# COMMISSION OF THE EUROPEAN COMMUNITIES

COM(87) 520 final

Brussels, 23 October 1987

# COMMISSION COMMUNICATION ON ITS PROGRAMME CONCERNING SAFETY, HYGIENE AND HEALTH AT WORK

in his distribution to

#### CONTENTS

## 1. INTRODUCTION

THE TWO PREVIOUS ACTION PROGRAMMES RELATING TO SAFETY AND HEALTH AT THE WORKPLACE DEVELOPMENT OF THE SITUATION IN THE MEMBER STATES (1981-1986)

- 2. LEGAL BASES AND CONTENT OF NEW WORK PROGRAMME
- 3. SAFETY AND ERGONOMICS AT WORK
- 4. OCCUPATIONAL HEALTH AND HYGIENE
- 5. INFORMATION
- 6. TRAINING
- 7. SMALL AND MEDIUM-SIZED ENTERPRISES
- 8. SOCIAL DIALOGUE

#### **ANNEXES**

- I. Tables of principal laws on health and safety at work in the Member States
- II. Available satistics on occupational deseases and accidents at work

#### 1. INTRODUCTION

# 1.1 THE TWO PREVIOUS ACTION PROGRAMMES RELATING TO SAFETY AND HEALTH AT THE WORKPLACE

As long ago as 1974, provision was made for the introduction of an action programme relating to health and safety at the workplace.

On the grounds that the improvement of workers' living and working conditions, the prevention of industrial accidents and occupational diseases and the protection of health at the workplace were matters falling within the fields of application and objectives of Articles 117 and 118 of the EEC Treaty, the Commission therefore drew up two action programmes relating to health and safety at the workplace.

The programmes were the subject of two Council resolutions.

The first resolution, which was adopted on 29 June 1978, was an expression of the political desire to introduce a series of measures by 1982, particularly as regards the aetiology of industrial accidents and occupational diseases, protection against dangerous substances and prevention to the dangers and harmful effects of machines as well as surveillance and inspection and the improvement of human behaviour 2.

The second resolution was adopted on 27 February 1984 with a view to continuing the first action programme<sup>3</sup>.

A number of concerted and joint actions, both short and long-term, have been initiated to improve certain work situations, to reduce the consequences of accidents and to harmonize national approaches.

Ten proposals for directives have been made on the protection of workers exposed to physical and chemical agents at work and one on the prevention of major accident hazards due to chemical agents. Seven have been adopted by the Council.

<sup>&</sup>lt;sup>1</sup>Council Resolution of 21 January 1974 concerning a social action programme, OJ No C 13 of 12.2.1974, p. 1

<sup>&</sup>lt;sup>2</sup>Council Resolution of 29 June 1978 concerning an action programme of the European Communities in the field of health and safety at the workplace OJ No C 165 of 11 July 1978, p.1

<sup>&</sup>lt;sup>3</sup>Council Resolution of 27 February 1984 on a second action programme of the European Communities in the field of health and safety at the workplace, OJ No C 67 of 8.3.1984, p. 2

#### The Council Directives adopted concern:

- safety signs;
- protection against chemical, physical and biological agents at work,
- specific chemical and physical agents;
  - . vinyl chloride monomer
  - . lead compounds
  - . asbestos
  - . noise
- major accident hazards of certain industrial activities.

The proposals for Council Directives concern:

- benzene;
- the proscription of specified agents and/or work activities;
  - exposure limit values for 100 chemical agents.

#### 1.2. DEVELOPMENT OF THE SITUATION IN THE MEMBER STATES

#### Introduction

The efforts made in the Member States, as far as possible, to prevent the occurrence of occupational accidents and diseases has presented the same picture for years: many ways are used to promote health and safety awareness not only amongst employers and workers but also the public as a whole. The working environment within firms is constantly analyzed and cooperation between the management, the health and safety departments, workers and their representatives is continuously strengthened and made more effective. Compliance with safety considerations in the design and arrangement of the workplace and machinery is recognized as a necessity.

Of the variety of efforts made at national level to encourage this trend and take account of these needs, it is the measures aimed at transposing Community law into national laws and regulations which occupy an important place. In this connection, a special place has long been reserved for the field of dangerous substances. This field is in fact already substantially governed by Community standards, which, moreover, have to be constantly revised and adapted in line with scientific and technical progress. It follows that the Member States are also constantly obliged to draw up new regulations, which are often complicated.

#### Feature common to the Member States

It is extremely difficult to provide a full description of the national laws owing to their very complex and disparate nature except in the case of those States, such as France or Belgium, which have codified or coordinated their legislation relating to health and safety at the workplace<sup>4</sup>.

Nonetheless, this complicated patchwork of legislation does have a number of common features:

(a) The measures taken by the Member States in the field of health and safety at the workplace are increasingly inspired by the work carried out at Community level, which demonstrates the dynamic character of Community achievements;

<sup>4</sup> See attached table of main examples of legislation

- (b) For reasons connected with equal treatment between men and women and in order to improve women's employment opportunities, there is an increasing tendency to lift employment restrictions introduced in order to protect women at work where such restrictions are not indispensable for sheltering female workers from risks inherent to their sex and possible risks for the child they may be clearing.
- (c) The variety of work done by the Member States in the last years in the field of health and safety at work can be illustrated by dividing activities into three groups.

The first group of measures - the measures in question are not merely legislatorial - covers the unending task of ensuring that the most recent scientific and technological knowledge is used to improve the safety of installations at the workplace, to make sure that machines and appliances are designed and used in such a way that they do not represent a danger and to protect people engaged in particularly dangerous jobs. There are very few fields not covered here - from the revising of rules on lighting at the workplaces to improvements in the specifications for plant subject to surveillance, e.g. steam boilers, pressure vessels, hoists, mobile machines and tools and work involving electrical plant, compressed air or excavation.

The second group covers the protection of persons handling dangerous substances. In this connection it has often been pointed out that this area is to a large extent the subject of Community legislation which constantly has to be brought into line with scientific developments. The Member States will be involved for a long time to come with the incorporation of these provisions into national law. The many improvements in the health surveillance of employees should be mentioned in this connection.

The third and final group covers measures which are included to ensure, firstly, that the authorities concerned are kept informed, via suitable bodies, of improvements which those at the workplace feel to be necessary and, secondly, that the legal and administrative provisions are duly and appropriately implemented.

