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## ANALYSIS OF WORKING CONDITIONS IN SPAIN. THE NATIONAL SURVEYS OF THE NATIONAL INSTITUTE FOR SAFETY AND HYGIENE ON THE JOB IN SPAIN

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### **Introduction**

The protection of workers health requires the intervention of public Administrations developing activities of a varied nature, among which stand out those of a normative type, as well as vigilance and control activities, accompanied by those that seek the promotion of prevention, fundamentally through informative and formative actions.

The selection and definition of priorities of the acts aimed at attaining the highest possible effectiveness in terms of prevention, require having available adequate. The main justification to carry

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out and promote research activities in the ambit of safety and health on the job, is their usefulness for those who must take decisions that will have a repercussion on working conditions at a public and private level.

This article analyzes the situation of information on labor conditions in Spain, considering the context of the European Union in that ambit, and exposes recent antecedents and the evolution perspectives that can be expected at present.

## 1. The information system on working conditions

In Spain the information system on working conditions has experienced substantial modifications in the last few years that have improved the gathering of data for preventive purposes. However, they still reflect the priority of welfare aspects with respect to preventive aspects.

### 1.1. WORK ACCIDENTS

The creation of the work accidents insurance in Spain in 1900 had its origin with the birth of Social Security. At present it covers all salaried workers and, recently, autonomous workers who decide to contribute to this insurance.

In order to make effective the fringe benefits of that insurance in case of accident, it is essential to present a prior notification, through the "**Official report of work accident**". This document is the main source of information on work accidents existing in Spain, and was originally destined fundamentally to gather the data necessary to adequately negotiate said insurance; the portion of the information useful for preventive purposes was negligible.

It was modified in 1987, introducing very important variables such as the "**material agent causing the injury**" whose identification makes it possible to orient certain activities aimed at the control of the accident.

In this line of improvement of information, as from January 1 2003<sup>(1)</sup> a new model became effective which incorporates variables that considerably enrich the description of the accident and its circumstances. These are, among others, the **type of place** where the accident was produced, the **type of work** being performed by the worker injured, the **specific physical activity** he was developing, the **deviation** that caused the accident and the **material agents** involved.

In Spain, the rate of notification of work accidents causing absence from the job is practically 100% and therefore the information gathered on these accidents has also a total coverage. Undoubtedly this is the type of damage to the health of workers on which there is a higher degree of knowledge, and there is free access to this information through the web page of the Labor and social Affairs Ministry<sup>(2)</sup>.

In spite of the foregoing, some very important hiatus of information still exist with respect to work accidents, especially as regards their **causes**, which is the fundamental information to define the preventive measures necessary for their control.

The data furnished by the notification system facilitate a better knowledge of the occurrence and are a considerable help for the identification of the **causes of the accident** which we can only determine after a process of **investigation of the accident**.

At present, the information existing in Spain on the causes of accidents is scarce and occasionally it is possible to find information that identifies causes with



some of the above variables, such as, for example, the "form, contact-modality of the injury". Thus, for instance, it is not rare to read that "9.9% of fatal work accidents are produced due to the falling of persons to a different level". This is no doubt an interesting information, but does not give us any idea of the causes of said falls, or even less on how we can prevent them.

This absence of information does not mean that the causes of work accidents are unknown, because the labor risks prevention Law<sup>(3)</sup> in its article 16-32 provides that:

*"When workers healths has been damaged or when on the occasion of the vigilance of health provided for by article 22 there are indications that the prevention measures are insufficient, the enterprise will carry out an investigation in this respect, **in order to detect the causes of these facts**".*

This guarantees that the enterprise, which is responsible for preventing the recurrence of an accident, will know the causes that produced it and will support its subsequent action with respect to these causes.

The problem of the lack of information on which to sustain its actions is not inside the enterprise, at least theoretically, but in the Public Administrations which, with certain exceptions of an autonomic ambit, do not have equivalent data and, in no event data with a national coverage, which makes it difficult to make accurate diagnoses, to prove the effectiveness of the policies and to determined the need to change them, as recommended by the International Labor Organization<sup>(4)</sup>. Consequently, the deficiencies of information on the causes of accidents existing at present, limit considerably the effectiveness of the preventive activities implemented by Public Administrations.

Recently, the National Institute for Safety and Hygiene on the Job (INSHT) has implemented a project of collaboration with the Technical Organs of Autonomous Communities, whose technical personnel investigates at least the serious and fatal accidents, in order to homogenize the information gathered by them especially through the design and utilization of a code of causes of work accident, and thus be able to put together all the information and offer information of a national ambit. The results of the project for the year 2002<sup>(5)</sup> have already been presented and, shortly, as the project progresses the results of successive years will be made public.

