the **exchange of information** between European Member States. An important tool to be used in this context is the organisation of information projects on specific issues. This report summarises the first major information project undertaken by the European Agency since it started its work in September 1996. It is based on the results of a questionnaire that was drawn up in cooperation with representatives of all Member States and then sent out to all of them. This survey focused on the priorities and strategies used in the Member States in order to improve occupational safety and health (OSH). It especially focused on experiences and considerations, including those of social partners and other institutions, of concern to the formulation OSH policy.

The use of policy instruments

II. **Legislation** has been a traditional instrument for improving the level of occupational safety and health in all Member States. Whereas in the beginning the focus was mostly on safety matters, attention later turned more towards health-related matters. In recent years social and organisational matters have been introduced through legislation.

Many Member States report that classic indicators for the level of occupational health and safety, such as accidents and diseases, have shown a substantial decrease over the years. In specific areas like machine safety, even more positive effects can be seen. Nonetheless, it seems to be difficult to evaluate the precise effectiveness of regulation, due to the fact that it is usually difficult to isolate it from other circumstances. In several Member States there are initiatives to improve evaluation techniques.

In the workplace level, practical guidelines, in which the less accessible legal requirements are paraphrased, have proved to be the best way of disseminating information. In most Member States a considerable number of publications have been issued. As a consequence Member States have to spend substantial resources on the maintenance and updating of these publications.

As regards the future role of legislation, there is a common belief that it will continue to be an important tool in setting levels of protection against safety and health hazards at work. Furthermore, it is believed that legislation must aim at a high level of protection based on the latest scientific knowledge, and should keep pace with technical and social developments. Nonetheless, there is also concern in various Member States about the quality of legislation. As a substantial amount of OSH legislation was formulated many years ago, some Member States see a clear need to rescind obsolete provisions and update legislation. Furthermore, there is a strong wish to take out many of the technical details and leave it to the workplace to decide how to solve specific issues, as long as the results meet the safety levels required. Most Member States argue that future legislation should be more concerned with setting targets and formulated in such a way that it does not constrain new technologies or working methods. Some countries have done a lot of work in this area at the national level already; others plan to tackle it in the future.

III. In European Member States legislation and **enforcement** have been the traditional methods of improving the level of occupational safety and health in the workplace. Many thousands of enterprises in the Member States are visited each year by inspectors. In many cases action is taken, ranging from improvement notices to legal proceedings.

There is some evidence that supervision in particular has resulted in a reduction in serious hazards. However, as with legislation, it is difficult to assess the precise impact of inspection/enforcement as the effects of specific measures are not usually evaluated in isolation from other activities.

All Member States agree on the importance of inspection/enforcement. It is believed that it will also play an important role in the future in encouraging improvements in OSH practice. However in some Member States it is believed that the role of inspection/enforcement might change due to a variety of factors.

Firstly, there seems to be a trend to concentrate inspections on high risk sectors. In order to identify sectors Member States usually use some type of rating system.

Secondly, there has been an increase in the number of people who are well informed about occupational safety and health matters (safety engineers, ergonomists, occupational physicians, and other professionals in this area working in enterprises, OSH services or consultancies). An increased understanding of occupational safety and health matters can also be found in other places, such as in sector organisations or organisations of the social partners. Inspectorates cooperate more and more with these intermediary organisations, especially since they can be helpful in reaching those responsible for OSH in a cost-effective way (in particular in small and medium sized companies).

Thirdly, and closely related to the last factor, there is in many Member States an objective to consolidate enterprises' own efforts in OSH, for example by promoting cooperation between management and employees and encouraging the establishment of OSH systems. The requirement in the European Framework Directive that a risk assessment be undertaken is a considerable incentive in bringing about such a development.

IV. Campaigns are a special form of intervention. In many Member States targeted activities are undertaken against specific occupational safety and health hazards. Usually these activities are organised by the national authorities or other semi-public organisations. This approach often includes a combination of instruments such as legislation and inspection/enforcement, backed up by information (leaflets, folders, publications, etc.).

Most Member States have some experience of using campaigns as a means for the improvement of occupational health and safety. There seems to be evidence that campaigns can cause a significant decrease in work-related injuries and occupational diseases. It seems that the basis for this is an increased awareness of risks that encourages preventive actions by the target groups.

Sector-oriented campaigns, involving social partners, enterprises, employees and other intermediary organisations have proved to be especially useful, as they can be adjusted to the specific conditions of the sector.

Given the results of the effectiveness of this instrument, it is not surprising that most countries are very keen to continue or increase its use in the future.

V. A rather different instrument which can be used for improving occupational safety and health is financial incentives. In order to encourage companies to improve the level of occupational safety and health, many administrations and (semi-public) insurance organisations have introduced financial incentives in addition to the legal obligations. The main types of these incentives are the differentiation of premiums for insuring against occupational accidents and diseases; public subsidies for research and technological development; tax benefits for companies investing in safety and health at work; and subsidising the assessment of the OSH situation at company level.

Regarding the differentiation of premiums for insuring against occupational accidents and diseases, there seems to be a trend towards the introduction of greater differentiation. In some countries employers are required to pay a substantial part of the costs of periods of absence on account of illness.

VI. A relatively new instrument for improving occupational safety and health is the certification of products and services. The most traditional use of certification is found in the safety area. Possibly less known than the safety arrangements are the legal requirements for chemical products. The latest

developments (partly as a result of the implementation of the European Framework Directive in the Member States) are in the area of the certification of the quality of occupational safety and health services.

Most Member States have a positive attitude towards the use of certification as a tool. However, some stress that it does not always provide sufficient guarantees for the level of safety or that it should be used only when high risks are involved. In some other Member States there is an active policy to encourage the private sector to set up voluntary certification schemes in a variety of fields.

VII. Training in occupational safety and health is undertaken in all Member States. Training can be provided for different categories of workers. It can focus on employees, workers' representatives, employees with specific tasks in the area of occupational safety and health, employers, trainees, specific jobs, prevention specialists such as safety engineers, doctors and finally on trainers themselves.

Many Member States indicate that the effects of training as such at the workplace are difficult to evaluate. So far little research has been done in this area. Nonetheless there is some indirect evidence that training is a very important and effective tool for prevention. For example, there are indications that workers who benefit least from training (e.g. temporary workers, home workers) run the greatest risk of accidents.

Many Member States believe that training will become more important in the future. It is considered essential to focus more clearly on the different target groups.

Prioritisation of areas

VIII. Many European Member States devoted in the past particular attention to risks in the areas of chemical agents, physical agents and safety. In the area of chemical agents the most prominent risk to be dealt with was asbestos. In the area of physical agents it was noise, while in the area of safety the most prominent risk dealt with was machine safety. A particular risk that had much attention was physical strain/manual handling of loads.

The risk categories that are considered to be important for the future are chemical agents (carcinogens), safety (machine safety, and the risk of falling), and psycho-social issues (especially stress at work). A new development seems to be that European Member States are paying much more attention to issues in the area of organisation and management: for example the development of risk assessment and the analysis of the possible risks involved in new work patterns.

IX. Young workers as a specific category of workers have received special attention in the past. It is expected that in the next years young workers and ageing workers in particular will receive special attention. Increased attention will also be paid to "atypical work" (homework, telework, etc.).

Another category of workers that are likely to receive more attention in the future are the self-employed.

X. Agriculture and related sectors, the chemical industry, the metal industry and construction have had particular attention over the last ten years. The sectors that will have particular attention in the future are (again) construction, the commercial/ transport/service sector, and education, health (especially hospitals) and the public sector.

XI. Chemical agents have had the highest priority in research in the European Member States. In some Member States attention was devoted to only one or a few chemical agents; in others a wide range of chemical substances has been the subject of research.

The subjects for future research seem to be somewhat different to those in the past. There will still be continuing attention to chemical agents (carcinogens in particular). However, psycho-social issues (mainly stress at work) and methodological issues (for example cost-benefit analysis and risk

assessment) have almost the same priority. Finally, the consequences of the introduction of new work patterns will also be an important subject for research in the future.

Developments at company level

XII. The management of occupational safety and health has become a dynamic area in recent years. In the beginning, attention was more focused on dealing with specific hazards in the workplace. This changed radically at the end of the seventies and eighties when the concept of prevention became more important. Several major issues can be identified that are of importance now at company level.

The first is that, due to the requirement in the European Framework Directive, companies must have available the results of a risk assessment. There are initiatives in many European countries to facilitate this process. In many of them authorities and sector organisations are putting a great deal of effort into the development of practical risk assessment methods.

The second issue is that the mere fact of having risk assessments available in companies on such a large scale poses the question of whether and how they could be used for other purposes. The information contained in a risk assessment could be a valuable tool for the work of enforcement services especially. In some countries there is a belief that if a company draws up a proper risk assessment and a plan for improvement, this should be taken into account by the authorities in the way they organise the enforcement.

Future developments

XIV. A number of fundamental developments are currently taking place in the labour market and it is possible that their impact will be felt to an even greater extent in the future. The emergence of these trends challenge the traditional roles of legislation and enforcement.

Firstly, a number of demographic changes are occurring. The increase in the number of older people in society, and therefore at work, is particularly clear. This implies that a larger part of the working population will become more vulnerable to particular hazards at work. A major issue is how these ageing employees can be protected in an appropriate way.

Secondly, there are a number of trends that can be collectively described as changing work patterns. These include for example the increasing use of temporary contracts, home working, and employment agency staff. Clearly, such developments put the authorities' ingenuity in formulating suitable employment conditions policies to the test.

XV. Member States were asked for their ideas about which activities could best be undertaken at a European level. A wide variety of answers was received. Many Member States mentioned that there is an obvious need for an exchange of information and experiences between Member States about occupational safety and health issues. Related to this is the view of some Member States that proposals for a programme such as SAFE would have added value if positive experiences could be shared with other Member States.

Some Member States also suggested that there could be some sort of coordination in the area of occupational safety and health research in order to avoid unnecessary action and establish joint actions. Similar to this is the suggestion for Member States to join forces and set up common guidelines or systems for guidelines (e.g. for risk-assessment), checklists for specific professions/sectors, or other practical instruments.

1 INTRODUCTION

One of the main tasks of the European Agency for Safety and Health at Work is to support the exchange of information between European Member States. An important tool to be used in this context is the organisation of information projects on specific issues.

This report on priorities and strategies in occupational safety and health policy in the Member States of the European Union summarises the first major information project undertaken under responsibility of the European Agency since it started in September 1996. The report is based on the results of a questionnaire that was drawn up in cooperation with representatives of all European Member States and then answered by all Member States. The complete replies from the Member States can be found on the Agency's web site. Some of these replies can also be found on the national web sites of the Focal Points.

The project was undertaken following a decision taken by the Administrative Board of the Agency in February 1997. The Board said that the aim of this first survey would be to establish an overview of all the current priorities and strategies in the field of occupational safety and health. They wanted it to include a description of developments over the past few years and also to focus on new and future developments in the Member States. The Administrative Board also expressed their view that it was important that replies should also take into account, in an appropriate way, the opinions of other players in the field at national level such as social partners, autonomous regions and/or statutory insurance organisations.

The formulation of priorities and strategies in occupational safety and health is not undertaken by national authorities alone. In some countries, the setting of priorities and strategies is carried out in agreement with the social partners. In many other countries there is some form of consultation with the social partners. In some countries, autonomous regions are also involved in setting up priorities and strategies. Finally, in some countries there are major insurance organisations that fulfil an important role in encouraging companies to introduce prevention measures, besides their usual insurance role.

It is clear that formulating policy on priorities and strategies is a complicated process if different players are involved. Nonetheless, involvement of these players is considered essential. As a consequence, these actors were usually involved in one way or another in the replies to this survey sent in by the Member States.

The aim of this project was to produce an overview of opinions in the many different areas of occupational safety and health. An in-depth analysis that could add to the understanding of different approaches, was not the aim. However, as a follow-up to the survey there will be more specific information projects which can build on this information. Further decisions on this have to be taken in the context of the Agency's 1998 Work Programme.

As this survey was conducted by means of a rather extended questionnaire covering many elements, it had some consequences in Member States. Firstly, Member States had to invest a substantial amount of time in replying to it. Secondly, it prompted the people involved in setting priorities and strategies to reflect systematically both on the work done in the past and that to be undertaken in the future. It encouraged them to think about what had been the real priorities in the past and what would actually be the precise strategies in the future. As a result this exercise has proved to be an extremely interesting and valuable exchange of views between Member States and this report can be considered as an important outcome of this process.

2. LEGISLATION

In all European Member States, legislation has been a traditional instrument for improving the level of occupational safety and health in the workplace. The first regulations date from the 19th century. Whereas in the beginning the focus was mostly on safety matters, attention later moved towards health-related matters. In recent years other, more social and organisation-related matters have been introduced by means of legislation.

2.1 The effectiveness of legislation

European Member States have a long tradition of using legislation as a tool for the improvement of occupational safety and health. The most important issue in this context is whether and to what extent legislation has proved to be effective in the workplace level.

Many Member States indicate that classic indicators for the level of occupational safety and health, such as accidents and diseases, have shown a substantial decrease over recent years. In specific areas like machine safety an even more positive effect can be seen.

Some Member States report that there has also been a reduction in the number of complaints from employees about poor working conditions in companies and that in certain cases legislation has also had a positive effect on sick leave. There also appears to have been an increase in the extent to which companies comply with legislation (level of compliance).