Mention should be made of the establishment of advisory bodies in many branches of industry and at various levels. An improvement in the safety services, with the cooperation of employees, should lead to a higher standard of internal safety measures.

d) Although there are not sufficient elements in national statistical data to carry out a comparable analysis with sufficient viability<sup>5</sup>, there are clearly too many employment accidents.

The benefits for occupational accidents and diseases in the EEC cost around 16 000 000 000 ECU in 1984, about 7% of total expenditure on health benefits.

<sup>&</sup>lt;sup>5</sup>See Appendix II for some statistical data given for information. Much work needs to be done in this area to fill the gaps in knowledge at Community level.

#### 2. LEGAL BASES AND CONTENT OF NEW WORK PROGRAMME

Article 118A of the Single Act provides new impetus for the initiatives of the Community. The application of this provision entails the presentation of measures relating to the working environment, i.e. the health and safety of workers, whilst maintaining improvements already made.

In order to achieve this objective, Council directives in this field will henceforth be adopted by a qualified majority in the framework of the procedure for cooperation with the European Parliament and after consultation of the Economic and Social Committee (Article 118 (2)).

Moreover, the Commission is not only determined not to overlook the social dimension of the Single Act but also considers that a dynamic link exists between the provisions relating to social policy and the policy relating to the gradual establishment of the internal market. More precisely, even if the harmonization of working conditions is not a prerequisite for the accomplishment of the internal market, the fact remains that the single market should not be achieved by means of a sort of social regression.

The Commission therefore intends to ensure that the social implications are taken into account, in the proposals it submits with regard to the completion of the internal market and may amplify its proposals accordingly.

This is the spirit which will guide the Commission in the initiatives it takes with regard to health and safety at the workplace.

On the basis of Article 118A, the Commission will therefore present to the Council proposals for directives on the health and safety of workers designed to ensure that the working environment is healthy and without danger and reflects technical and social progress within the Member States of the European Economic Community.

The Commission considers that the concept of the workplace as formulated in Article 118A must not be limited to the health and safety of workers in its narrowest sense but must also encompass measures relating to ergonomics and the working environment.

However, Article 118A is not the only provision which comes ito play in the field of social policy and does not constitute a break with the past but a harmonious extension of Articles 117 and 118 of the Treaty, to which the first two programmes relating to health and safety at the workplace may be traced.

More precisely, even if Article 118A serves solely to activate the mechanism of the directives, social policy does not depend exclusively on such instruments.

Under the terms of Article 118 of the Treaty, it is the task of the Commission to promote close cooperation between the Member States in the social field and more particularly with regard to a number of matters which are enumerated in that Article.

The Commission considers that, at the appropriate time, consideration should be given to the principle of creating a Community mechanism for studying the repercussions on the national level of the measures taken in the field of health and safety at the workplace.

In this framework, the Commission acts in close liaison with the Member States by means of studies, opinions and the organization of consultations with regard to problems which arise at national level as well as problems of concern to international organizations.

The development of Community action in the health and safety field as well as the balance to be sought in the development of the single market between econmic and social considerations implies close involvement of employers' and employees' representatives in the process of preparing the Commission's decisions. It is therefore the Commission's intention to develop the dialogue with the social partners also in this field, as provided for in Article 118B of the Single Act.

A similar joint approach has been pursued by the social partners, who, in their joint opinion of 6 March 1977 acknowledged "the need to master and manage the changes resulting from the process of industrial transformation now in progress so as to make them effective and socially acceptable (...), the need to make use of the economic and social potential offered by technological innovation in order to enhance the competitiveness of European firms and strengthen economic growth, thus creating one of the necessary conditions for better employment and, taking particular account of progress in the field of ergonomics, for improved working conditions."

Articles 117 and 118 of the EEC Treaty, which have, from the very beginning, formed part of the chapter devoted to social policy, together with Article 118A as regards the health and safety of workers and Article 118B as regards the development of the dialogue between the social partners at European level, constitutes the legal framework for the harmonious development of a social policy based both on consensus and on directives adopted by a qualified majority.

In this way, the Commission intends to contribute to the implementation of the Single Act, which, in the field covered by the Commission's work programme on health and safety, provides for three main instruments:

- harmonization of the conditions of protection whilst maintaining existing improvements (Article 118A (1));
- the possibility for certain Member States to maintain or introduce more stringent protective measures (Article 118A (3)),
- the need to promote the dialogue between the social partners, henceforth a Community objective (Article 118B).

Oktober

Given these new prospects for Community action in the field of the health and safety of workers, the Commission, without awaiting the expiry of the 2nd action programme at the end of 1988, has decided to draw up a new work programme which, in this communication, will concentrate chiefly on five subjects:

- Protection of workers' health at the workplace;
- Development of workers' safety at the workplace, including ergonomics;
- Training and information policy;
- Initiatives specifically directed at small and medium-sized enterprises;
- Social dialogue.

#### 3. SAFETY AND ERGONOMICS AT WORK

#### Introduction

.11

3.1. Safety at work through the prevention of accidents, and the improvement of working conditions through the application of ergonomic principles, are essential features of all social. technical and economic aspects of work and should be mart of normal working operations on a day-to-day basis. Safety must be built in as an integral part of the general work organisation, in much the same way as production ... This concept of built in control. quality the application of ergonomic principles are safety and required at all stages from design through to operation. objective can be achieved only be establishing a very close link between the measures taken at the design stage, those to be applied during manufacture and those related to the organisation of work, and by developing safety consciousness through training and information.

#### Completion of the Internal Market - Removal of Technical Barriers

- 3.2. In the White Paper on completing the Internal Market, the Commission took into account the "underlying reasons for the existence of barriers to trade and recognised in particular the essential equivalence of Member States' legislative objectives in the protection of health and safety." The removal of technical barriers to trade for equipment and products used at the work place has revealed the importance of taking safety considerations into account in their design and subsequent manufacture. The new harmonisation approach by establishing essential safety requirements at the conceptual and manufacturing stage of equipment and products ensures that the safety and health of workers is considered at the earliest possible moment.
- 3.3. The legislative harmonisation approach will establish the essential safety requirements, the necessary technical specifications being entrusted to organisations competent to deal with standardisation.

The White Paper foresees in its timetable a number of measures which have a direct and indirect impact on the safety and health of workers e.g. machine safety, pressure vessels, lifting equipment, roadmaking equipment, insulation products for construction, safety and reliability of special structures (masts, towers, long bridges, drilling platforms, water retaining structure), flammability of materials, individual protective devices, classification and labelling of dangerous preparations.