## 1.2. PROFESSIONAL ILLNESSES

The information on professional illnesses in Spain is even more insufficient than that on work accidents.

On the one hand, a list of professional illnesses established in 1978 is being applied, which will shortly be renewed as a consequence of a Recommendation of the European Commission in this respect<sup>(6)</sup>. Also, another important problem is the different systems of identification and recognition of the professional illness. This aspect is much more complex than in the case of work accidents and frequently requires the involvement of the corresponding personnel of the Health System who initially have to face the problem, without in many cases being able to identify it and treat it adequately according to its labor origin.

At present the subject of professional illnesses is being treated within the so called "**Social Dialogue**" in which social agents (enterprises and unions) together with the Government, analyze problems of a labor ambit and agree on possible measures.

In this respect there is also a work team assigned to the study of this subject within the **National Commission for Safety and Health on the Job**, of a tripartite composition, that analyzes relevant aspects within the ambit of the prevention of labor risks <sup>(7)</sup>.

### 1.3. WORKING CONDITIONS

When we talk of workers health, we know that, in spite of their importance, it is necessary to speak not only of work accidents and professional illnesses, because health can also be affected by other type of events, especially those that affect the psycho-social equilibrium and that adopt different forms of damage, such as stress, depression, dissatisfaction, mental fatigue, etc.

Workers health is not divisible and must be protected and promoted in its entirety, understanding it as a state of equilibrium, which in its maximum development would correspond to the definition offered in 1947 by the World Health Organization "**health is a state of physical, mental and social well being and not only the absence of illness or pain**".

In Spain, the above mentioned Law on the prevention of labor risks defines "working conditions"<sup>(8)</sup> as follows:

*"Working Conditions" will be understood as any characteristics of work that may have a considerable influence on the generation of risks for the safety and for the health of the worker. This definition specifically includes.... (mention is made here of the premises, facilities, equipment, products, physical, chemical and biological agents, procedures for their utilization, and "all other characteristics of work including those relative to its organization and*

*arrangement that have influence on the magnitude of the risks to which the worker is exposed".*

To prevent the deterioration of health attributed to work, it is essential to be familiar, in the first place, with all the damages produced, separating from the rest, to the extent possible, those of a work origin. The damages to health that do not have the legal interpretation of work accident or professional illness, are taken care of by the Public Health System that furnishes assistance and handles the pertinent information. It is to be assumed that part of the damages to health that are related to work are among them, although it is not possible to identify them nor even to know their statistical importance. In view of this situation, it is necessary to fill in the hiatus of the existing information system with other investigation initiatives, which in this case consist basically of those known as "Surveys on working conditions".

## 2. Surveys on working conditions

The need to become familiar with working conditions in order to promote preventive strategies exists at all levels and, therefore, it is possible to identify activities aimed at gathering that information in almost all the ambits of action.

### 2.1. INTERNATIONAL AMBIT

An overall vision of the surveys on working conditions carried out in different countries, is contained in the study "Surveys on working conditions. Comparative analysis of the sources of data, availability of data and results obtained from national surveys on working conditions" prepared by the National Institute for Safety and Hygiene on the Job

at the request of the European Foundation for the Improvement of Living and Working Conditions, located in Dublin<sup>(9)</sup>.

This paper makes a compilation and description of 18 surveys on working conditions and presents a comparative analysis of their main characteristics, such as objectives, ambit, population studied, sampling, information gathering system, information to be gathered, etc., of great interest to become familiar with this type of investigations more and more frequent in the labor world.

## 2.2. EUROPEAN UNION

In the European Union the information on working conditions is gathered and diffused by two organizations: the already mentioned European Foundation and the European Agency for Safety and Hygiene on the Job, with see in the city of Bilbao (Spain).

To underline its most important activities, we will say that the Foundation has carried out three "European Surveys on Working Conditions" (1991, 1996 and 2000) and a fourth survey, in 2001-2003, among the countries then candidates to become members of the European Union. The results of these reports are available in the web page of the Foundation<sup>(10)</sup>. On the other hand, the recently created "European working conditions observatory"<sup>(11)</sup> is also located in this Foundation.