With regard to the underlying factors which make legislation more effective, Member States report a number of considerations. It is essential that legislation should be realistic if it is positively to motivate those concerned. The involvement of the social partners in the drafting of legislation is also seen as crucial. Opinions differ as regards the manner in which legislation should be formulated. Extremely precise and detailed legislation is seen by some as a useful way of ensuring that companies understand and comply with it. On the other hand, others see detailed regulation, and the lack of flexibility which can result, as an obstacle to technological and socio-economic progress.

Nonetheless it seems to be very difficult to evaluate the precise effectiveness of regulation, due to the fact that it is usually difficult to isolate it from other factors. In several Member States there are initiatives to improve this evaluation.

As regards the individual workplace, practical guidelines, in which the less accessible legal requirements are paraphrased, have proven to be the best way of disseminating knowledge. In most Member States a considerable number of publications have been issued over time. As a consequence, many Member States have to spend substantial resources on the maintenance and updating of these publications.

In some countries it is considered important not only to have an understanding of the effectiveness of regulations as such, but also of their efficiency, for example by comparing the impact of regulation with other measures that could be undertaken. More attention could also be given to the drawing up of cost-benefit analyses.

Increasing awareness in companies of the economic advantages of concern for occupational safety and health can also encourage preventive action.

In other countries concern is expressed about the extent to which regulations are implemented in the workplace level, and the fact that this can often only be ensured by means of supervision.

To what extent has legislation been shown to be effective at the workplace level? How has this been evaluated?

Austria

- due to the reform of legislation in recent years it is not possible to assess its effectiveness

Belgium

- classic indicators on occupational accidents and diseases show a decrease as a consequence of public intervention. More needs to be known about the efficiency of these measures, however

Denmark

- as regards the individual workplace, guidelines in which the less accessible legal requirements are paraphrased and explained have proved to be the best way of disseminating knowledge about occupational health and safety
- legislation is essential for the inspections authority, thereby making it possible to ensure a minimum level of OSH across the country

Finland

- in the sphere of machine regulations a clear positive effect can be seen from accident statistics

France

- legislation from past years contributed to the decrease in fatal and non-fatal accidents
- legislation should be realistic, pertinent and stable in order to motivate the 'players in the field'

Germany

- frequently legislation may only be enforced by means of inspections

Greece

- legislation proved to be effective, partly due to the participation of social partners
- effectiveness was enhanced by careful attention to detail in obligatory measures/specifications
- reductions in accidents, complaints and serious problems indicate the effectiveness of legislation, as does the increase in the level of compliance by enterprises

Ireland

- compliance with legislation in the workplace is improving
- the effectiveness of legislation in achieving health and safety remains to be investigated
- legislation serves as a baseline for developing countermeasures

Italy

- an evaluation of the efficacy of the recent legislation enforcing EU legislation is not yet possible
- pre-EU legislation, based on an enforcing and sanctioning system, has not proved very effective. Most accidents happened without violating regulations

Luxembourg

- legislation, and especially the Framework directive, defining responsibilities is believed to contribute substantially to OSH. Increasing awareness of the economic benefits of preventive policy also appears to help

Netherlands

- legislation contributed to the decrease of accidents and sickness leave
- sometimes legislation is not flexible enough to avoid negative effects on technological and socio-economic improvement
- transparency of legislation is not always sufficient

Portugal

- a technical team set up by the government and social partners will study existing legislation and propose amendments deemed to be necessary; these will be appraised during the next social consensus negotiations

Spain

- the change in accident figures indicates its effectiveness, although it is difficult to isolate the effects of legislation from other factors

Sweden

- regulatory measures alone will not solve the problems of occupational safety and health
- the modernisation of legislation that took place in 1990 forms a useful basis for articulating the employer's responsibility for the proper and expanding management of occupational safety and health

United Kingdom

- improved fatal accident rates over the last 25 years indicate the benefits of effective legislation, although the precise impact cannot be isolated from other factors such as enforcement
- evaluation of the impact of specific regulations has suggested that legislation can lead to substantial benefits, though this is often qualitative rather than quantitative evidence

2.2 Future role of legislation

Special attention is devoted to the way in which legislation has to be implemented in the workplace. It is emphasised that it is important that employers and employees have sufficient scope to put measures adapted into practice in their own companies.

Regarding the future role of legislation, there is a common belief that it will continue to be an important tool in setting levels of protection against safety and health hazards at work. In that context some Member States urge the European Commission to adapt current proposals for Directives in such a way that they become acceptable to the Council. However, Member States believe also that many of the risk areas have now been covered by legislation.

Furthermore, it is widely believed that legislation must aim at a high level of protection based on the latest scientific knowledge, and that it should keep pace with technical and social developments.

Nonetheless there is also concern in various Member States about the quality of legislation. As a substantial part of OSH legislation was formulated some years ago, there is in some Member States a clear need to rescind obsolete provisions in legislation. Furthermore, there is a strong desire to omit technical details and leave it to the workplace to decide how to solve specific problems, as long as the results fulfil the safety levels required.

Some Member States point out that future legislation should be more concerned with setting targets and formulated in such a way that it does not constrain new technologies or working methods. Proposals for new legislation should be accompanied by thorough impact studies.

Member States indicated that it was very important for European regulations which already exist in the field of occupational safety and health to be implemented properly in all countries. Equivalent implementation throughout the Member States helps to prevent competition between Member States on the basis of social provisions.

Others Member States point out that the introduction of preventive and protection services, as a consequence of the European Framework Directive, will influence the role and function of many players in the field.

The last point is that some Member States mention that legislation should in the future be more in line with bodies of legislation in related policy fields.

What ideas exist regarding the future role of legislation?

Austria

- simplify the existing legislation in order to make it easier for employers and employees to understand and apply

Belgium

- there should be a change to more target-oriented regulation;
- introduction of multidisciplinary prevention services will influence the role and function of many players in the field

Denmark

- rules should keep pace with technical and social development. Executive orders should therefore be subject to continuous revision, and if possible simplified. However, there is a natural limit to simplification, as occupational health and safety is a te hnically complicated area

Finland

- legislation must aim at a high level of protection based on the latest scientific knowledge; obsolete provisions must be repealed and detailed technical solutions can largely be left for the workplace to decide, as long as the results comply with the safety levels required
- current Commission proposals for directives should be adapted so that they can be adopted by the Council

France

- the main risk areas are now covered by legislation
- new legislation should be based on thorough impact studies
- there is a need to simplify legislation in order to make it more coherent and accessible, without lowering the level of protection
- priority should be given to the effective and equivalent application of legislation within the European Union

Germany

- future legislation should concentrate on major risk issues.
- legislation should be drawn up in a intelligible and feasible way, and also increase employers' own responsibility
- more attention should be paid to public relations work and/or convincing people involved in occupational health and safety

Greece

- legislation will continue to play a primary role
- measures and specifications of a mandatory nature will continue to be introduced and supported by non-legislative measures

Ireland

- legislation must be simple to understand
- legislation must be goal-setting
- better methods must be developed for evaluating the impact of regulations
- legislation developed by different government agencies must be coordinated and complementary

Italy

- legislation should regulate the most serious risks. Sector guidelines should support employers in risk assessment and measures to be taken
- it is necessary to create a Consolidated Act on all OSH legislation in force. There is a need for updating and simplifying of the regulatory system with an increased responsibility for social partners

Luxembourg

- in the context of occupational safety and health legislation is indispensable; however it could be formulated more clearly and accessibly

Netherlands

- effectiveness should be improved by giving more responsibility to employers and employees at workplace level
- current levels of protection should be maintained
- (European) legislation should be simplified and more flexible
- legislation should be concerned with setting targets

Portugal

- legislation should take into account its impact on companies (particularly SMEs) and its feasibility
- legislation should be supported by instruments of collective regulation arising from negotiations between the social partners

Spain

- legislation will continue to be important in setting levels of protection, allowing workers and employers to put into practice different measures to achieve those levels

Sweden

- efforts must be made to improve coordination between different acts of parliament and regulations concerning occupational safety and health and neighbouring fields
- there is an obvious and urgent need for continuing reduction of detailed regulations in favour of a more systematic approach through internal control

United Kingdom

- continue to adapt a goal-based approach to legislation, supported by Approved Codes of Practice and practical guidance, in order to:
  - protect all those affected by a work activity
  - maintain a legal framework flexible enough to address new risks and public concerns without constraining new technologies or working methods

INSPECTION/ENFORCEMENT

In European Member States the combination of legislation and enforcement has been the traditional method of improving the level of occupational safety and health in the workplace. The first inspectorates were established in the 19th century. They usually dealt with specific sectors using a limited amount of facilities. Nowadays inspectorates often have to deal with many sectors but they usually also have access to staff with a variety of technical qualifications and who use a range of different working methods.

3.1 The effectiveness of inspection/ enforcement

Classic indicators of occupational safety and health show a decrease in accidents, diseases and risks as a consequence of the action of public authorities. There is some evidence that supervision by enforcement authorities especially has resulted in a reduction of serious hazards.

A particular point to which attention was drawn was the scope of the terms of reference of inspection services. Many thousands of enterprises in European Member States are visited each year by inspectors. In many cases action is taken, ranging from improvement notices to legal proceedings. Nevertheless, there are long periods in which many companies are not inspected due to limited inspection resources. This is regrettable because inspection visits often act as an incentive at the company level to step up and improve preventive activities.

Many Member States have experience of using a sector-oriented approach. The impression is that setting priorities in this way can be particularly effective. However, it is difficult to assess the precise impact of inspection/enforcement as the effects of specific measures are usually not evaluated in isolation from other activities. In some countries initiatives are taking place in order to improve the effectiveness of inspection/enforcement measures.

It is important to recognise that inspection/enforcement alone will not solve all problems concerning safety and health at work. Employers and employees at the workplace level need to invest the necessary time and effort in prevention.

To what extent has inspection/enforcement been shown to be effective at the workplace level? How has this been evaluated?

Austria

- due to the reform of legislation in recent years it is not possible to assess the effectiveness of enforcement

Belgium

- classic indicators on occupational accidents and diseases indicate a decrease as a consequence of state intervention. More needs to be known about the efficiency of these measures, however

Denmark

- each year about 55,000 enterprises are visited resulting in 17,500 improvement notices and 8,200 cases in which recommendations are issued

Finland

- on the basis of client inquiries and accident statistics it can be said that positive effects have been achieved
- inspection has particularly affected the reduction of serious hazards; it is believed that inspection visits encourage safety operations in the workplace

France

- inspection has proved to be effective at workplace level. In sectors that received particular attention from the enforcement authorities prevention has improved

Germany

- supervising the implementation of occupational health and safety measures in the workplace leads to a sustainable decrease in accident figures

Greece

- until 1995 effectiveness was satisfactory. There was a decrease in the number of accidents and complaints, while conformity by enterprises rose
- due to reorganisation of the administration (since 1995) there are now complications affecting the collection of data that can help evaluate effectiveness

Ireland

- effectiveness has not so far been measured because the HSA has not so far been able to identify suitable assessment techniques

Italy

- the controls effected in accordance with the legislation in force have not been able to guarantee an adequate level of safety
- lack of staff in the inspectorates influences its effectiveness

Luxembourg

- the problem to be resolved concerns the limited national perspectives of inspection bodies and the global perspectives of economic agents

Netherlands

- effectiveness has increased as a consequence of the adoption of a sectoral approach and the prioritisation of specific sectors

Portugal

- effectiveness is evaluated by monitoring the degree of compliance with the rules and by the corrective measures imposed by the inspectorate
- evaluation is also based on accident statistics and inspection reports (general, regional or sectoral)

Spain

- inspection/enforcement activities contribute to a decrease in the levels of risk and in the rate of accidents; the effect of these activities has not been evaluated in isolation from other actions

Sweden

- inspection/enforcement as such will not solve all problems of occupational safety and health. It is important that people are willing to assume responsibility themselves

United Kingdom

- improved fatal accident rates over the last 25 years also support the effectiveness of enforcement
- a survey of stakeholders showed they are supportive of and have confidence in enforcement
- research into specific enforcement tools such as audits of safety management suggests they are effective but could be improved

3.2 Future role of inspection and enforcement

In the context of a dynamic society in which knowledge of occupational health and safety can also be found outside OSH authorities, new ideas about the possible future role of inspection are being developed.

All European Member States subscribe to the importance of inspection. It is believed that inspections will also play an important role in the future in encouraging improvements in OSH practice. However, due to a variety of factors, it is expected that the role of inspection/enforcement will change.

Firstly, there seems to be a clear trend towards concentrating inspections on high risk sectors (e.g. construction). Enforcement efforts will be increasingly directed at sectors where the degree of hazards justifies this. In order to select these priority sectors Member States usually use some type of rating system.

Secondly, there has been an increase in the number of people who are well-informed about occupational safety and health matters. The number of occupational health specialists, ergonomists, occupational physicians, safety engineers and other professions in this area working in enterprises, in OSH services and consultancies has risen over the years in many European Member States. Other organisations (sector organisations or organisations of interest groups) also have an understanding of the subject. Inspectorates are cooperating on a larger scale with these intermediary organisations, especially since they can be helpful in reaching those responsible for the subject in small and medium sized companies in a cost-effective way.

Thirdly, and closely related to the former aspect, many Member States regard strengthening enterprises' own efforts in OSH as a clear objective. This can be done, for example, by encouraging cooperation between management and employees and encouraging the establishment of OSH systems. The obligation to undertake risk assessments, as formulated in the European Framework Directive, provides another strong impetus for this development.

In some countries there has been a change in inspection methods, whereby inspectors take into account whether a company can show the results of a systematic risk assessment. If so, sometimes only a limited inspection is carried out.