3.4. Close co-operation has been established to seek the highest level of essential safety requirements in the design and construction of new equipment. In view of the importance of the technical specifications for meeting these requirements for products used in the work place and the need to ensure a full dialogue of the social partners, the Commission will ensure an adequate involvement of the trade unions in the European standardization work and other related activities.

# Enhancement of Safety at Work and Application of Ergonomic Principles

- 3.5. The organisation of safety at work including the selection of the most appropriate equipment and material their safe use information and training, is essential to reduce accident rates which are still very considerable in a number of sectors of activities. In order to ensure safe working conditions the Commission wi prepare Directives covering the organisation of safety at work as well as the selection and use of appropriate plant, equipment, machinery and substances. In addition to this the Commission will prepare a proposal for a Council Decision regarding a system for the rapid exchange of information concerning the identification of specific safety risks at work and the resulting restrictions placed upon the use of dangerous substances, tools, equipment, etc.
  - 3.6. In order to improve safe working conditions when other approaches are not feasible, special consideration needs to be given to individual protective equipment provided in the workplace by the employer, in particular in terms of appropriate use, user aceptability, availability, maintenance and supervision. The Commission is therefore preparing Directives in this area.
- harmonised pictogrammes. However, current practice in the use of signs, warning labels and colour codes, accoustical and optical safety and warning indicators had developed considerably and needs urgent review. The Commission will revise this Directive to bring it up to date and extend its scope into the newer areas.
  - 3.8. In the development of new technologies and process control systems, special attention has to be given to the inherent safety of the equipment and to ergonomic factors in its use. The visual display unit is such an example. The Commission intends to make recommendations on the selection and use of such equipment.
  - 3. 9- Back pain and back injury are common and frequently result in absence from work. There are many recognised factors including bad work place design resulting in physical strain, faulty handling of materials, incorrect lifting and falls. National provisions are varied and as an outcome to ongoing work the Commission will prepare recommendations on good working practice.

#### Safety in High Risk sectors

- 3.10 A number of sectors of activity in the Community present risks to the health and safety of workers which are considerably higher than average. The Commission has focused its attention on three of these sectors owing to the level of risk and the number of workers concerned: work ar sea (fisheries in particular), agriculture and the contruction industry.
- The frequency rates of fatal accidents recorded in the seafaring occupations are several times higher than those recorded in other "high-risk" occupations. Working and living conditions on board ship are singularly difficult in various ways: movement of the work area, limited space, high duration and intensity of work (particularly in fisheries), noise, multiplicity of individual workers' tasks and therefore less specialization of workers for performence of accessory tasks. In addition, the geographical or meteorological isolation of the ship limits the possibilities of assistance and exacerbates the consequences of accidents. Given the magnitude of these risks and the number of workers concerned (around half a million), urgent measures are envisaged in order to make safety a more integral part of the design of vessels and the definition of tasks and to ensure the availability of adequate medical assistance and emergency services at sea.
- 3.12 Agriculture employs more than 10 million people in the Community, i. e. around 9% of the total working population. More than half of all working accidents occur in farmyards and farm buildings, in particular in connection with the handling of animals, horizontal or vertical movement and the handling of tools, loads and pesticides. However, owing to their status, independant farm labourers are mostly not covered or concerned by the regulations governing health and safety at work, even when such regulations apply to agriculture. The Commission is drawing up a direction plant-protection products and recommendations concerning the design of farm buildings and electrical installations in agriculture.
- The construction industry (building and civil engineering), 3.13 close to 10 million workers is an essential element of the economic activity of the European Community. The construction industry cowrs a very large variety of activities and requires a The construction industry, and in multiplicity of skills. particular the building sector, is characterised by the high proportion of small firms, encouraged by the minimal outlay required to start up and carry on a business. However, it is also an activity where the risk of accidents and occupational diseases considerably above the average. Finally the system of competitive bidding for securing contracts, without a clear indication of the safety and health costs in the bid, could be a temptation to provide in the tender for methods of work that are apparently cheaper but less safe or to adopt them once the contract has been won. Due to this system the classical

ंशिय

tripartite approach (governments, employees and workers) to safety and health is perhaps not sufficient. The conceptors and clients must be involved in the dialogue. The draft directive on the free movement of construction products COM(86)766 final 3, now before the Council, provides (in Annex I) that the construction works must be designed and built in such way that the loadings and other influences that are liable to act on it during its construction and use will not lead to collapse or danger for workers. In addition, a directive for safety in construction will be prepared by the Commission, stressing in particular the need to integrate safety at the early conceptual stage, to render more transparent the health and safety aspects in the tenders, to identify clearly responsibilities on construction sites, and to establish safety-related qualification requirements for certain tasks.

#### Conclusion

- 3.14. In summary the Commission plans to prepare:
  - proposals for Directives on :
    - the establishment of safe work conditions, through the organisation of safety, the selection and use of appropriate plant, equipment and machinery, and the establishment of conditions of use and selection of personal protective equipment;
    - revision of the 1977 Directive on the provision of safety signs at places of work;
    - · harmonisation of the composition of pharmacies on board whips;
    - protection of agricultural workers using pesticides;
    - safety in the construction industry stressing the integration of safety at the early conceptual stage, rendering more transparent the health and safety aspects in the tenders, clearly identifying responsibilities on construction sites, and establishing safety-related qualification requirements for certain tasks.
  - recommendations of its own on:
    - economic feators in process control systems;
    - prevention of back injuries:
    - on safety in the conception of agricultural buildings and electrical installations;
    - improving safety in seafishing.
  - other measures :
    - Decision regarding a system for the rapid exchange of information on dangerous products, tool and equipment at work.

### 4. OCCUPATIONAL HEALTH AND HYGIENE

#### Introduction

4.1. Daily we are exposed to physical factors, biological organisms and chemical substances in our living and working environment. Some physical factors such as temperature, humidity and light are necessary in order to provide an external environment in which it is comfortable to live. Certain biological organisms such as some bacteria, and a select number of chemical substances such as iron and calcium are essential for the maintenance of health. However, it is now well established that many agents have detrimental effects on health. Thus increased exposure to such agents is associated with a higher risk of developing disease. This is particularly true for workers who may be exposed at times to high levels of agents and as a consequence may develop occupational disease. In order to protect health and prevent the appearance of occupational disease, it is necessary to ensure that the exposure of workers is reduced to as low a level as is reasonably practicable, to monitor and measure this exposure and to use occupational health services for the surveillance of exposed workers.