With respect to the European Agency, it constitutes at present the main source of European information on labor safety and health. It is in charge of compiling, generating and making available to the public all relevant information on the prevention of work risks<sup>(12)</sup>, as well as of organizing events and activities on the subject. This is the case of the already habitual "European week for labor safety and health" that consists in organizing

every year activities on a subject previously selected; for example, in 2004 it was the struggle against work accidents in the Construction sector, and in 2005 it will be the struggle against noise.

The Agency, together with the Governments, enterprises and workers, is also working at present in the creation of a "*Risks observatory*, based on specific examples of good practices of enterprises or sectors of activity", in compliance with the provisions of the Commission's Communication: "*How to adapt to the changes in society and in the labor work: a new community strategy for health and safety (2002-2006)*"<sup>(13)</sup>.

In Spain, the National Institute for Safety and Hygiene on the Job, as the Spanish reference center in the European Agency, is developing an observatory at a national level in line with that to be finally designed at an European level.

## 2.3. SPAIN

The information on working conditions in Spain is generated fundamentally by public organizations belonging to the labor ambit. We can highlight the information gathered by the Labor and Social Affairs Ministry, through the General Under-Directorate for Social and Labor Statistics and, mainly, through the National Institute for Safety and Hygiene on the Job. In both cases, the data furnished refer mostly to the national ambit. On the other hand, a growing number of Autonomous Communities, through the organizations in charge of labor safety and health in eachr community, have carried out and are carrying out at present, autonomic surveys on working conditions<sup>(14)</sup>.

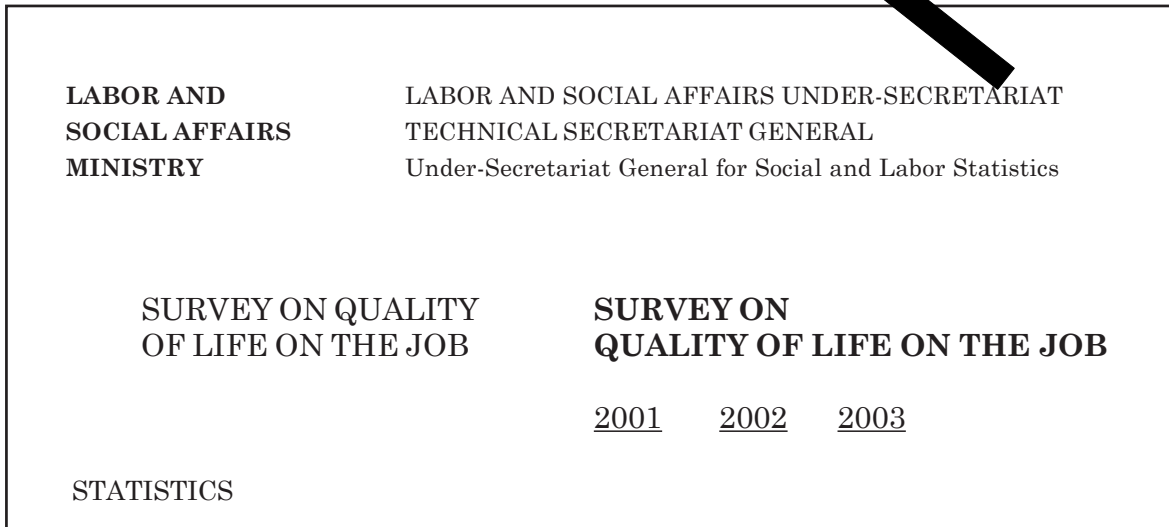
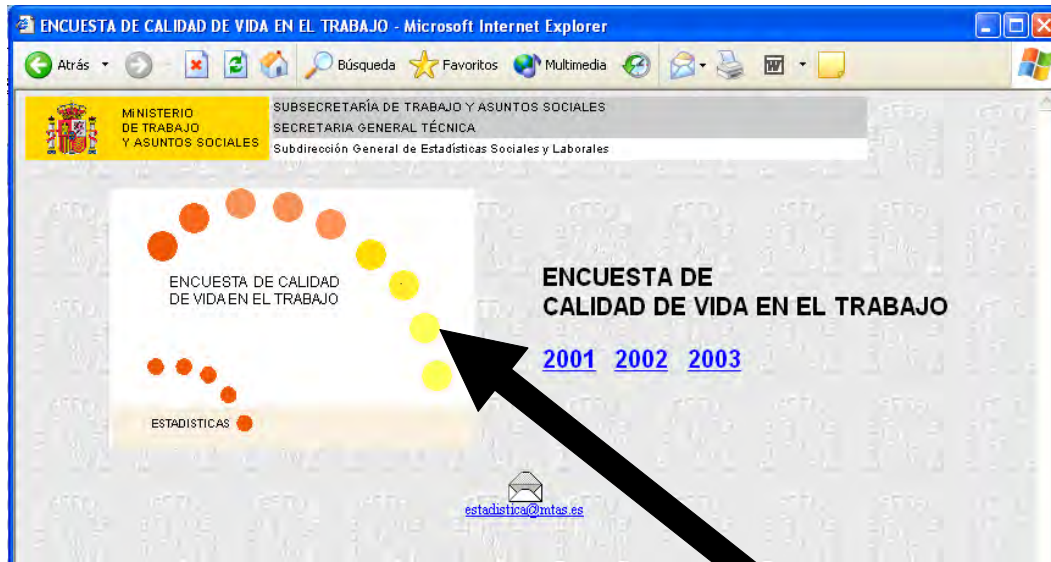
The above mentioned General Under-Directorate for Social and Labor Statistics is in charge of administering statistical