Another noticeable development in various Member States is the increase in the maximum penalties which may be imposed for the violation of OSH regulations.

With regard to the way in which inspections should be carried out, some countries stress the importance of recommendations and the provision of information. Penalties should be considered only at a later stage. Some other Member States place greater emphasis on enforcement activities.

What ideas exist regarding the future role of inspection/enforcement?

Austria

- enforcement of legislation should include advice, as a first step, before any other measure is taken

Belgium

- risk assessment should be the basis for inspection as regulations will be more goal-oriented
- given a limited inspection capacity priorities have to be set about what type of organisation to monitor closely
- SMEs will be approached on a sectoral basis
- establishment of indicative guidelines

Denmark

- strengthening the efforts of enterprises themselves (cooperation between management and employees and encouraging enterprises to establish OSH systems)
- if enterprises work systematically with workplace assessment the role of the inspectorate will change (guidance and selective spot checks)
- a proposal for increasing the penalty limits for serious violations of regulations is being discussed in Parliament

Finland

- to improve supervision different methods are developed along with the traditional inspection work
- the competence of supervisory personnel will be improved by a special training project
- improve the abilities of inspectors to make use of the knowledge and models of working environment economics

France

- inspection/enforcement will continue to be an essential issue
- the broad field of competence of enforcement authorities allows them to adopt a global approach to the prevention of occupational risk

Germany

- strict inspection at workplace level will be the focus of attention in certain high risk sectors (e.g. construction)
- furthermore, inspection will move from being detail-oriented to become more system-oriented
- counselling and supporting companies will become a prominent part of the work.

Greece

- the monitoring and enforcing role will be strengthened
- the information and advisory aspects will be maintained and for small enterprises in particular bolstered
- penalty provisions will continue to be used against employers who fail to meet their obligations

Ireland

- development of partnership schemes led by companies with good safety records
- working with intermediaries
- greater targeting of bad sectors
- greater targeting of enterprises with poor safety records
- improvement of quality of inspection

Italy

- in addition to inspection/ enforcement new legislation stimulates enterprises to improve occupational safety and health as a consequence of more influence on the part of the workers. It also gives greater responsibility to enterprises themselves and it assures technical and in-service training for inspectors

Luxembourg

- the design of solutions for OSH problems by enforcement authorities should be brought into line with European standards and other international standards
- furthermore, policy should involve both incentives and penalties

Netherlands

- further concentration on risk sectors
- more system-oriented activities
- introduction of financial penalties in enforcement
- greater concentration on SMEs
- uniform enforcement throughout the country

Portugal

- coordination with other authorities/bodies in OSH field
- identifying priority areas for coercive action, particularly where there are serious risks
- more joint activities with structures representing employers and workers
- prevention should be organised at company level

Spain

- the inspectorate will increase its activities in priority sectors. Legislation is being prepared to redefine the functions of the inspectorate and to establish its relations with the Autonomous Communities.

Sweden

- there is a need for greater coordination between enforcement authorities in occupational safety and health and other related areas

United Kingdom

- enforcement aims to be consistent, proportionate, transparent and targeted
- plans for industrial sectors, refining inspection rating systems and campaigns all contribute to improving targeting
- other contact techniques, such as mail shots and working with intermediaries are being explored

4 CAMPAIGNS

In many European Member States specially targeted activities are undertaken against specific occupational safety and health hazards. Usually these activities are organised by national authorities or other semi-public organisations. This approach often includes a combination of instruments such as legislation and inspection/enforcement, backed up by information tools such as leaflets, folders, publications, etc. It could also include other policy instruments, such as financial incentives, certification, etc.

4.1 The effectiveness of campaigns

Most European Member States have some experience of using campaigns as a tool for the improvement of occupational safety and health.

There seems to be evidence that campaigns can cause a significant decrease in work-related injuries, accident sick leave, and occupational diseases. Furthermore, it seems that the basis for this is an increased awareness of risks that encourages preventive actions by the target groups. Sector-oriented campaigns, involving social partners, enterprises, employees and other intermediary organisations have proved to be especially useful, as they can be adjusted to sector-specific conditions. There are even indications in some countries that the effects obtained are sustainable over a longer period.

Campaigns seem to be of special importance in improving occupational safety and health in the European Member States and efforts are being made to develop more precise evaluation instruments, in order to prepare even better targeted campaigns.

More specific examples of such methods of evaluation include:

- monitoring the sales of publications, videos, etc.;
- monitoring the use of services such as the number of telephone calls requesting information;
- surveying public awareness of an issue before and after a campaign;
- assessing the clarity of the message and the extent to which it encouraged participation in, for example, an organised event.

Question

To what extent have campaigns been shown to be effective at the workplace level? How has this been evaluated?

Austria

- information sent out to target groups was highly appreciated

Belgium

- classic indicators of occupational accidents and diseases indicate a decrease as a result of public intervention; however more needs to be known about the efficiency of these measures

Denmark

- significant reductions in work-related injuries have been observed as a consequence of preventive and goal-oriented campaigns
- sector-oriented campaigns (involving social partners, enterprises and employees) have proved to be especially useful, as they allow adjustments to be made to the sector's specific conditions

Finland

- workplace-orientated campaigns have proved to be very effective in terms of reducing accidents and sick leave
- there are indications that the effects of campaigns run by OSH authorities may be sustainable

France

- on specific issues several activities have been undertaken by prevention organisations and local campaigns are organised by the enforcement authorities, but these activities have not been evaluated
- opinion polls show that there is an increasing awareness and understanding of risks at work

Germany

- there are some indications that public campaigns have been effective, but the effects have only been measured in terms of absenteeism and illnesses at the company level
- accident insurance funds have conducted campaigns that have led to the closer involvement of target groups and to an improvement in general awareness

Greece

- campaigns at national and local level are effective as shown by the high level of participation and sustained interest
- in particular, the participation of social partners helps

Ireland

- awareness at enterprise level is rising although there is no evidence that this is translated into improved health and safety
- awareness has been evaluated before and after campaigns to determine their effectiveness

Italy

- campaigns have rarely been used; there is no evidence available about their effectiveness

Luxembourg

- campaigns have not been evaluated in a systematic way, but the results are considered to be encouraging

Netherlands

- campaigns oriented at specific sectors or specific issues have proved to be especially successful
- cooperation with social partners or other interest groups increases effectiveness

Portugal

- campaigns at sectoral level proved to be an effective method for prevention
- involvement of social partners is considered important
- effectiveness in the workplace is evaluated by trends in industrial accidents

Spain

- campaigns have proved to be effective in increasing public awareness of risks and encouraging preventive action
- campaigns have also been evaluated by looking at accident statistics, although it is not easy to isolate the effects of a campaign from other circumstances

Sweden

- several campaigns have been successful lately
- campaigns can have general and specific effects

United Kingdom

- campaigns have achieved objectives including: increasing awareness; reduced accident and ill-health; provision of information; promotion of a new service; encourage participation in an event
- campaigns are evaluated by means of different indicators

4.2 Future role of campaigns

Given the results on the effectiveness of campaigns, it is not surprising that most countries very much intend to continue or increase their use. This is especially true because campaigns have proved to be effective in reducing specific risks. As a result of past experience more specific objectives for campaigns have been formulated in Member States. Specific objectives include: reaching more people, dealing with topics in greater detail, using a variety of promotional means, and implementing campaigns on a more regular and systematic basis.

Some Member States suggest that future campaigns should aim at a more restricted target in order to be effective, and include several measures and modes of action. Some Member States also say that campaigns should aim more at encouraging networks and dialogue between interest groups; and some say it is important that the social partners should be more involved, either by organising campaigns themselves or in co-operation with the authorities.

Another important observation is that the profile of workers is changing. Many people today possess computers and have access to the Internet, for example; this will increasingly become a means of receiving information. It is therefore of interest to consider how specific groups of workers can be reached in an effective and efficient way.

What ideas exist regarding the future role of campaigns?

Austria

- cooperation between social partners and authorities in organising future campaigns should be enhanced

Belgium

- it is the aim of the authorities to evaluate, in cooperation with other organisations such as in the area of social security, the effect of campaigns

Denmark

- action and campaigns will continue to play a prominent part in future inspection activities
- to achieve successful campaigns, across-the-board encouragement of employees, relevant social partners, and other parties is necessary

Finland

- campaigns which aim at restricted targets and which include a variety of measures and modes of action are an effective method and will be used in the future

France

- it is not expected that there will be any substantial increase in campaigns in future years
- campaigns have to be able to influence all parties involved in prevention (SMEs, self-employed)

Germany

- campaigns will continue to be used, aiming for an approach which encourages networking and dialogue as well as interdisciplinary aspects

Greece

- the objective is to promote greater awareness regarding OSH by: (1) reaching more people, (2) more detailed treatment of topics, (3) using a variety of promotional methods, and (4) implementing campaigns on a more regular and systematic basis

Ireland

- future campaigns will be more targeted with greater involvement of key organisations in targeted sectors

Italy

- it is considered necessary to plan promotional campaigns for sectors as the communication of risks is becoming more and more critical

Luxembourg

- there is a need to develop feed-back systems

Netherlands

- campaigns should be more oriented at specific targets such as sectors or problem areas
- the number of campaigns organised by social partners or other interest organisations is increasing

Portugal

- as campaigns have proved to be effective they will be continued in the future

Spain

- information campaigns will be organised in collaboration with social partners and the Autonomous Communities
- campaigns should focus on raising the level of awareness of risks, disseminating information about methodology and guidelines to comply with new legislation

Sweden

United Kingdom

- the emphasis will move from the organisation to the individual. There is therefore a need to assess how target audiences are receiving information and to focus publications accordingly

5. FINANCIAL INCENTIVES

In order to encourage companies to improve the level of occupational safety and health, many administrations and insurance organisations (which are often semi-public) are introducing financial incentives in addition to the legal obligation. The main types of incentives are:

- differentiation of premiums for insuring against occupational accidents and diseases;
- public subsidies for research and technological development;
- tax benefits for companies investing in safety and health at work;
- subsidies for the assessment of the OSH situation at company level and support for training courses in the field of occupational safety and health.

Regarding the differentiation of premiums for insuring against occupational accidents and diseases, there seems to be a trend towards greater differentiation. In some countries employers are required to pay the costs of periods of absence on account of illness.

An important methodological question is whether the differentiation of premiums should be based upon experiences in the past or on future expectations. The former depends on whether an enterprise shows a real decrease or increase in occupational accidents and diseases. Such an approach can cause serious problems for small and medium sized companies as they usually have few incidents. The latter approach - future expectations - is based on the expectation that an enterprise will attempt to improve its working environment.

Further, it appears that public subsidies for research and technological development in the field of the working environment are under pressure in various Member States. Tax incentives for companies making special efforts in occupational safety and health are provided only in a few Member States. Special attention has to be paid to the definition of which products and services should be covered by these arrangements for tax incentives.

There are activities that aim to provide support for the assessment of the actual situation at company level by providing such a service free of charge. Sometimes this service is explicitly facilitated by social insurance organisations. Some Member States also have financial incentives for staff training. Such measures have been proved to be particularly effective in encouraging preventive activities in the workplace level.

What is the policy towards promoting occupational health and safety activities at the company level by financial incentives? Are there special institutionalised funds for these activities?

Austria

- at the moment no such action is planned

Belgium

- there could be a stronger relationship between premiums and accident figures in order to encourage employers to invest in occupational safety and health

Denmark

- in the context of industrial injuries insurance schemes there is an economic incentive scheme in which financial advantages (reduced premiums) will be given to enterprises that make particular efforts (more than required by law) to improve the working environment
- there are various subsidy schemes for specific purposes

Finland

- incentives are not needed for economically profitable investments; information about it is sufficient
- funds to support companies making improvements in OSH
- an accident insurance system with premium differentiation related to the amount of accidents
- part of employers' costs for occupational health care are compensated from public funds

France

- authorities have developed an active policy of financial support
- financial support is provided by:
  - free diagnostic support (ANACT);
  - subsidies for innovations that can be disseminated (FACT);
  - subsidies for enterprises with under 200 employees for training and material investments (CRAM: local social insurance)

Germany

- accident insurance funds calculate contributions on the basis of risks, whereby an individual company may be required to pay more or less. This is determined by the success of its OSH measures

Greece

- programmes are funded from national and community resources
- an occupational risk contribution is paid by employers to assist the improvement of working conditions
- the creation of new funds is at present the subject of a feasibility study

Ireland

- there is no systematic use of incentives and none is foreseen
- in general insurance companies offer lower premiums to those enterprises with good health and safety records

Italy

- premium differentiation for very small enterprises (max. 15 workers) was introduced recently
- in some regions there are contributions or soft loans for technological innovations in the workplace which are related to safety

Luxembourg

- there has been no systematic use of financial incentives so far

Netherlands

- it is believed that incentives can have a positive influence on OSH
- the experiences gained when employers' financial responsibility for sickness leave was increased, was positive
- it is intended that tax incentives will be introduced for companies (especially SMEs) investing in OSH

Portugal

- IDICT has an annual programme under which private, cooperative and public organisations can submit specific projects
- IDICT manages a fund made up of contributions provided by the social security system

Spain

- Social Insurance Act allows premium variations of + 10 % to - 10% for companies that are particularly ineffective/effective in reducing risks
- under the new Prevention of Risks at Work Act there will be a fund to promote the improvement of occupational health and safety conditions

Sweden

- financial incentives have been provided on a large scale for training
- scarce financial resources have a negative effect on training
- the main incentive exists in convincing employers and employees that measures have benefits for the enterprise

United Kingdom

- the value of financial incentives is questioned and there is concern that they can tend to distort the real level of safety

6 CERTIFICATION

6.1 Attitude of the authorities towards certification

A relatively new instrument for improving occupational safety and health is the certification (including compliance assessment) of products and services. In many European countries the use of certification is a political issue and is related to different questions, such as what kind of products could or should be certified, how to frame the relevant regulations, and how to decide which organisations are entitled to undertake the work of certification. Possibly as a result of its relative newness, opinions in European Member States about the value and possible use of the instrument of certification seem to differ.