#### Specific measures

4.2. An overall strategy for the control of dangerous agends was adopted in the Council Directive 80/1107/EEC covering all chemical, physical and biological agents at work. This Directive laid down provisions of a gener nature, and envisaged individual Directives on a certain number of agents. A series of individual Directives have been adopted concerning, for examplead, asbestos and noise. However, scientific progress is such that revisions to these Directives will be required so that the latest advance in scientific knowledge can be taken into account. As an example the Directive on noise is not to be implemented until 1 January 1990. Yet the Commission is continuing work on technical aspects of the problem and will submit a proposal to modify this Directive by extending its scop by increasing the protection afforded to the workers, for example, by including those workers at present excluded, namely see and air transport workers, and by reassessing the threshold values.

- 4.3. The setting of exposure limits is an important element in ensuring that workers' exposure to chemical agents is reduced to as low a level as is reasonably practicable. In this context the Commission has transmitted to the Council a proposal for a Directive establishing the basis for a Community list of exposure limit values for 100 agents. The overall task is, however, many times greater, as lists in the Member States include some 1000 agents and the EC Inventory of Existing Chemical Substances (EINE(S) contains 100 000 entries. The reason that relatively few agents have been dealt with by the Member States is because of the lack of information which is therefore insufficient and does not permit exposure limit values to be determined with certitude. In order to increase the coverage of the Community list, the Commission will carry out studies to collect and evaluate the toxicological and health data for individual agents and their routes of absorption. Furthermore, the Commission will examine the ways and means necessary to improve the collection of such data In the case of special hygiene measures which may be required for those chemical agents which can be absorbed through the skin, the Commission will propose such measures by means of modifications to the existing Directives.
- 4.4. Recently particular concern has been expressed about those agents likely to cause cancer and several Member States have developed, or are in the process of developing, legislation dealing specifically with this problem. The Commission, therefore, intends to submit to the Council in late 1987 a Directive laying down general and specific measures to deal with a list of occupational carcinogens. Subsequent Directives will be proposed for other carcinogenic agents in line with ongoing work on the classification and labelling of chemical substances. In order to reply to concern whas also been expressed about some groups of compounds such as cadmium, and the need to protect agricultural workers exposed to certain pesticides, the Commission will make proposals for Directives on these matters. In addition, biological agents which cause ill health such as pathogenic microrganisms, and genetic engineering techniques which may present a risk to health have recently been identified as problems of importance for which a proposal for a Directive will be made.
- 4.5. For those agents or work activities which are very dangerous the Commission has already made a proposal for a Directive to the Council in which the

conditions to be applied for the proscription of specific agents are set out. Studies will be carried out to determine which other agents and/or processes fulfilling these conditions should be added to this directive.

- 4.6. The proposed Directive on the harmonziation of classification and labelling of dangerous preparations takes into account the need for information on the composition and risks of such preparations. In parallel, the Commission will examine what additional measures are required for the protection of the health of workers within the framework of Article 118A.
- 4.7 The assessment of exposure is a necessary part of any strategy which lays down limit values. Setting exposure limit values at Community level requires that such values can be accurately measured. In its proposal for a Council Directive on 100 exposure limit values (see 4.3.), the Commission has already put forward the strategy it considers necessary in order to lay down the basic requirements for assessing exposure to chemical agents. Once these general measures have been adopted by the Council, it will be necessary to examine what detailed measures, such as analysis techniques, are required, so as to ensure that exposure is accurately determined. In this case the Commission will request technical assistance from other organisations such as CEN. Furthermore, account will be taken of the work of the International Standards Organisation which is also undertaking work in this area. The Commission will also examine the steps necessary to improve the measurement methods available.
- 4.8. In most Member States, certain diseases are considered as being of occupational origin, either generally or in relation to particular work activities. In 1962 and 1966 the Commission made Recommendations to the Member States concerning an European Schedule of Industrial Diseases. The progress made in the diagnosis of occupational diseases has resulted in this list being outdated, and it requires revision in order to take account of the most recent advances in this field. The Advisory Committee is already considering what improvements should be made to this Schedule. Once this work is completed the Commission will make further recommendations to the Member States.

4.9. The provision and role of occupational health services in the protection of worker's health varies considerably between Member States. Some Member States such as Belgium, France and Germany consider these services to be of such importance that they have specific regulations concerning them. Other Member States such as Ireland and the United Kingdom have adopted a different approach and have mainly voluntary provisions. The Advisory Committee is currently preparing an opinion on the organisation of occupational health services including the respective roles of the various health and safety specialists, taking into account the previous work of the Economic and Social Committee. The Commission intends to draw up a recommendation for the Member States.

## Conclusion

- 4.10. In summary, the Commission plans to prepare :
  - proposals for Directives on :
    - . carcinogenic agents;
    - . protection against biological agents e.g. pathogenic micro-organisms;
    - . cadmium compounds;
    - . protection of agricultural workers exposed to certain pesticides.
  - proposals for amendments to Directives on :
    - . asbestos;
    - . lead;
    - . noise;
    - . proscription of dangerous agents;
    - exposure limit values, including chemical agents absorbed through the skin.
  - recommendations of its own on:
    - . European Schedule of Industrial Diseases;
    - . assessment of exposure to dangerous agents;
    - . provision and organization of occupational health services.

#### - reports :

The Commission will continue to make available the results of its studie in particular on :

 exposure to chlorinated hydrocarbons, solvents, mixtures of agents and chemical preparations.

#### INFORMATION

5.1. Different arrangements have been adopted in the Member States for the purpose of ensuring worker involvement in matters of health and safety at work. In some countries existing institutions (works councils, staff representatives or union delegates) have been given responsibilities; elsewhere, special mechanisms have been created (work environment committees, safety committees, safety representatives). In several countries both general and specialised bodies play a role, their character depending largely on prevailing traditions in the field of industrial relations (6).

In the majority of the Member States there is a general duty on the employer to provide adequate information on health and safety matters to worker representatives. In addition, several Member States have adopted additional provisions to ensure that these representatives are informed in an appropriate and timely manner. These provisions include in particular:

- the right to receive information on the results of measurements and investigations;
- the right to receive certain documents, like policy statements, periodical programmes and reports;
- the right to inspect documents and records which the employer is legally required to keep.

<sup>(6)</sup> Basically, three types of systems for worker involvement in health and safety matters may be distinguished:

systems in which works councils set up by law occupy a central place and in which safety delegates or safety committees play only a secondary role;

systems in which joint safety committees form the main channel of participation;

<sup>-</sup> systems in which the law does not require the establishment of either general or specialised bodies with health and safety responsibilities but allows for the appointment of safety delegates or safety representatives.