The most traditional use of certification is found in the safety area. In many European countries there is a tradition of requiring by law that the safety of elevators, electrical installations and similar equipment be checked. In recent years there has been a similar development at European level. For several types of equipment such as machines, personal and protective equipment, legislation has been formulated identifying the criteria for assessing the appropriate level of safety.

Possibly less well-known than such safety arrangements are the legal requirements governing chemical products. Many Member States had regulations on the admission of these products to national markets. In the context of the internal market of the European Union, arrangements have been made at European level. As a consequence foreign products can now be admitted more easily to national markets.

Another traditional issue is the certification of expertise. There have been long discussions about what qualifications should be set for safety-engineers, occupational physicians, occupational health specialists, ergonomists, occupational nurses, etc.

The latest developments - partly as a result of the implementation of the European Framework Directive in the Member States - are in the area of the certification of the quality of occupational safety and health services. In several Member States it is not considered sufficient just to have requirements about the expertise of professionals working in these organisations. It is at least as important to set rules or standards for the quality of their services and the way they provide them.

In addition to the question of which products or services should be certified there are several other fundamental issues from the point of view of relevant authorities.

Most Member States have a positive attitude towards the use of certification as an instrument. However, some stress that it does not always provide sufficient guarantees for the level of safety, or that it should be used only when there are high risks involved. In other Member States, on the other hand, administrations are actively encouraging the private sector to set up voluntary certification schemes in a variety of fields. This is related to the question of the extent to which administrations themselves should be involved in certification activities rather than leaving it to the private sector. Some authorities consider that they should not be involved in certification unless there are special reasons to become so.

A complicating factor is that certification in the area of occupational safety and health is not always an attractive proposition from the commercial point of view. So sometimes there is no other alternative for administrations but to take action when there is a lack of interest on the part of the private sector.

There is also the question of whether authorities themselves should decide which organisations are allowed to undertake certification activities, or whether this decision about accreditation can be delegated to another organisation. This leads to the question of what control there should be on this kind of organisation and what its status should be.

What is the attitude of the relevant authorities towards using certification as an instrument in the field of occupational safety and health?

Austria

Belgium

- certification systems based on quality systems will be used for at least the external prevention services

Denmark

- there is a very positive attitude towards certification as an instrument to improve OSH

Finland

- certification can be an effective method for improving OSH if it is based on verified public documents and the competence of certifiers is ensured
- experience has been positive in the product safety area especially

France

- authorities have a positive attitude towards certification on condition that the technical standardisation and accreditation satisfy the essential requirements imposed by legislation

Germany

- mandatory certification should preferably be limited to particularly hazardous products, due to the costs
- voluntary certification can enhance efficiency as it provides additional information

Greece

- certification is considered to be positive if it gives specific impetus to the implementation of legislation

Ireland

- certification is seen as being of value in certain cases

Italy

- certification is encouraged but is not considered to be a sufficient guarantee

Luxembourg

- use of conformity certificates (ISO 9000 or 45000) is encouraged in so far as it can include OSH. However this is only the case for big enterprises. In the case of SME conformity audits, CEN is not the appropriate forum for the development of such a system

Netherlands

- certification is also considered to be an instrument for self-regulation

Portugal

- it is considered desirable to have systems that show users the quality of products or equipment
- certification of companies is voluntary and not considered to be a sufficient guarantee of prevention management

Spain

- certification and compliance assessment are considered as essential instruments of effective OSH action
- public administrations are making substantial efforts in respect of personal protective equipment and machinery

Sweden

- this issue is under discussion in Sweden and no conclusive position has yet been adopted

United Kingdom

- in high risk areas, regulatory requirements can be used to give an added assurance of safety
- policy is to avoid direct approval by authorities unless (1) there is a special concern on safety grounds, (2) the technical expertise is unique to HSE, or (3) the technology required is at an early stage of development

6.2 Aspects for the future

At present in most Member States there are various specific issues concerning the use of certification that are under discussion, such as how to use certification in relation to the preventive services and how to deal with specific requirements stemming from European legislation such as the personal protective equipment Directive. A controversial item at the moment seems to be the proposal for a certifiable European standard for occupational safety and health management (European Committee for Standardisation (CEN)). It seems that in many European Member States there is serious concern about the implications of this proposal.

Some Member States also plan to encourage initiatives involving voluntary certification.

Which specific items are under discussion at the moment or will be in the near future?

Austria

Belgium

- certification systems based on quality systems will be used at least for the external prevention services

Denmark

- personal protective equipment, simple pressure vessels, certification of welders and non-destructive testing staff, and certification of people performing periodic inspections are all currently being discussed

Finland

- the role of the authorities in certification is being discussed
- the possibility of certification of OSH management is a more specific issue being discussed

France

- authorities intend to make more frequent use of certification (for example on asbestos) in so far as it applies to the essential requirements, as imposed by legislation

Germany

- there are discussions about (1) the proposal for a certifiable standard for OSH management, (2) the quality assurance of testing in the field of mechanical safety, and (3) the recognition of approval certificates for machines issued by certifying bodies using national or non-harmonised standards

Greece

- the main subject of discussion at present is the certification of protection and prevention services

Ireland

- certification of competency is currently in place in a few areas and its extension to other fields is under review

Italy

- formulation of certification standards
- definitions of self-certification systems and of voluntary agreements

Luxembourg

- in the context of SAFE, Luxembourg introduced pilot projects for the development of a 'self control' concept for SMEs

Netherlands

- voluntary initiatives will be encouraged

Portugal

- greater participation is envisaged in the drafting of legislation
- the establishment of a system for certifying prevention specialists is under discussion as well as a system of accreditation for external prevention services

Spain

- the proposal for a certifiable standard for OSH management is considered questionable

Sweden

- this issue is under discussion in Sweden and no conclusive position has yet been adopted

United Kingdom

- value of European/International certifiable standard for OSH management is questioned
- use of conformity assessment in relation to transportation of gas and interoperability of high speed trains. May use it offshore, in verification of critical safety elements

7 TRAINING

Training in occupational safety and health is undertaken in all Member States. Training can be provided for different categories of people. It can focus on employees, workers' representatives, employees with specific tasks in the area of occupational safety and health, employers, trainees, prevention specialists such as safety engineers, doctors and finally on trainers themselves.

In some countries the training of workers is organised and/or carried out by public organisations and organisations of the social partners; in others there is a considerable role for the private sector. Nonetheless, in all countries it is considered essential that employees are made aware of occupational safety and health risks.

7.1 The effectiveness of training

Training is considered in all Member Sates to be an essential basis for the prevention of accidents and occupational diseases. A considerable number of people are being trained in occupational safety and health matters in the Member States. Training is fundamental to the "knowing how to, wanting to and being able to do" approach.

Many Member States indicate that the effects of training as such in the workplace are difficult to evaluate. So far little research has been done in this area, although in some countries there are plans to evaluate effectiveness in more detail.

Nonetheless there is some indirect evidence that training is a very important and effective tool for prevention. For example, there are indications that workers who benefit least from training (e.g. temporary workers, home workers) run the greatest risk of accidents. There are also clear indications that regular repetition of training helps to increase awareness of OSH.

To what extent has training been shown to be effective at the workplace level? How has this been evaluated?

Austria

- no data is available on the effectiveness of training at workplace level

Belgium

- existing indicators cannot show the effects of training

Denmark

- the compulsory training of the safety group/organisation has proved to be important
- training is also organised by social partners, authorities, public funds
- compulsory vocational training exists, e.g. for working with epoxy, styrene, scaffolding, fork-lift trucks asbestos, asphalt, and cranes

Finland

- training is provided by different organisations. The basic course usually takes five days;
- according to the statistics there are 10,000 safety supervisors (26% have done basic courses), 8,700 safety representatives among workers, and 5,000 among clerical employees.
- the effects of safety training have not been systematically assessed

France

- all workers receive practical safety training as soon as they are taken on, and training is revised when conditions change
- although there is no systematic assessment of the mandatory training provision, it is clear that workers who benefit least from training (e.g. temporary workers, home workers) run the greatest risk of accidents

Germany

- the effects of training are difficult to evaluate, but accident statistics can give some indication
- regular repetition of training helps to increase awareness
- more than 360,000 people a year are being trained by the statutory accident insurance funds

Greece

- the improvement of OSH, the reduction in the number of work-related accidents and the changing attitude of workers towards safety-related issues indicate that training has been effective
- training programmes are devised and implemented at all levels (national, local, sector, enterprise)

Ireland

- although no formal evaluation has been undertaken there is widespread agreement that a multidisciplinary approach, with a common range of subjects, to all training - for employers, workers, safety representatives and preventive experts - helps to develop a broad preventive approach

Italy

- since the introduction of the Framework Directive training has become a basic feature and its effectiveness will be evaluated by social partners and monitored by the inspectorates

Luxembourg

- training is considered to be an essential basis of the “knowing how to, wanting to, and being able to do” approach

Netherlands

- training is increasingly being done at the workplace level. Often this is due to the efforts of prevention specialists

Portugal

- existing provisions for training are considered to be insufficient
- the most important issues are a greater participation by social partners in promoting training; a greater participation by universities in training; and greater commitment from IDICT in promoting training of safety specialists

Spain

Sweden

- training programmes have been subject to several evaluations

United Kingdom

- training is believed to be of great importance but so far there has not been a study to assess effectiveness. There are plans to undertake such a study in the future

7.2 Future role of training

Many Member States believe that training will become more important in the future. It is considered essential to focus more clearly on the different target groups.

In many Member States there are initiatives to make training or information about occupational safety and health issues a more integral part of vocational training, at school and universities. Furthermore, there are initiatives in several countries to develop courses for prevention specialists. Sometimes this is as a direct consequence of the implementation of the European Framework Directive.

In several countries current training methods are under revision. There are also initiatives to develop new ways of training: for example to take the training more to the workplace and tailor it to the needs of that workplace. In some cases a sector-oriented approach is being considered.

It is believed to be important to have a multidisciplinary approach to training for prevention specialists. There are also some developments regarding the possibilities of distance learning courses.

One reason for increasing efforts in the future as regards training is the steady increase of new work patterns (short contracts, flexible workers, etc.). Workers will become increasingly exposed to different and, for them, changing risks. In order to cope with this, special attention should be paid to the training of these categories of workers.

Increasingly attention is being paid to the training of those who influence workplace safety in the broadest sense - designers, architects, and technical students generally. This approach aims to ensure that health and safety is considered from the very outset of the design stage of workplaces and equipment.

What ideas exist regarding the future role of training?

Austria

- sometimes labour inspectors are involved in the training of safety experts and company doctors.
- in individual cases labour inspectors provide advice and information to companies, professional associations and representative bodies

Belgium

- training of prevention consultants:
  - training should be more multidisciplinary
  - retraining should be envisaged for those whose training under previous system no longer satisfies the requirements
- training of employees at the workplace: training will become more important as the labour market becomes increasingly flexible

Denmark

- the qualifications for members of safety groups/organisations are being reviewed. Training should perhaps be more module based and sector oriented
- aims include a more thorough training for students, integrating training in labour market training schemes, and special attention for technical, architectural and design schools

Finland

- a general trend is to take training to the workplace, tailoring it to the needs of a single workplace
- in the Centre for Industrial Safety and in the Institute of Occupational Health there is an increasing emphasis on the workplace

France

- in the future authorities will give priority to the protection of specific groups such as temporary workers by improving training provisions for this category
- there will also be special efforts to train construction site co-ordinators, prevention specialist and OSH trainers
- INRS is developing projects to integrate prevention training into basic vocational training and courses at engineering/architectural colleges

Germany

- OSH training must be an integral part of other training
- research should identify possible topics and new training concepts
- the contents and subjects of training courses for supervisory personnel and OSH experts are currently being revised
- training at workplace level has to be intensified, in particular with regard to the prevention of health hazards

Greece

- there will be a need for more training
- training will be undertaken by institutionalised bodies (Ministry of Labour, the Manpower Employment Organisation, universities, chambers of commerce)

Ireland

- a wider range of distance learning courses will be considered
- more sector oriented training
- more integration of safety

Italy

- training will continue to be an essential instrument. Training packages are developed for staff in preventive and protection services, workers safety representatives and first aid teams
- guidelines are drafted for the inclusion of training in public and private educational and vocational training programmes

Luxembourg

- systematic training will be institutionalised by means of regulations now being adopted
- training will become mandatory and of a high standard

Netherlands

- training will become increasingly important. Special attention will be given to training for members of works councils

Portugal

- training should hand-in-hand with new work forms and be integrated into vocational training
- OSH education should be included gradually in education and vocational training
- framework and support for training of specialists should be provided at European level

Spain

- objectives for the future are to devote attention to OSH in schools and start vocational degrees; to support training activities undertaken by social partners and autonomous communities; to set up specific courses in universities, and to support the training of vocational education teachers

Sweden

- training will be of increasing importance
- developments in working life require new forms of training
- not only prevention specialists have to be reached but also pupils and students
- more effort will be spent on evaluation

United Kingdom

- emphasis will continue to be on training as a component of competence. Support will continue to be given to the development of OSH competence in all vocational qualifications

8 RISKS

Regarding the question "To which areas of risk was particular attention paid during the last ten years, or are expected to be the subject of particular attention in the next 3-5 years?" Member States gave a wide range of answers. In order to make the information more accessible the different risks have been categorised into the following categories:

- Chemical agents
- Physical agents
- Biological agents
- Allergies
- Safety dangers
- Psycho-social dangers
- Ergonomic problems
- Organisational/managerial problems

If a specific risk is mentioned by a Member State it is mentioned as such and also assigned to its category. Sometimes a category as such is mentioned as a risk. The category is then mentioned as a specific risk and (like a normal risk) also counted at the level of the category. Risks mentioned less than twice in total (that is past and future together) are not included in the analysis.