ા ક્ષેત્રસ્થ

5.2. In its joint opinion on information and consultation the Val Duchesse working party stated: that, "when technological changes which imply major consequences for the workforce are introduced in the firm, workers and/or their representatives should be informed and consultated in accordance with the laws, agreements and practices in force in the Community countries". The joint opinion gave definitions of information and consultation and agreed on rules for secrecy or confidentiality. Both sides recognized that it is worthwhile encouraging the development of information and consultation practices in matters relating to the introduction of new technologies. This has particular relevance when such developments have a potential impact on health and safety.

- 5.3. Many study reports and conference proceedings have been published and widely distributed. The most recent of these include a compendium of Member States' legislation, a review of the scientific and regulatory aspects of occupational cancer, monographs on biological monitoring, as well as information on selected agents such as nickel, hexachlorobenzene and organic solvents. However, the information available on chemical substances varies considerably. To overcome this disparity, the Commission intends to make information available on all the substances for which directives are proposed in the health and safety area. The use of such information, as well as that provided by the labelling system on dangerous substances and preparations will be examined in order to determine its best use.
- 5.4. Promotion of worker protection requires that research results and technical innovations aimed at improving working conditions are tested and effectively applied with the cooperation of all parties involved.

To these ends it is necessary to

- evaluate recent research to select the most promising for application in pilot projects;
- establish evaluation programmes with the cooperation in each instance of two or more Member States;
- develop mechanisms to disseminate the results.

The Commission intends to step up work in this area with particular attention to the safety aspects in connection with special risk occupations such as deep sea diving, off-shore exploration etc.

5.5. To be efficient regulations must be understood and accepted by all those concerned. At Community level there must be an increase in the information, training and exchange of experience between the senior labour inspectors responsible for the application—at national level of regulations derived from directives. The regular meetings of the labour inspectors currently taking place at Community level will be formalized, specific seminars organized and the programme of exchange of inspectors between Member States expanded.

# 5.6. Conclusion

The Commission intends to :

- make available health and safety information on dangerous substances
- evaluate research results and introduce evaluation programmes with pilot projects designed to disseminate results
- formalize the regular meetings of labour inspectors

#### 6. TRAINING

#### Introduction

6.1. Education and training policy in general continue to be given a high priority by the Member States, the social partners and the Community. In order to maximize this investment in human resources, health and safety at work should also form part of education and vocational training.

The Commission has recently presented to the Council two communications concerning adult training in firms and vocational training for women. On the basis of the conclusions adopted by the Council, new action programmes will be drawn up in these areas, in which health and safety training for the workplace could be included.

The Commission together with CEDEFOP has also been actively engaged in the training of instructors, and there is scope for concrete action likewise in this area. In 1985 and 1986, the Commission organized two seminars on health education and the role of the teacher.

However, it is clear that a great deal more could be done at Member State and at Community level to incorporate health and safety into training.

#### Need for better training

6.2. Considerable differences exist between the Member States in the safety training and recognition of those responsible for safety and health protection. These include the manager, safety officer, ergonomics and health specialists, first aider and workers' representative. For example while the industrial medicine is now recognized at Community level as a specialized field in its own right, there is no common approach to the role and training of the occupational health or safety officer. The Commission intends, therefore, to monthinue to encourage training initiatives for these various groups based upon generally accepted principles and practice.

- 6.3. In recent years there has been growing awareness of the need for early training in the basic principles of safety. While such training may well begin at school, the requirements of prevention in relation to real life situations are of fundamental importance. Safety training must become an integral part of vocational training and the curricula of technical courses and apprenticeships. Currently there is concern about the frequency of fatal accidents and injuries in youth training schemes. The urgency with which such schemes have been established and enlarged in response to youth unemployment has resulted in insufficient attention being given in some cases to the protection of trainees in dangerous working conditions and a lack of supervision. The Commission has placed before the Council a proposal for a Decision on the training and preparation of young people for adult and working life including a provision concerning better information for young people on working conditions, particularly in the area of health and safety at work.
- 6.4. Within an enterprise or undertaking, training is normally the responsibil of the employer and covers a wide variety of situations. In some cases training may be organized by specialist bodies, but most often instructio is given by experienced workers. This is especially the case of those occupations with no fixed place of work, e.g. agriculture, fisheries and construction. In these industries training is often of an ad hoc nature, determined by the nature of the task at any particular time. The safety of the individual worker in these circumstances is highly dependent on the degree of supervision.
- 6.5. In all special schemes set up to assist young people, particularly the unemployed or those lacking in qualifications, or in combined work/training schemes, adequate arrangements must be made for their safety, and they must be fully trained in order to avoid possible dangers which they may encounter at the workplace.
- 6.6. At University, or in third level technical education, those who will be responsible for the safety of others, e.g. engineers, industrial chemists, nuclear physicists and engineers, should receive a full course of training in the appropriate safety precautions required for their future specialisation. In addition, the Commission will, with the assistance of CEDEFOP, give high priority to safety instruction courses for the training of instructors.

- 6.7. Particular attention will continue to be devoted to certain high risk sectors of activity such as agriculture, fisheries and construction. The Commission has already developed a series of training modules for certain dangerous agricultural activities and these have been tested in pilot projects. Similarly for sea fishing, technical and financial assistance has been provided for the development of the Medical Advice Centres Network (MACNET) to improve the availability of medical assistance. The Commission intends to develop further these activities which have a direct impact on those high-risk sectors of activity.
- 6.8. To develop the variety of training resources necessary to meet these various needs, the Commission intends to establish a network of collaborating centres involved in the teaching of the various disciplines and the training of workers and their representatives. Collaboration between the centres will result in a more uniform approach and standard of instruction as well as encourage new initiatives within a Member State based on experience from outside. In addition the Commission intends to continue to sponsor the preparation of training packages to meet the particular requirements of special-risk occupations such as agriculture, fisheries and construction. In the research field, the European Foundation for the Improvement of Living and Working Conditions should play an important role, especially as regards working conditions in the SME and the construction sector. Furthermore, the aims set out in the communication will be more comprehensively included in the Foundation's next programme

#### Conclusion

- 6.9. In summary, the Commission plans to:
  - establish a network of collaborative centres for training in all fields of safety and health protection;
  - continue the preparation of training packages for specific high-risk occupations and tasks;
  - include proposals on health and safety at work in its draft programme on adult training in firms;
  - include such proposals likewise in its draft recommendation on vocational training of women;
  - request CEDEFOP to include this dimension in its work on training of instructors;

- encourage training partnerships initiatives (within the framework of its draft programme on the training and preparation of young people for adult and working life) to develop teaching materials and better practices in relation to health and safety at work.