Because the issue of future risks is still under consideration in Member States differences between attention paid in the past and attention to be paid in the future to a certain risk should be interpreted carefully. For further details about the priorities in individual Member States reference is made to Annex I.

8.1 Risks in the past

As can be seen in Table I nearly all Member States gave particular attention to risks in the areas of chemical agents, safety and physical agents. In the area of chemical agents the most prominent risk was asbestos. In the area of physical agents the most prominent risk was noise, while in the area of safety the most prominent risk dealt with was machine safety.

Somewhat less attention was given to the area of psycho-social issues and ergonomics. In these areas the main risks dealt with were stress at work and manual handling of loads/physical strains. Relatively speaking, less attention was given to organisational and managerial issues.

It should be mentioned that in some Member States a whole range of risks within a certain category was the focus of particular attention, while in others only a few were. More details regarding the priorities in the past in individual Member States can be found in Annex I.

Table I.

To which areas of risk was particular attention paid during the last ten years?

14 Chemical agents

- Asbestos
- Chemical agents (general)
- Lead
- Carcinogens
- Heavy metals
- Organic solvents
- Benzene
- Vinylchloride
- Pesticides
- Mineral fibres
- Dust
- Cytostatics

12 Physical agents

- Noise
- Ionising radiation
- Vibration
- Physical agents (general)
- Thermal stress
- EMF
- Indoor climate

7 Biological agents

13 Safety

- Machine safety
- Risk of falling
- Electrical risks
- Safety (general)
- Falling objects
- Traffic in the workplace
- Seveso-II/Major Hazards
- Fire risks
- Use of work equipment
- Trench collapse
- Explosions

10 Psycho-social

- Stress
- Psycho-social (general)
- Sexual harassment
- Burn-out
- Violence at work
- Psycho-social intimidation

11 Ergonomic risks

- Physical strain/manual handling
- Ergonomic risks (general)
- VDU
- Repetitive movements

6 Organisation/management

- New work patterns
- Time pressure
- Ageing workers
- Night work
- Economic incentives
- Small firms
- OSH organisation
- Quality management system
- Monotonous work
- Risk assessment

4 Allergies

- Allergies (general)
- Respiratory
- Skin

Key:

- = risks mentioned less than 4 times
- = risks mentioned 4-6 times
- = risks mentioned 7-9 times
- = risks mentioned more than 9 times
- = the number of Member States which paid particular attention to one or more risks in a certain category

8.2 Risks in the future

Most Member States foresee a continuing special interest in chemical agents and safety, but it appears that somewhat less attention will be paid to physical agents. It should be noted that within these categories there are some changes. Attention for asbestos seems to be declining, partly because the problems are being solved in many Member States, and probably also because the risks associated with asbestos are included under carcinogens. Less attention will be paid to the risk of noise; instead there will be an increase in the attention devoted to the possible risks associated with electromagnetic fields (EMF). Stress at work, as a specific element in the psycho-social area will continue to be one of the main risks. In the area of ergonomic risks it seems that there is an increased attention for repetitive movements.

A new development is the trend among European Member States to give much more attention to issues in the area of organisation and management. Especially risk assessment and the possible risks of new work patterns are issues that will have particular attention.

Table II.

Which risks are expected to be the subject of particular attention in the next 3-5 years?

14 Chemical agents

- Chemical agents (general)
- Carcinogens
- Asbestos
- Organic solvents
- Lead
- Heavy metals
- Benzene
- Vinylchloride
- Pesticides
- Mineral fibres
- Dust
- Cytostatics

10 Physical agents

- Noise
- EMF
- Vibration
- Physical agents (general)
- Thermal stress
- Ionising radiation
- Indoor climate

7 Biological agents

12 Safety

- Safety (general)
- Machine safety
- Risk of falling
- Falling objects
- Traffic in the workplace
- Seveso-II/Major Hazards
- Fire risks
- Electrical risks
- Use of work equipment
- Burial
- Explosions

11 Psycho-social

- Stress
- Psycho-social (general)
- Sexual harassment
- Burn-out
- Violence at work
- Psycho-social intimidation

9 Ergonomic risks

- Physical strain/manual handling
- Repetitive movements
- Ergonomic risks (general)
- VDU

11 Organisation/management

- New work patterns
- Time pressure
- Ageing workers
- Night work
- Economic incentives
- Small firms
- OSH organisation
- Quality management system
- Monotonous work
- Risk assessment

4 Allergies

- Allergies (general)
- Respiratory
- Skin

Key:

- = risks mentioned less than 4 times
- = risks mentioned 4-6 times
- = risks mentioned 7-9 times
- = risks mentioned more than 9 times
- = the number of Member States which paid particular attention to one or more risks in a certain category

9 CATEGORIES OF WORKERS

To the question “Which categories of workers have in the last ten years been the subject of particular attention, or are expected to be subject of particular attention in the next three to five years?” Member States indicated their priorities. These can be divided into three main categories.

The first type refers to inherent characteristics of the workers themselves; the second can be referred to as atypical workers, and the third category are the self-employed.

9.1 Categories in the past

As can be concluded from Table III there are some groups such as young workers, pregnant workers, ageing workers and disabled/chronically ill workers, that had special attention in the past ten years. It seems that especially young workers were the most important group in the past.

Further particular attention was paid to atypical workers and self-employed.

Table III.

Which categories of workers have, in the last ten years, been the subject of particular attention?

4	**Pregnant workers**
8	**Young workers**
3	**Disabled/chronically ill workers**
3	**Ageing workers**
1	**Apprentices/trainees**
1	**Female workers**
1	**Immigrants/non-native speakers**
1	**Future parents**
5	**Atypical work**
0	Flexi-workers
1	Teleworkers
2	Homeworkers
0	Part-time workers
2	Temporary workers
1	Contractors
3	**Self-employed**

9.2 Categories in the future

For the future, that is the next three to five years, it is foreseen that especially young workers, pregnant workers, ageing workers, and (vocational) trainees will have special attention.

A key point to note is that, as the working population in Europe ages, there is a substantial increase in the importance given to ageing workers. Nonetheless, it should be stressed that in the past as well as for the future the most important group of workers to protect are young employees.

The second category distinguished by the replies of the Member States refers to the relationship of workers with their employer. This category can be referred to as atypical workers.

Over recent decades the traditional work pattern of having a relatively stable and full- time job at the employer's workplace (office or factory) has changed drastically. An increasing part of the working population is now working part-time or with flexible hours. Further they often have temporary contracts. Lastly they do not always work at an office or factory, but often they work at home making use of new technology.

From Table IV it can be concluded that from the point of view of occupational safety and health there is increased attention in the European Member States for this category of workers.

Many Member States find that the category of self-employed should have increased attention in the future. This is often because the status of being self-employed is not always voluntary and is often used by an employer as a means of avoiding social responsibility.

Table IV.

Which categories of workers are expected to be the subject of particular attention in the next three to five years?

3	**Pregnant workers**
7	**Young workers**
2	**Disabled/chronically ill workers**
6	**Ageing workers**
4	**Apprentices/trainees**
1	**Female workers**
2	**Immigrants/non-native speakers**
0	**Future parents**
7	**Atypical work**
4	Teleworkers
1	Flexi-workers
1	Homeworkers
1	Part-time workers
3	Temporary workers
1	Contractors
8	**Self-employed**

10. SECTORS

Member States gave information about which sectors of the economy had particular attention in the last ten years or are expected to be the subject of particular attention in the next 3-5 years. To make the information more accessible the different risks have been categorised following the definition of the Standard Industrial Classification (SIC, 1992). If a specific sector is mentioned by a Member State it is mentioned as such and also assigned to its category. Sometimes a category as such is mentioned as a sector. The category is then mentioned as a specific sector and also counted at the level of the category.

Because the issue of future risk sectors is still under consideration in Member States differences between attention paid in the past and attention to be paid in the future to a certain sector should be interpreted carefully. For further details about the priorities in individual Member States reference is made to Annex III.

10.1 Sectors in the past

From Table V it can be seen that agriculture and related sectors, the chemical sector, the metal sector and the construction industry have received particular attention over the last ten years. Examples of specific sectors within these groups are agriculture as such, mining, the food industry, the wood industry, the chemical industry, rubber and plastics, waste recycling, metallurgy, construction, garages and hospitals.

Table V.

Which sectors have in the last ten years been the subject of particular attention?

10 Agriculture & related sectors
- Agriculture
- Fishery
- Forestry

5 Energy
- Mining
- Quarrying
- Nuclear energy sector
- Gas
- Offshore oil /gas

8 Manufacturing
- Wood industry
- Food industry
- Textile
- Meat industry
- Canning
- Leather industries
- Paper & board industry

11 Chemical sector
- Chemical industry
- Printing
- Rubber & plastic
- Waste recycling industry
- Major Hazards sector
- Explosives factories

12 Metal sector
- Metallurgy
- Mech.engineering industry
- Shipyards/docks
- Metal products
- Machine industry

15 Construction

7 Commerce/transport/service sector
- Transport
- Railways
- Ports
- Telecommunications
- Financial sector
- Hotel/restaurant/leisure

7 Maintenance sector
- Garage
- Dry cleaning
- Cleaning services
- Hairdressers

9 Education/health/public sector
- Hospitals and health centres
- Education
- Laboratories
- Public sector/administration
- Fire brigades

Key:
- = sectors mentioned less than 4 times
- = sectors mentioned 4-6 times
- = sectors mentioned 7-9 times
- = sectors mentioned more than 9 times
- = the number of Member States which paid particular attention to one or more sectors in a certain category

10.2 Sectors in the future

Table VI also indicates which categories of sectors are expected to be the subject of attention in the years ahead. These are construction, the commercial/transport/service sector, and education, health and the public sector. Within these clusters specific sectors can be identified that will receive most attention. These are construction as such, transport and hospitals.

It is important that the “decrease” in attention paid to those sectors with mainly safety-related problems (excluding construction) should be noted. It seems that sectors with more health-related and social problems are less affected. Finally, it must be stressed that the construction industry was the sector which received most attention in the past in the European Member States and, even more importantly, that it will also be the sector which will receive most in the future.

Table VI.

Which sectors are expected to be the subject of particular attention in the next 3-5 years?

5 Agriculture & related sectors
- Agriculture
- Fishery
- Forestry

4 Energy
- Mining
- Quarrying
- Nuclear energy sector
- Gas
- Offshore oil /gas

5 Manufacturing
- Food industry
- Meat industry
- Canning
- Wood industry
- Textile
- Leather industries
- Paper & board industry

6 Chemical sector
- Waste recycling industry
- Printing
- Chemical industry
- Rubber & plastic
- Major Hazards sector
- Explosives factories

5 Metal sector
- Metallurgy
- Metal products
- Machine industry
- Mech.engineering industry
- Shipyards/docks

11 Construction

8 Commerce/transport/service sector
- Transport
- Railways
- Ports
- Telecommunications
- Financial sector
- Hotel/restaurant/leisure

4 Maintenance sector
- Garage
- Dry cleaning
- Cleaning services
- Hairdressers

7 Education/health/public sector
- Hospitals and health centres
- Education
- Laboratories
- Public sector/administration
- Fire brigades

Key:
- = sectors mentioned less than 4 times
- = sectors mentioned 4-6 times
- = sectors mentioned 7-9 times
- = sectors mentioned more than 9 times
- = the number of Member States which paid particular attention to one or more sectors in a certain category

11

RESEARCH PRIORITIES

Member States gave information about "What have been the major research topics in the last ten years, or what will be the major research topics in the next 3-5 years?" In order to make the information more accessible the different topics have sometimes been categorised.

If a specific topic is mentioned by a Member State it is mentioned as such and if appropriate assigned to its category. Sometimes a category as such is mentioned as a topic. The category is then mentioned as a specific topic and also counted at the level of the category. Topics mentioned less than twice are not included in the analysis.

Because the issue of future research is still under consideration in Member States differences between attention paid in the past and attention to be paid in the future to a certain topic should be interpreted carefully. For further details about the priorities in individual Member States reference is made to Annex IV.

11.1 Research priorities in the past

From Table VII it can be concluded that chemical agents have had the highest priority in the European Member States. In some Member States attention was devoted to only one or a few chemical agents; in others a wide range of chemical substances have been the subject of research. The effects of physical agents (noise and vibration) have also had high priority in the Member States, as have a variety of general safety issues, specific sectors of economy, and the development of methodologies that support occupational safety and health policy.

Less attention was paid to psycho-social issues, ergonomics, and organisational aspects of occupational safety and health.

Table VII.

What have been the major research topics in the last ten years?

12 Chemical agents
- Chemical agents (general)
- Carcinogens
- Neurotoxic substances/organic solvents
- Dust

8 Physical Agents
- Physical agents (general)
- Noise
- EMF
- Vibration
- Indoor climate

3 Biological Agents

1 Allergies

3 Epidemiology

2 Occupational health

2 Waste handling

8 Safety
- Safety (general)
- Prevention of accidents
- Machine safety
- Seveso-II/Major Hazards

5 Psycho-social
- Stress
- Psycho-social (general)

6 Ergonomics
- Ergonomics (general)
- Repetitive movement
- Physical strain/manual handling

4 Organisation
- New work patterns
- Ageing Workers
- Innovation in work
- Learning & skills development
- Health risks of new technologies

7 Sector research
- Sector research (general)
- Agriculture
- Garages
- Off-shore
- Railways
- Service sector

8 Methodology
- Methodology (general)
- Cost-benefits
- Risk assessment
- Methodology (assessing pollution)
- Analytical methods (health monitoring)
- Multiple factors

3 Statistics
- Statistics(general)
- Collection of statistics data
- Monitoring
- Workforce surveys

0 Effectiveness studies

3 Human factors

1 Management of OSH

1 OSH services

Key:
- = major research topics mentioned less than 4 times
- = major research topics mentioned 4-6 times
- = major research topics mentioned 7-9 times
- = major research topics mentioned more than 9 times
- = the number of Member States which paid particular attention to one or more major research topics in a certain category

11.2 Research priorities for the future

The replies from the Member States also provide information about the subjects for research in the future. They prove to be somewhat different from those in the past. There will still be continuing attention for chemical agents, especially carcinogens. It can also be concluded from Table VIII, however, that psycho-social issues (mainly stress at work) and methodological issues (for example risk assessment and cost-benefit analysis) have almost the same priority.

Relatively speaking, less attention will be paid to physical agents, safety issues, and sector research. Finally, the consequences of the introduction of new work patterns will be an important subject for research in the future.

Table VIII.

What will be the major research topics in the next 3-5 years?

11 Chemical agents
- Chemical agents (general)
- Carcinogens
- Neurotoxic substances/organic solvents
- Dust

6 Physical Agents
- Physical agents (general)
- Noise
- EMF
- Vibration
- Indoor climate

3 Biological Agents

1 Allergies

2 Epidemiology

2 Occupational health

1 Waste handling

6 Safety
- Safety (general)
- Prevention of accidents
- Machine safety
- Seveso-II/Major Hazards

9 Psycho-social
- Stress
- Psycho-social (general)

5 Ergonomics
- Ergonomics (general)
- Repetitive movement
- Physical strain/manual handling

7 Organisation
- New work patterns
- Ageing Workers
- Innovation in work
- Learning & skills development
- Health risks of new technologies

4 Sector Research
- Sector research (general)
- Agriculture
- Garages
- Off-shore
- Railways
- Service sector

10 Methodology
- Methodology (general)
- Cost-benefits
- Risk assessment
- Methodology (assessing pollution)
- Analytical methods (health monitoring)
- Multiple factors

3 Statistics
- Statistics(general)
- Collection of statistical data
- Monitoring
- Workforce surveys

4 Effectiveness studies

2 Human factors

1 Management of OSH

2 OSH services

Key:
- = major research topics mentioned less than 4 times
- = major research topics mentioned 4-6 times
- = major research topics mentioned 7-9 times
- = major research topics mentioned more than 9 times
- = the number of Member States which paid particular attention to one or more major research topics in a certain category

12

OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT

The management of occupational safety and health has been a dynamic area in recent years. In the beginning attention for occupational safety and health was more oriented towards reducing the effects of specific hazards in the workplace, as indicated by the incidence of occupational accidents and diseases, for example. This changed radically in the eighties when the concept of prevention became more important. Several main issues can be identified.

The first is that, due to the requirements of the European Framework Directive, companies have to have available the results of a risk assessment; many European countries have introduced initiatives to facilitate this process. Many authorities and sector organisations are investing a great deal of effort in the development of practical risk assessment methods.

The second issue is that the mere fact of having a risk assessment available in companies on such a large scale raises the question of whether and how this could be used for other purposes. The information contained in risk assessments could be a valuable tool for the work of enforcement organisations especially. In some countries it is believed that if a company sets up a proper risk assessment system and a plan for improvement this is a reason to adapt the way resources from the enforcement authorities are allocated (for example more selective inspections).

The third issue is very closely related to this and is also stressed by the European Framework Directive: access to competent external support. Substantial efforts are being made by authorities in European Member States to define this concept in more operational terms. A very important question is what expertise should exist inside the company, embodied by the designated worker, and what expertise should be available from an external Occupational Safety and Health Service. Many Member States expect that there will be a clear increase in the number of external services.

Linked to this is the question of whether external services should be subject to requirements imposed by the authorities, and what this might involve. The organisation of prevention services gives rise to a number of problems. For example, some countries have a shortage of experts in prevention or feel the need to monitor the effectiveness of preventive services

A last issue is that there seems to be a trend in various Member States towards companies trying to integrate their occupational safety and health management with other management responsibilities (for example quality control and environmental issues).

Current issues and changes in Occupational Safety and Health Management at the company level

Austria

- development and application of practical risk assessment, especially for SMEs and specific sectors
- the increasing importance of preventive services
- at the moment there is discussion about the requirements for expertise and organisation in multi-disciplinary services

Belgium

- integration of OSH in all company operations/functions
- development of methods for risk assessment in SMEs
- use of ISO 9000 as a basis for improvement of OSH
- reorganisation of prevention services stressing multidisciplinary, internal prevention services and complementary external prevention service
- cost/benefit of OSH management

Denmark

- the most important issue is the workplace risk assessment
- the inspectorate is studying how this instrument can also be used as a tool in the daily work of inspection; it also encourages the development of working environment sector guides
- the possibility of extending the coverage of workers by the OSH services is being discussed

Finland

- the introduction/use of systematic methods for risk assessment
- integration of OSH in other company operations/functions
- how employers can organise access to "competent help" for prevention

France

- the obligation to have available a risk assessment and evaluation has implications for everyone at workplace level
- management at company level must be convinced that there is an interrelationship between OSH management and the quality of products and productivity

Germany

- development of practical risk assessment methods
- integrated or independent OSH management systems
- risk assessment as a potential instrument for the inspectorate
- definition of necessary expertise in prevention services
- in the future more external, and multidisciplinary services

Greece

- issues are (1) risk assessment, (2) provision of protection services, and (3) the incorporation of OSH as a factor in company management
- systematic formulation of criteria for controlling effectiveness of protection and prevention services
- introduction of multi-disciplinary services that provide competent support instead of individual safety technicians or occupational doctors

Ireland

- all aspects of risk assessment
- closer integration of health and safety management into general management

Italy

- application risk assessment and planning of preventive action
- how employers can organise access to "competent help" for prevention
- integration of OSH in other company operations/functions
- change from a conflict culture to a culture of cooperation

Luxembourg

- numerous 'designated workers' are appointed; nonetheless the management of OSH in the workplace is often unsatisfactory
- a tendency to integrate OSH with product quality and client satisfaction; there is also a link with absenteeism
- issues that remain to be clarified are the liability of the employer and delegation to the 'designated worker' or construction site worker

Netherlands

- application of risk assessment and planning of preventive action
- the selection of OSH services
- reintegration at work of disabled workers and the role of OSH services in that area

Portugal

- current issues at company level are mainly risk assessment, appointment of specialists/use of external services
- introduction of simplified system for prevention services focusing on SMEs without special risks
- problems arise due to lack of prevention specialists and insufficient guarantees that prevention services ensure a multi-disciplinary approach

Spain

- availability/application of methodology for assessing risks and planning preventive action
- whether to organise an internal or external preventive service
- training of 'designated workers' and staff in preventive service

Sweden

- cooperation with employees and their representatives
- risk assessment
- integration of occupational safety and health with quality assurance and environmental issues by means of internal audits

United Kingdom

- principles of quality management are increasingly being applied to OSH management, and specific guidance standards have been developed, but certified standards are not favoured
- existing management regulations are being evaluated to assess awareness, impact, costs and benefits

13. OTHER DEVELOPMENTS REGARDING FUTURE OSH STRATEGIES

Member States also suggested a wide variety of possibilities for future strategies beyond those described in earlier sections of this report. Sometimes these ideas were related to previous issues; sometimes they were completely new.

One example is that in several countries there seems to be a preoccupation with how to deal with occupational safety and health as the development of technology speeds up. Some Member States are investing in national institutions in order to have sufficient technological knowledge available (e.g. laboratories).

In the context of financial incentives, some Member States pointed out that the economic appraisal of occupational safety and health will become more important in the future. This could be achieved by such measures as the increased use of the social insurance system in order to encourage enterprises to improve their working environment.

Member States often mentioned increased attention for the quality of occupational safety and health legislation.

Many countries feel it is important to evaluate existing regulations and make them more coherent. Some countries have done a lot of work in these areas and others plan to tackle them in the future. There also seems to be a desire to reform existing legislation so that it becomes more goal-setting. In connection with this, Member States identified a need for the coordination of occupational safety and health regulations with other areas of policy.

It also seems that some Member States expect that in the future they will have to focus less on the traditional aspects of safety and health at work, and more on social aspects such as stress or violence at work, etc.

Finally, a number of Member States pointed out that an appropriate monitoring system needed to be developed which would be able to pick up the first signs of new problems concerning working conditions at an early stage.

What other relevant developments regarding future strategies for occupational safety and health in the next three to five years can be identified?

Austria

- increasing importance of OSH management at company level
- the increased responsibility of companies should be monitored

Belgium

- increasing importance of prevention services
- specific attention for SMEs
- integration of OSH policy in general policies at company level
- regulation will be more target-oriented and indicative guidelines will be used for technical details

Denmark

- strengthen the interplay between insurance system and other occupational health and safety policies. To be supplemented by a financial incentive scheme in order to stimulate the efforts of enterprises to improve their working environment beyond what is equired by law

Finland

France

- there is a need to improve the coherence in existing regulations and initiatives undertaken by prevention organisations and social partners
- there is a need to evaluate the regulations and actions, and to develop cooperation and coordination of relevant social partners in order to rationalise work in occupational risk prevention

Germany

- the economic appraisal of occupational health and safety will be more important

Greece

- strengthening the role of education and information provision
- effective and low-cost access to national and European information sources
- incorporation of OSH matters into atypical forms of work

Ireland

- increased focus on psycho-social and health issues such as stress at work

Italy

- include health promotion in educational programmes
- to provide a model for integrated OSH policy in the enterprise
- guidelines for managing OSH in companies, particularly in SMEs
- make information systems available for SMEs
- study the effects of exposure to harmful substances at low concentrations

Luxembourg

- Internet/Intranet will be used for:
  - participation in European Industrial Relations Observatory project
  - project INFO-INDUST
  - participation in projects of the European Agency
  - Safety and Health Code project

Netherlands

- special attention for promoting OSH management in SMEs
- further development of a monitoring system for working environment
- coordination of OSH regulations with other areas
- cost-benefits analysis

Portugal

- in cooperation with social partners, draw up new legislative frameworks covering new work forms
- prepare technical support instruments for promoting organisation and management of prevention in companies

Spain

- improvement of technical knowledge and introduction of specialised INSHT laboratories in order to comply with European directives
- emergence of risks associated with new technologies; attention to ergonomics and stress at work
- cooperation on OSH with the Autonomous Communities to achieve efficiency in the use of resources

Sweden

United Kingdom

- increased interest in psycho-social and life-style issues, for example stress at work
- increased rate of technological development, with new products reaching the market more quickly

14. MAJOR DEVELOPMENTS ON THE LABOUR MARKET

A considerable number of fundamental developments are currently taking place in the labour market and it is possible that they will make themselves felt to an even greater extent in the future.

Firstly, a number of demographic changes are occurring. The increase in the number of older people in society, and therefore at work, is particularly clear. The big problem is how to ensure ageing employees do not leave their jobs because they feel they cannot cope with their work. If an increasing number do leave employment and rely on social provisions, it increases the pressure on these provisions.

Secondly, there are a number of trends which can collectively be described as "flexibilisation". These include the increasing use of temporary contracts, employment agency staff and "international" workers. It is obvious that these changes can have a number of advantages for companies. Nonetheless, it must also be acknowledged that these flexible workers are vulnerable; they change their jobs frequently, as a result of which they are constantly exposed to new (and, to them, maybe unknown) risks.

Thirdly, qualitative changes are taking place in the labour market. For example:

- there is an increase in the number of people working in the service sector. From the point of view of working conditions, this raises the question of whether this is a risk sector, and if it is - what the consequences will be for inspectorates concerned with ensuring compliance with the relevant regulations;
- there is an increase in the number of people working with flexible production technologies. Clearly, it is of major importance that workers in such an environment continually receive appropriate training;
- it can also be pointed out that people are becoming increasingly well-informed about the risks and potential risks associated with their work or at least about how to obtain such information. This is a clear sign of the emerging "information society".

Some of these developments obviously have implications for the way in which Member States can develop policy on working conditions. The emergence of new forms of work is a challenge for traditional working conditions instruments such as legislation and enforcement. Clearly, such developments put the authorities' ingenuity in formulating suitable employment conditions policies to the test.

Finally, a number of Member States believe that there are sufficient grounds for conducting a thorough analysis of all relevant and potential developments on the labour market which could affect policy aimed at ensuring health and safety in the workplace, taking into account not only developments themselves but also practical experience of the developments and application of policy instruments, new and old.