#### 7. SMALL AND MEDIUM SIZED UNDERTAKINGS

7.1. The Community is devoting special attention to small and medium-sized undertakings which are considered an essential element in economic recovery and job creation. The Action Programme for SMEs adopted by the Commission and endorsed by the Council of Ministers stressed the need to keep regulation to what is strictly necessary. A campaign to reduce unnecessary administrative constraints was also included in the resolution on the Commission' Action Programme on Employment Growth which was approved by the Council in December 1986.

A Task Force for Small and Medium-sized Enterprises has been created in the Commission, and arrangements have been established so that in developing Community legislation account is taken of its possible impact on SMEs. The special requirements of SMEs with respect to safety and health problem were recognized in Article 118A of the Single European Act. However, the basic philosophy, underlined in a declaration of the Conference, is that there should be no greater risk to the safety and health of workers by virtue of the size of the enterprise.

7.2. SMEs are a heterogeneous group of enterprises which by their very nature, size, and organization may not have the infrastructure necessary to provide the level of protection of the worker and work environment found in larger enterprises. Under present health and safety legislation in Member States, SMEs below a certain size are usually not required to have safety representatives or health and safety committees. These arrangements recognise the fact that in small organisations such matters can probably be better dealt with on a individual basis. There is some concern that where SMEs are engaged in activities which have a high health and safety risk, technical know-how on safety and health within the enterprises may be lacking; and training and control may be difficult to carry out. The consequences of accidents may be serious for the viability of the SME. Moreover, any impetus towards new patterns of working can pose additional problems. Longer working hours which characterise some SMEs may lead to increased fatigue and decreased vigilance, thus increasing the risk of accidents and physical injuries. The measurement of exposure limits to dangerous agents, normally calculated on a eight hour work day, may have to be adjusted. This is however not a problem which applies exclusiverly to SMEs.

- 7.3. The Commission is aware that information on the special rules and exceptions in health and safety legislation regarding SMEs is lacking and that SMEs themselves may be insufficiently aware of the legislation which affects them. Furthermore the efforts currently being made within the Member States to provide advice and training on safety provisions and practice are fragmented and their impact is thereby lessened.
- 7.4. The Commission therefore plans in the period 1988-91 to:
  - undertake an examination of the understanding and application of existing health and safety regulations in a sample of SMEs;
  - undertake a review of the special rules, and exceptions existing for SMEs in the legislation of Member States regarding health and safety at work, and assess the need for action and legislative harmonization in this field in accordance with Article 118A of the Single European Act which requires that Directives should avoid imposing administrativfinancial and legal constraints in a way which would hold back the creation and development of SMEs;
  - undertake studies of the impact of new patterns of working on safety and health in SMEs;
  - consider how health and safety regulations can be made more transparer for proprietors of SMEs;
  - include advice on safety and health at work aspects in information manuals to be prepared for creators of SMEs;
  - prepare training modules on safety specifically for creators of SMEs, develop pilot projects integrating these modules in the general trainiand provide for specific safety councelling;
  - develop a system for providing readily accessible information to SMEs
     on safety equipment and individual protective equipment.

#### 8. SOCIAL DIALOGUE

The actions proposed in the work programme presented in this document directly concern the workers and employers of the Community. They can only be fully effective insofar as, particularly in the preparatory phase, they are the subject of intensive dialogue with and between the social partners.

The Advisory Committee on Safety, Hygiene and Health Protection at Work, which has existed since 1974, is the appropriate forum for consultations between the social partners in matters relating to health and safety. This Committee must fully play its part in assisting the Commission in the work of defining the action it will take in this field. As in the past, the Commission will continue to submit to the Committee those proposals which it intends to present to the Council. The Commission would emphasise that the subjects concerned here are not only those covered by the proposed work programme but also those which, in the light of the development of the situation relating to the health and safety of workers, might appear necessary to the Commission, the Member of the Committee or, in a wider sense, the social partners.

Furthermore, given the new forms of work organization and protection brought into being by the development of technology, the social partners will have to develop a constructive social dialogue at the various levels so as to ensure the best possible protection for workers in their working environment.

In view of the very great importance of technical specifications as regards the safety of products and machinery used at the workplace, the Commission will also take steps to ensure the appropriate involvement of the trade unions in the related European standardization work and other connected fields.

# TABLES OF PRINCIPAL LAWS ON SAFETY, HYGIENE AND HEALTH PROTECTION AT WORK IN THE MEMBER STATES

#### BELGIUM

Regency decree of 11 February 1946 approving Titles I and II of the General Regulations on the protection of workers.

#### DENMARK

The Working Environment Act (1) 1975, No 681 as amended by Act No 158, 1978 on Health Services in the Workplace, and Act No 247, 1979 on Substances and Materials. The Working Environment Council, Contributions to the Working Environment Fund and Secrecy.

The Chemical Substances and Products Act (2) 1979, No 212 as amended by Act 68, 1980.

The Divers Act, 1979, No 214.

The Merchant Shipping Act 1973, No 420.

The Act Concerning Certain Marine Installations, 1981, No 292.

The Work Indemnity Insurance Act 1978, No 79 as amended in 1982.

#### FRANCE

Chronological List of the Principal Laws and Decrees which have been incorporated into the Labour Code

10 July 1913	Decree introducing rules concerning general hygiene and safety
	measures.
6 December 1976	Law No 76-1106 concerning the prevention of accidents at work.
20 March 1979	Decree No 79-231 concerning the organisation and activities of occupational health services.
20 March 1979	Decree No 79-229 concerning procedures for safety testing of machines, apparatus and protective equipment.
20 March 1979	Decree No 79-230 concerning dangerous substances and preparations
20 March 1979	Decree No 79-228 concerning Health and Safety Committees and the
	Provision of Safety Training.
23 December 1982	Law No 82-1097 concerning workplace health and safety committees

#### GERMANY

The Industrial Code	1869
The Reich Insurance Code	1911
Order on Dangerous Substances in the Workplace	1980
Occupational Safety Act	1973
Youth Employment Protection Act	1976
Act on Protection of Working Mothers	1968
Chemicals Act	1980
The Workplaces Order	1975

<sup>(\*)</sup> The Law and Practice concerning Occupational Health in the Member States of the European Community
Vol. 5: Comparative Study, p. 214-267, London, published by Eraham & Trotman Lt for

the Commission of the E

#### GREECE

The Royal Decree of 1920 codifying provisions relating to health and safety of workers.