Which major developments are expected regarding the labour market in the future?

Austria

- as a consequence of technological development new hazardous work activities can occur such as waste handling or working with new technology

Belgium

- ageing workers
- temporary staff
- self-employed and subcontractors
- flexi-workers
- teleworking

Denmark

- growth sectors use more complicated (information) technology
- increase of psycho-social risks as a consequence of shift/telework, time pressure, and mentally demanding monitoring work
- ageing workforce
- more attention to human resources at enterprise level

Finland

- ageing workers
- the information society is changing working life
- telework
- new working time arrangements

France

- teleworking
- information society
- development in production systems and the use of new technology
- change of workers' characteristics (age, qualifications, etc.)

Germany

- increase of telework and people "claiming" to be self-employed as a consequence of changing production technology
- change to service society
- lifelong education
- flexible working hours
- internationalisation of labour market
- increase in part-time work, elderly employees, and temporary workers

Greece

- changes in production, technology and organisation of work will lead to important changes in OSH as well as to an increase in psychological and other problems
- these changes will probably make it necessary to adapt legislation and the methods and techniques for monitoring working conditions and for providing information

Ireland

- more teleworking
- more use of electronic simulators and conferencing
- humanisation of the workplace

Italy

- more use of computer technology
- more flexibility on the labour market as a consequence of the use of computer technology
- dynamism in planning work organisation (ergonomically and human-oriented)
- growing service sector

Luxembourg

- the developments in the future of concepts of work, companies, and products will be so fast that the traditional concepts used by public administrations will become obsolete very soon

Netherlands

- more telework
- increase in flexible working arrangements
- increase in Part-time work
- consequences related to the introduction of technological innovations

Portugal

- less work in industry/agriculture and more in tertiary sector
- more need for continuous training due to new information and communication technology
- it is necessary to deal with the OSH consequences of new work forms

Spain

- in all the stages of the production process information technology will be used
- more elderly employees and female workers
- people "claiming" to be self-employed
- growing service sector

Sweden

- fewer industrial jobs, more jobs in the service sector
- a growing proportion of the workforce will work in SMEs, partly due to the decentralisation of the public sector
- new hiring and working procedures will be developed
- working life will demand new skills and continuous development of competence
- more elderly workers

United Kingdom

- demographic changes in the workforce
- increasing synergy between OSH and environment
- globalisation of markets
- teleworking and homeworking

15. INITIATIVES AT EUROPEAN LEVEL TO SUPPORT MEMBER STATES

Member States were asked in a very open way for their ideas about which activities could be undertaken at a European level. A wide variety of answers was received.

Member States mentioned that there is an obvious need for an exchange of information and experiences between Member States about mutual occupational safety and health issues, or their experiences with inspection activities.

Also related to the importance of the exchange of information is the view of some Member States that proposals for programmes such as SAFE would have added value if positive experiences could be shared with other Member States. Under these circumstances this sort of programme could be undertaken. In the same context of the exchange of information, the implementation of comparative studies is a suggestion. Some particular areas were mentioned such as the comparison of inspection procedures and their effectiveness, effectiveness of directives and enforcement in the different Member States.

It was also suggested that there could be some sort of coordination in the area of occupational safety and health research in order to avoid unnecessary action and establish joint actions. Various Member States pointed out that there is a need to join forces in the specific area of cost benefits analyses, and that some sort of concerted action could be organised.

It was similarly suggested that there be joint action to draw up guidelines or systems for guidelines (e.g. for risk-assessment), checklists for specific professions/sectors, or other practical instruments. Special attention should then be given to SMEs.

It was suggested that it would be of value to all Member States to undertake a common, thorough analysis of all the new work patterns (part-time, semi-self employed, teleworking, flexible contracts, etc.) that have appeared in recent years. The focus would be especially on the potential consequences for occupational safety and health and the experience gained with measures already undertaken by the Member States.

Finally there were some other suggestions such as:

– setting of a database on machine emissions;
– and a periodic survey of occupational safety and health risks in the Member States.

What kind of initiatives should be initiated at the European level in order to support Member States in their strategy?

Austria

- organise sector-specific initiatives and information support
- support of cooperation between Member States; especially exchange of information
- activate research into new areas
- the establishment of a set of practical guidelines
- project on waste handling
- risk assessment methods in SMEs
- multiple exposure

Belgium

- research into the effectiveness and efficiency of directives and enforcement
- development of checklist for specific professions
- development of specific instruments for SMEs
- the exchange of information between Member States
- establishment of a set of indicative guidelines

Denmark

Finland

- exchange of information about OSH policies in the Member states
- comparative studies on effective measures
- exchange of information about inspection procedures

France

- it would be desirable to adopt programmes such as SAFE. This kind of programme could support actions in the Member States and positive experiences could be shared with other Member States

Germany

- exchange of relevant information and experiences between Member States
- exchange of data between inspectorates of the Member States
- setting up a database on machine emissions
- coordination of national, European and international research
- concerted action on cost-benefit analyses of occupational health and safety

Greece

- action by the institutions of the Union to promote issues and stimulate greater awareness
- cooperation in the area of research in order to use resources more efficiently
- set common priorities for research by targeting topics or sectors
- initiatives for non-legislative measures which are easy to access

Ireland

- better co-ordination & planning of European activities to link with national activities
- European actions should define outcomes and not methodologies
- promotion of better contacts/links between health and safety people and areas of interest
- more focused and relevant meetings/seminars/discussions - with better continuity and avoiding duplication

Italy

- uniform models of intervention (inspection, assistance)
- avoid overlap in research
- guidelines for risk assessment and technical measures for protection
- development of a more effective information process for legislators at European level
- involvement of social partners to give support to research
- development of a system for retrieval of information between Member States (including SMEs)

Luxembourg

- enforce the correct implementation of European directives
- cost-benefits analysis of preventive policy
- encouraging the use of safety checks by companies themselves
- the introduction at European level of a programme like SAFE

Netherlands

- a periodic survey providing comparable data on the development of occupational risks in the Member States

Portugal

- exchange of information and experiences
- drawing up practical handbooks for the implementation of directives
- organise meetings/seminars on priority topics
- promotion of Europe-wide initiatives or campaigns in specific sectors

Spain

- promote and facilitate the exchange of information and experience among EU Member States and other countries and institutions

Sweden

- detailed regulation in occupational safety and health legislation should be reduced
- better coordination between OSH policy and other areas

United Kingdom

- an authoritative analysis of new patterns of work and how these affect health and safety
- account to be taken of this analysis in the future priorities for the European Commission
- developing exchange of information and experience between Member States

16

CONCLUSIONS

1. It is believed in the Member States that legislation has been an important tool for improving safety and health at work, although it has been difficult to assess its precise impact.

2. It is also believed in the Member States that legislation will in the future continue to be an important tool for improving safety and health at work.

3. In many Member States there is concern about the quality of legislation. Member Sates see a need to rescind obsolete provisions, update legislation, and take out many of the technical details in order to maintain and improve the effectiveness of legislation. Some Member States have already undertaken steps at national level to improve it, others are considering the possibilities.

4. Member States stressed that particular attention should be paid to the way in which legislation is implemented in the workplace. It was stressed that it is important for employers and employees to have sufficient scope to take measures which suit their particular practice.

5. Several Member States felt there is a need to establish better instruments that can assess the effectiveness of legislation in an appropriate manner.

6. Some Member States stressed that proposals for new legislation should be accompanied by thorough impact studies.

7. In many Member States considerable effort goes into setting up, maintaining and updating the practical guidelines that make the legal requirements more accessible.

8. It is believed in Member States that inspection/enforcement has been an important tool for improving safety and health at work, although it has been difficult to assess its precise impact.

9. Many Member States have experience of using a sector-oriented approach. The impression is that setting priorities in this way can be particularly effective.

10. Inspection and enforcement will be more concentrated on high risk areas.

11. The role of inspection/ enforcement in the future might be influenced by an increase in the number of experts working in the field outside the inspectorates; and by the increasing focus on enterprises' own responsibility, as regards risk-assessment, for example.

12. Many Member States have had positive experiences with the use of campaigns. This instrument will therefore continue to be used in the future too.

13. Member States considered it important that social partners should be more involved; either by organising campaigns themselves or in co-operation with authorities.

14. In most Member States financial incentive systems are used to improve occupational safety and health. Many Member States share the belief that financial incentives can be a useful method in motivating individual companies to work on the improvement of occupational safety and health.

15. Most Member States have a positive attitude towards the use of certification. Some stress that it does not always provide sufficient guarantees of the level of safety, or that it should be used only when there are high risks involved. In other Member States there is an active policy to encourage the private sector to set up voluntary certification schemes in a variety of fields.

16. Many Member States indicate that the effects of training itself in the workplace are difficult to evaluate. So far little research has been done in this area. However there is some indirect evidence that training is a very important and effective tool for prevention.

17. Many Member States also believe that training will become more important in the future.

18. Many European Member States paid particular attention to risks in the areas of chemical agents, physical agents and safety. In the area of chemical agents the most prominent risk to be dealt with was asbestos. In the area of physical agents it was noise, while in the area of safety it was machine safety. There has also been considerable attention for physical strain/manual handling.

19. The risk categories that are considered to be most important for the future are: chemical agents (especially carcinogens), safety, and the psycho-social area (especially stress at work). A new development is that European Member States are paying more attention to issues in the area of organisation and management; for example the development of risk assessment and the analysis of possible risks involved in new work patterns.

20. Young workers as a specific category have had special attention in the past. It is expected that particular attention will be paid to young workers and ageing workers in the years ahead. Atypical work (homework, telework, etc.) will also receive increased attention in the European Member States. Another category of workers that will have more attention in the future are the self-employed.

21. Agriculture and related sectors, the chemical sector, the metal sector and construction have all received particular attention over the last ten years in the Member States. The sectors that will receive attention in the future are again construction, the commercial/transport/service sector, and education, health (especially hospitals) and the public sector.

22. Research on chemical agents had the highest priority in the European Member States. In some Member States attention was devoted to only one or a few chemical agents; in others a wide range of chemical substances have been the subject of research.

23. The subjects for future research in the Member States seem to be somewhat different from those in the past. There will still be continuing attention for chemical substances, especially carcinogens. Psychosocial issues (mainly stress at work) and methodological issues (for example risk assessment and cost-benefit analysis) have almost the same priority, however. Finally, the consequences of the introduction of new work patterns will also be an important subject for research in the future.

24. Many Member States feel there is a need to develop risk assessment methods, adapted to the particular characteristics of the sector or size of the company.

25. Many countries are discussing the development of criteria on which the accreditation of external prevention services could be based. Particular attention is also being paid to the question of how such services can provide appropriate support for small and medium-sized enterprises.

26. The economic appraisal of occupational safety and health is expected by the Member States to become more important in the future. Some sort of concerted action in order to improve knowledge in this area is suggested by various countries.

27. Several Member States feel the need for a thorough analysis of developments surrounding new work patterns, as well as experiences of dealing with them from the point of view of improving occupational safety and health.

28. Member States stressed the need for exchanges of information and experiences between Member States about mutual occupational safety and health issues.

29. Some Member States find that proposals for programmes such as SAFE would have added value if positive experiences could be shared with other Member States.

30. It was also suggested by some Member States that there could be some sort of coordination in the area of occupational safety and health research in order to avoid unnecessary action and establish joint actions.

31. Similarly, it was suggested that there be joint action to draw up guidelines or systems for guidelines (e.g. for risk-assessment), checklists for specific professions/sector, or other practical instruments. Special attention should then be given to SMEs.

32. A number of Member States stress that there is a need to develop an appropriate monitoring system for occupational safety and health which is able to pick up the first signs of new problems.

Annex I. RISKS (CHAPTER 8)

Question

To which areas of risk was particular attention paid during the last ten years?

Question

Which risks are expected to be the subject of particular attention in the next three to five years?