The Presidential Decree of 1934 on the health and safety of manual and clerical workers.

The Royal Decree of 1922 on The Terms of Establishment and Installation of Industrial Plants and on Granting an Operation Licence.

The Royal Decree of 1922 on the Granting of Permits for the Establishment and Operation of Any Mechanical Installation.

Loi nº 1568 du 18.10.1985 sur la santé et la sécurité des travailleurs.

#### IRELAND

FACTORIES ACT. 1955 - No 10 of 1955

SAFETY IN INDUSTRY ACT 1980 - No 9 of 1980
Factories Act (Definition of "Work of Engineering Construction")
Regulations 1981

MINES AND QUARRIES ACT 1965 - No 7 of 1965
Mines and Quarries Act 1965 (Commencement) Order 1970

DANGEROUS SUBSTANCES ACT 1972 - No 10 of 1972

EUROPEAN COMMUNITIES ACT 1972 - No 27 of 1972

PROTECTION OF YOUNG PERSONS (EMPLOYMENT) ACT 1977 - No 9 of 1977

#### ITALY

Law No 51 of 12 February 1955

Decree No 1124 of 30 June 1955

Law No 706 of 19 July 1961 Law No 245 of 5 March 1963

Law No 977 of 17 October 1967

Law No 300 of 20 May 1970 Law No 1204 of 30 December 1971 Law No 256 of 29 May 1974

Law No 833 of 23 December 1978

Decree of 31 July 1980

Law No 332 of 27 June 1981

Law No 97 of 23 March 1982

Law No 597 of 12 August 1982

Powers to be introduced by health and safety regulations
Concerning compulsory industrial accidents and sickness insurance
Use of white lead in paint
Limitations on use of benzol and its homologues in work processes
Protection of working children and adolescents
The Workers' Statute

Protection of working mothers Classification and control of packagir and labelling of dangerous substances and preparations

Institution of the National Health Service

Institution of the Higher Institution for Health and Safety at Work Transfer of responsibilities of ENPI ANCC

Standards for homologation activities

by ENPI and ANCC
Regulation of the preventive and
homologation activities of USL and
ISPESL

#### LUXEMBOURG

- Law of 10th February on compensation for occupational desease.

  Law of 10th February fixing the minimum age of admission of children to industrial work.

  Law of 10th February concerning the medical examination of children and young people in non-industrial work.

  Law of 10th February concerning the medical examination of children and young people in industrial work.

  Grand Ducal decree on 13th October on the inspection of employment in industry and commerce.
- 1965 Grand Ducal regulation of 26th May revising the table of occupational deseases for which compensation is payable.
- 1969 Law of 28th October concerning the protection of children and young people.
- 1972 Law of 30 July modifying the law of 28th October 1969 concerning the protection of children and young people.
- 1974 Law of 4th March of reorganisation of the Labour Inspectorate.
- 1975 Law of 3rd July on protection of maternity.
- 1978 Grand Ducal decree of 13th October detailing qualification, etc. of the Labour Inspectorate.
- 1979 Law of 16th April concerning dangerous, dirty or noxious installations.

  Grand Ducal regulations of 16th April determining the list and classification of dangerous, dirty and noxious installations.
- 1981 Grand Ducal regulation of 8th July completing the list of dangerous, dirty and noxious installations.
- 1982 Law of 22nd July on sanitary protection of workers exposed to vinylchloride monomer.
- 1984 Law of 18th May on the classification, packaging and labelling of dangerous substances.

#### **\*NETHERLANDS**

Safety Act (now repealed for private employees)	1934
Dangerous Machines Act	1952
Steam Act	1953
Pesticides Act	1962
Dangerous substances Act	1963
Nuclear Energy Act	1963
Continental Shelf Mining Act	1965
Pressure Working Act (Caisson Act) (now repealed)	1968
Works Council Act	1971
Dangerous Machines (Benelux) Act (not yet in force)	1974
Working Environment Act	1980

3/32

#### UNITED KINGDOM

Mines and Quarries Act, 1954
The Health and Safety at Work Act 1974 (HSWA).

The Factories Act 1961.

The Agriculture (Safety, Health and Welfare Provisions) Act 1956.

The Agriculture (Poisonous Substances) Act 1952.

The Offices, Shops and Railway Premises Act 1963.

The Petroleum (Consolidation) Act 1928.

The Merchant Shipping Act 1979.

The Air Navigation Order 1980 (SI 198 No 1969).

#### STATISTICAL NOTE

The following tables show that benefits for occupational accidents and diseases in the FEC cost around 16 000 million ECU in 1984, about 7% of total expenditure on health benefits. Table 1 gives details of costs by country for 1984 and recent years, provided by EUROSTAT.

Table 2 gives the most recently available data on mortality, analysed by branch of industry, taken from the 1986 ILO employment statistics yearbook. Other illustrative statistics, such as total numbers in employment numbers of accidents resulting in lost workdays, etc. are provided in Table 3. The following table provides available data in reply to a Commission questionnaire sent on 3d June 1987, dealing with the number of employees, the number of deaths due to employment, absences due to injury, cases of occupational diseases and number of workdays lost due to occupational injury. Finally, Table 5 provides available data on number of lost workdays analysed by branch of industry.

Table 5 also illustrates what relatively little comparable data is available in this field. The Statistical Office of the European Communities has been attempting to produce comparable data for several years, with little success. The Commission hopes that Member States shall give such work high priority, in order that more comparable data may be provided.

२ ० ७

Table 1: Benefits for occupational accidents and diseases in billion national currency units

Source: EUROSTAT, theme 3, population and social conditions, series F, rapid reports, September 1986.