RISKS (CHAPTER 8)

● ● = Past ● = Future

14	14	**Chemical agents**	AU	BE	DK	FI	FR	DE	GR	IR	IT	LUX	NL	PO	SP	SW	UK
6	7	Chemical agents (general)		● ●		●	● ●		● ●	●			● ●		●	●	●
4	1	Lead		●					●					●	● ●		
12	5	Asbestos	●	●	●		●	● ●	● ●	●	●	● ●	●	●	● ●		●
4	7	Carcinogens		● ●	● ●			● ●	●		●			●	●	●	
1	1	Heavy metals		●	●												
3	4	Organic solvents		●	● ●								● ●	●		●	
2	1	Benzene							●						● ●		
2	1	Vinylchloride												●	● ●		
3	2	Pesticides	●											● ●	● ●		
1	2	Mineral fibres						● ●							●		
2	2	Dust	●					● ●							●		
1	1	Cytostatics	● ●														
12	**10**	**Physical agents**															
0	2	Physical agents (general)				●	●										
11	5	Noise	●	●	● ●	●		● ●	●	●			●	● ●	● ●	● ●	
2	1	Thermal stress		●				●						●			
5	0	Ionising radiation		●			●	●						●	●		
3	5	EMF		●				● ●	●		●				●	● ●	
4	5	Vibration		●	●			● ●		●					● ●	● ●	
1	2	Indoor climate			●			● ●									
7	**7**	**Biological agents**	● ●	●		●	●	● ●	●	●		●	●	●		●	●
13	**12**	**Safety**															
3	4	Safety (general)			● ●	●			● ●							● ●	
8	5	Machine safety	●			●	●	● ●	● ●		●	●	●	●	● ●		
5	4	Risk of falling		● ●			●	● ●		●		●		●	●		
1	1	Falling objects		● ●													
2	2	Traffic at the workplace				●		● ●		●							
3	3	Seveso-II/Major Hazards							● ●			● ●	●				●
0	2	Fire risk									●	●					
4	1	Electrical risks	●					●						●	● ●		

●	●	● = Past ● = Future	AU	BE	DK	FI	FR	DE	GR	IR	IT	LUX	NL	PO	SP	SW	UK
1	1	Use of work equipment					●							●			
1	1	Trench collapse												● ●			
1	2	Explosions						● ●							●		
10	**11**	**Psycho-social**															
0	1	Psycho-social (general)			●												
3	0	Sexual harassment		●							●		●				
9	9	Stress	●	● ●		● ●	●	● ●		●	●		● ●	●	●	● ●	● ●
0	2	Burn-out		●							●						
2	2	Violence at work								● ●			●				●
2	0	Psycho-social intimidation	●													●	
11	**9**	**Ergonomic risks**															
1	0	Ergonomics(general)										●					
3	3	VDU		●	● ●							●				● ●	
3	6	Repetitive movements		● ●	● ●		●				●		●			● ●	
11	7	Physical strain/manual handling	●	● ●	● ●	●	●	● ●	●		●	●	● ●		●	● ●	●
6	**11**	**Organisation/management**															
2	5	New work patterns		●				● ●	●	●						● ●	
0	2	Time pressure		●				●									
1	3	Ageing workers				● ●	●	●									
1	1	Night work			●			●									
1	2	Economic incentives				● ●											●
1	2	Small firms				● ●											●
2	2	OSH organisation			●	● ●		●									
0	2	Quality management system				●		●									
1	2	Monotonous work			● ●			●									
1	3	Risk assessment					●	●	●			●					
4	**4**	**Allergies**															
1	3	Allergies (general)				●		● ●								●	
1	1	Respiratory			●								●				
3	1	Skin			●								● ●			●	

Annex II. CATEGORIES OF WORKERS (CHAPTER 9)

Question

Which categories of workers have, in the last ten years, been the subject of particular attention?

Question

Which categories of workers are expected to be the subject of particular attention in the next three to five years?

CATEGORIES OF WORKERS (CHAPTER 9).

●	●	● = Past ● = Future	AU	BE	DK	FI	FR	DE	GR	IR	IT	LUX	NL	PO	SP	SW	UK
4	3	**Pregnant workers**		●					● ●				●	●	● ●		
8	7	**Young workers**		●	● ●		●	●	●	● ●			●	● ●	● ●	●	●
3	2	**Disabled/chronically ill workers**		●				●					● ●			●	
3	6	**Ageing workers**	●	●		●	● ●	● ●					●			●	
1	4	**Apprentices/trainees**		●			●	● ●		●							
1	1	**Female workers**											●				●
1	2	**Immigrants/non-native speakers**			●									●		●	
1	0	**Future parents**			●												
5	7	**Atypical work**							●								
0	1	Flexi-workers		●													
1	4	Teleworkers	●	●				●	●								●
2	1	Homeworkers											●				● ●
0	1	Part-time workers					●										
2	3	Temporary workers		● ●			● ●	●									
1	1	Contractors								● ●							
3	8	**Self-employed**		●	●		●	●	●	● ●	●			● ●			●

Annex III. SECTORS (CHAPTER 10)

Question

Which sectors have in the last ten years been the subject of particular attention?

Question

Which sectors are expected to be the subject of particular attention in the next three to five years?

SECTOR (CHAPTER 10)

● ● = Past ● = Future

			AU	BE	DK	FI	FR	DE	GR	IR	IT	LUX	NL	PO	SP	SW	UK
10	**5**	**Agriculture & related sectors**															
9	5	Agriculture			● ●	●		● ●	●	●	● ●		● ●	●	●		●
3	0	Fishery								●					●	●	
3	1	Forestry				●		● ●								●	
5	**4**	**Energy**															
5	2	Mining						●		●				●	●	●	● ●
4	2	Quarrying			●			●						●	●	●	●
1	2	Nuclear energy sector					●										● ●
1	0	Gas															●
1	1	Offshore oil /gas															● ●
8	**5**	**Manufacturing**								●							
5	1	Food industry			● ●	●		●								●	●
2	3	Meat industry			●			●							●	● ●	
1	0	Canning													●		
8	3	Wood industry			● ●	●		● ●					●	●	●	● ●	●
4	1	Textile			●									●	●	●	●
1	0	Leather industries													●		
1	1	Paper & board industry						●									●
11	**6**	**Chemical sector**															
4	0	Printing	●											●		●	●
7	3	Chemical industry		●	● ●			● ●			●				●	● ●	●
5	1	Rubber & plastic			● ●								●	●	●	●	
2	3	Major Hazards sector		● ●					●			●				●	
1	0	Explosive factories															●
5	4	Waste recycling industry	● ●		●			● ●				●	●			● ●	
12	**5**	**Metal sector**															
8	2	Metallurgy			● ●	●	●	● ●			●	●		●		●	
2	0	Metal products											●		●		
3	2	Machine industry					●				●	●				● ●	
4	1	Mech.engineering industry					●	● ●								●	●
4	1	Shipyards/docks			●				● ●							●	●

●	● = Past	● = Future	AU	BE	DK	FI	FR	DE	GR	IR	IT	LUX	NL	PO	SP	SW	UK
15	**11**	**Construction**	●	● ●	●	●	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●	● ●	●
7	**8**	**Commerce/transport/service sector**					●	● ●						●			
3	4	Transport			● ●			●		●	●				●	●	
1	1	Railways															● ●
3	0	Ports											●			●	●
0	2	Telecommunications						●			●						
1	1	Financial sector										●			●		
3	2	Hotel/restaurant/leisure			●										●	● ●	●
7	**4**	**Maintenance sector**					●										
5	2	Garage		●	● ●							●			●	● ●	
2	1	Dry cleaning										●				● ●	
2	1	Cleaning services			● ●								●				
3	1	Hairdressers	● ●		●											●	
9	**7**	**Education/health/public sector**															
4	2	Education		● ●				● ●						●			●
8	6	Hospitals and health centres	● ●	●	●			● ●	●			●	●		● ●	● ●	●
3	0	Laboratories			●									●		●	
2	1	Public sector/administration		●											●	●	
1	0	Fire brigades						●									

Annex IV. RESEARCH (CHAPTER 11)

Question

What have been the major research topics in the last ten years?

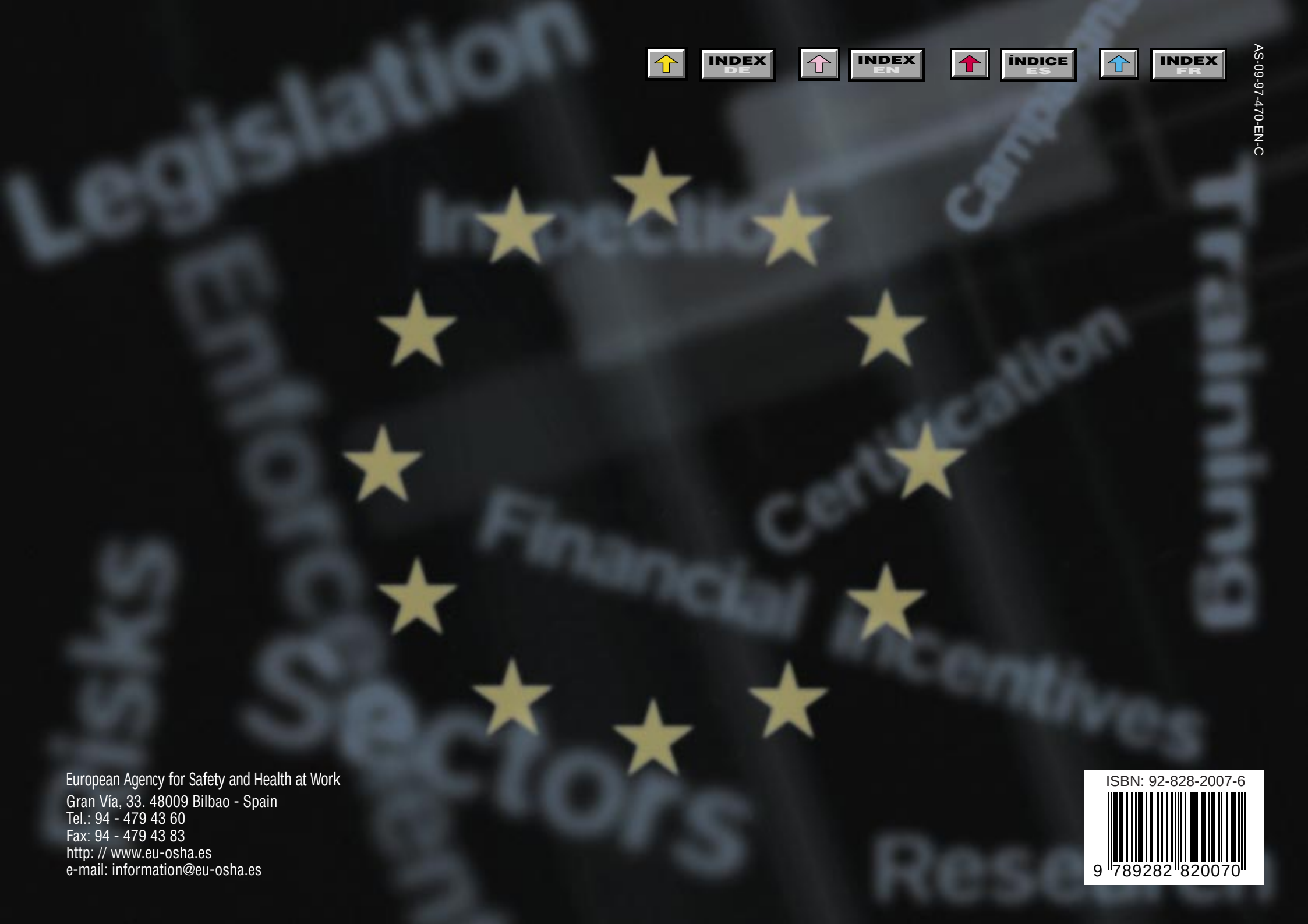
Question

What will be the major research topics in the next three to five years?

RESEARCH (CHAPTER 11)

●	● = Past	● = Future	AU	BE	DK	FI	FR	DE	GR	IR	IT	LUX	NL	PO	SP	SW	UK
12	**11**	**Chemical agents**															
6	5	Chemical agents (general)				●		● ●	● ●		●		● ●	●	●	●	
2	4	Carcinogens		●	●		● ●				●			●			
2	3	Neurotoxic substances/solvents	●	●	● ●									●			
3	1	Dust			●										●		● ●
8	**6**	**Physical Agents**															
1	2	Physical agents (general)						● ●							● ●		
3	1	Noise											●	●			● ●
1	3	EMF		●							●						● ●
3	1	Vibration		●					●				●	●			
2	1	Indoor climate			● ●						●						
3	**3**	**Biological Agents**	●	●				● ●									● ●
1	**1**	**Allergies**			● ●												
3	**2**	**Epidemiology**	●				●				●				● ●		
2	**2**	**Occupational health**				● ●											● ●
2	**1**	**Waste handling**			● ●						●						
8	**6**	**Safety**															
5	2	Safety (general)				● ●		● ●	●		●					●	
1	1	Prevention of accidents			●	●											
2	0	Machine safety									●				●		
2	3	Seveso-II/Major Hazards		● ●									●				● ●
5	**9**	**Psycho-social**															
1	2	Psycho-social (general)						● ●								●	
5	7	Stress	●	● ●	●	●	●		●		●		● ●				● ●
6	**5**	**Ergonomics**															
2	2	Ergonomics (general)						● ●									● ●
3	2	Repetitive movement		● ●	● ●											●	
3	2	Physical strain/manual handling		●	●								● ●			●	

●	● = Past	● = Future	AU	BE	DK	FI	FR	DE	GR	IR	IT	LUX	NL	PO	SP	SW	UK
4	**7**	**Organisation**															
0	4	New work patterns		●				●	●							●	
1	2	Ageing Workers			●	●	●										
1	2	Innovation in work											●			● ●	
1	1	Learning & skills development														● ●	
2	1	Health risks of new technologies			●	●					●						
7	**4**	**Sector research**															
4	4	Sector research (general)	●	●				● ●	● ●					●	●		
1	1	Agriculture								●				●			
1	1	Garages		●										●			
1	1	Off-shore															● ●
1	1	Railways															● ●
2	1	Service sector				●											● ●
8	**10**	**Methodology**															
4	4	Methodology (general)	●					● ●		●						● ●	● ●
1	3	Risk assessment												●	●		● ●
2	0	Methodology (assessing pollution)									●			●			
1	1	Analytical methods (health monitoring)															● ●
4	6	Cost-benefits		●	●	● ●	●	● ●		● ●				●			
2	3	Multiple factors	●				● ●									● ●	
3	**3**	**Statistics**															
1	1	Statistics(general)					●								●		
1	1	Collection of statistical data								●					●		
1	1	Monitoring			●								●				
1	1	Workforce surveys			● ●												
0	**4**	**Effectiveness studies**		●				●	●		●						
3	**2**	**Human factors**				●									● ●		● ●
1	**1**	**Management of OSH**	●				●										
1	**2**	**OSH services**				● ●			●								



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