			Belgium	elgium Denmark		Spain	France	Ireland	Italy Luxembourg		Portuga	l United Kingdom
			BFR	DKR	DM	PTS	FF	IRL	LIT	LFR	ESC	UKI.
Total:	Benefits for occupational accidents		į									
	and diseases	1980	29,21	0,665	13,54	68,547	23,30	0,0088	1 760	1,344	3,672	0,567
		1982	31,22	0,900	13,63	89,440	29,54	0,0149	2 422	1,687-	6,712	0,631
		1983	31,03	1,112	14,48	99,814	31,79	0,0176	3 207	1,746		0,628
		1984	32,18	0,983	15,06	110,162	33,50	0,0198	4 119		10,111	0,645
	of which:	A				•						
		1980	26,13	0,533	7,92	39,925	20,25	0,0088	1 661	1,205	3,664	0,550
A)	Cash benefits	1982	27,76	0,698	7,95	53,316		0,0148	2 228	1,426	6,692	0,608
		1983	27,79	0,891	8,20	60,624	27,89	0,0176	3 079	1,491	-	0,604
		1984	28,72	0,747	8,51	68,554	29,20	0,0198	3 885	·	10,057	0,618
		В	i i									
		1980	3,08	0,132	5,62	28,622	3,04	0,0000	99	0,138	0,008	0,017
8)	Benefits in kind	1982	3,45	0,201	5,67	36,124	-	0,000	194	0,261	0,020	0,023
	•	1983	3,24	0,221	6,28	39,190	-	0,0000	128	0,255	مد	0,024
		1984	3,45	0,237	6,55	41,609		0,0000	234	•	0,054	0,027

For Greece and the Netherlands no data are available. In fact Greece does not have special schemes for occupational accidents and diseases, these being covered by dickness, invalidity or survivors benefits, subject to special provisions. The Netherlands also does not have specific benefits: since the law of 18 February 1966, occupational accidents and diseases are covered by sickness insurance (benefits in cash and kind), work incapacity, by invalidity schemes and survivors insurance.

Table 2: Data by industry (branches) on mortrality at the work place (Source ILO)

Number of people fatally injured

در	
اسا	

	В	DK	D	ESP	F	GR	IRL	<u> 1</u>	<u> </u>	NL_	P	UK
Agriculture, hunting, for restry and fishing	Not available	(1984) 20	(1981) 597	(1985) 194	(1982)	Not available	(1984)	(1984)* 252	(1984) 5	(1984) 3	(1985) 67	(1984) 31
Mining quarrying		1	153	63	-		1	17	1	-	3	52
Manufacturing .		14	1 188	283	409		6		9	11	99	123
Electricity, gas, water		2	-	16	12		-		-	-	8	12
Construction		5	564	195	392		11		5	13	80	103
Trade, restaurants and hotels		13	-	94	146		-		2	8 .	18	30
Transport, storage, communication		10	_	191	189		•	> 432	_	10	32	44
Financing, insurance, real estate, business services		2	_	58	-		-		-	. 1	1	
Community, social and personal services		13	_	55	211		-		-	3	26	33
Activities not adequately defined		_	-	-	-		-		-	-	44	8
TOTAL	301	80	1 136	1 149	1 359		18	684	22	49	378	436
First six months												

		-
Tabl	_	٠.
IOU		J.

						<del>i</del>	<u> </u>			<u>i</u>		
	8	DK	D	£	F	GR	IRL	IT	L	N	Р	UK
<ol> <li>Total active population (including armed forces) millions 1984</li> </ol>	4,214	2,779	27,639	13,378	23,830	3,9%	1,314	23,415	0,161	5,794	4,536	27,002
2. Total employment millions 1984	3,635	2,532	25,174	10,477	21,511	3,685	1,110	21,025	0,158	5,044	4,155	23,972
<ol> <li>Number of deaths due to employment: answers to the Commission question—</li> </ol>	301	28 (2)	(1985) 2 834	1 102	(1985) 1 067	-	(1985) 18 (1)	(1982) 1 330			(1985) 378	
naire		(1985)	(1981)	(1985)	(1982)		(1985)	(1982)	(1984)	(1984)	(1985)	(1985)
4. Number of deaths, ILO statistics		80	3 638	1 149	951		18(1)	1 580	22	49	- 378	436
5- Number of accidents re- sulting in permanent in- capacity and a pension	(1985) 12 629				(1985) 74 179			(1982) 26 254				
<ol> <li>Number of accidents re- sulting in lost work- days ILO statistics</li> </ol>		(1984) 53 082		(1985) 446 611	(1982) 950 520			(1984) 864 960		(1984) 58 021	(1985) 240 825	(1982) 3% 000
<ol> <li>Accidents in 6 compared to total employment (per '000 employees)</li> </ol>		21,0		42,6	44,2			41,1		11,5	58,0	16,5
(1) Construction and mining only (2) Accidents only												

Table 4: Data on morbidity and mortality at the work place

(Answers to the questionnaire sent on 3 June 1987)

_	
1	025
ì	70.7

	1985					.1					,		
		В	DK	D	E	F	GR	IRL	ΙT	L	N	P	UK
	Number of employees (COO's)			25,531	7 599			1,0739				4,0488	21 461
	Number of deaths due to employment		28	2 934	1 102	1 067		18(1)	1 330 (2) (1982)			378	662
3 <b>.</b>	Number of deaths per 100 000 employees			11,1		7,9			6,3 (2)			9,3	
<b>4.</b>	Number of employees absent due to serious injury for longer than 21 days		2 661 (in 1981)			74 179 (permanent incapacity)			26 254 permanent incapacity)				-
	Number of employees absent due to injury for longer than 3 days		22 397 (in 1981)					at least 3 486	456 201				_
	Number of accupational disease cases recognized	2 477	10 121			5 018			(1982) 25 992			1 041	2 721
	Number of days lost due to occupational injury		-										-
	Construction and mining only With benefit only												

	·		,			<u> </u>			····	L		
	В	DK	D	ESP	F	GR	IRL	I	L	NL	Р	UK
Agriculture, hunting, for restry and fishing	Not available	(1984) 1,571	Not available	(1985) 53,116	(1982)	Not available	Not available	Not available	Not available	Not available	Not available	(1982) 295,0
Mining, quarrying	<del> </del>	0,043	<del> </del>	18,501	<del> </del>	<del> </del>	<del> </del>					1 010,8
Manufacturing		21,593		199,952	11 459,5							3 442,7
. Electricity, gas, water		0,775		3,545	93,7						· · · · · · · · · · · · · · · · · · ·	242,8
, Construction		5,596		60,603	8 191,0		<u> </u>					1 263,8
. Trade, restaurants and hotels		2,450		54,902	1 588,9							895,3
<ul> <li>Transport, storage, communication</li> </ul>		5,327		25,877	1 948,5							866,4
Financing, insurance, real estate, business, services		0,482		3,800	-							106,8
<ul><li>Community, social and personal services</li></ul>		15,245		26,315	4 037,7					·		1 624,5
(). Activities not adequately defined		-		<u> </u>	-							796,8
TOTAL		53,082		446,611	27 319,3							10 544,6
·				ı								
				٠								
				<b>!</b>								
									·			