information of a labor ambit<sup>(15)</sup>. Among its activities are the so called "Monographic publications obtained through sampling" and, among them, since the year 2001, it has been editing the "Survey on the quality

of life on the job"<sup>(16)</sup>; this survey investigates the following subjects: satisfaction on the job, working environment, organization of work, continuous training and professional trajectory, labor and geographical mobility and conciliation of labor and family life.

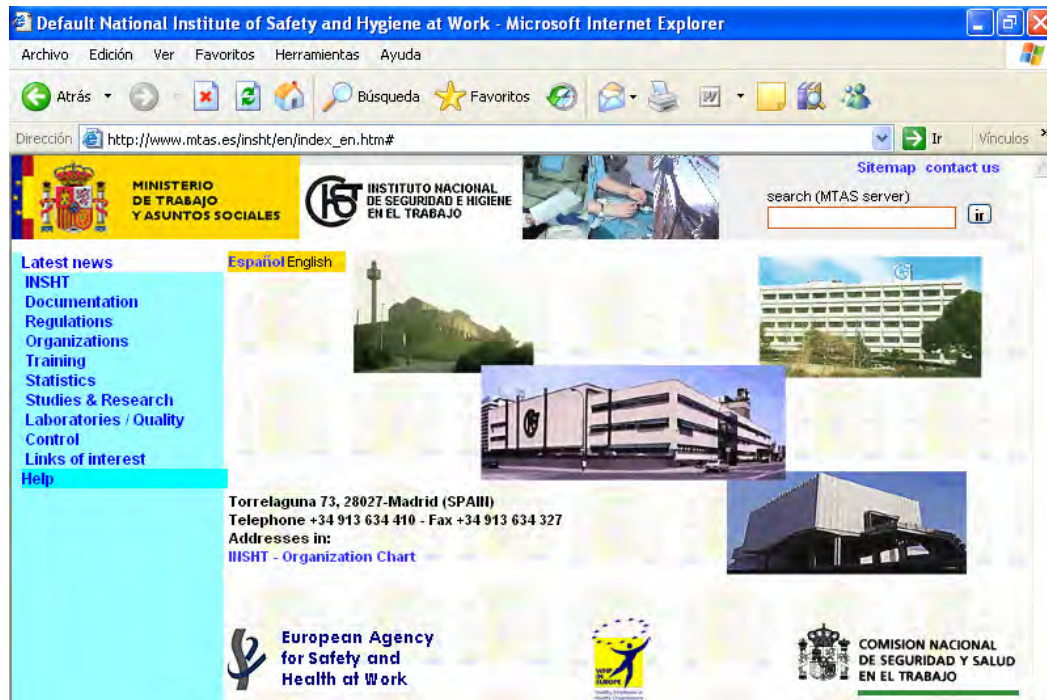
**FIGURE 1. Survey of quality of life on the job**



The National Institute for Safety and Hygiene on the Job, on the other hand, is the "specialized scientific-technical organ of the General Administration of the State that

*has as its mission the analysis and study of labor safety and health conditions, as well as the promotion of and support to their improvement"*<sup>(17)</sup>.

**FIGURE 2. National Institute for Safety and Hygiene on the Job**



Information is an indispensable requisite for the definition and implementation of effective preventive policies; therefore, knowing the situation, evolution and perspectives of working conditions constitutes a fundamental objective of the Institute in the compliance with the aforementioned mission. This is even more necessary because, as commented before, the information system on working

conditions existing in Spain does not gather data that are fundamental to make it possible to understand them.

For this reason, the Institute has been developing a series of studies that we can group under the generic title of *Survey on working Conditions* and that, arranged chronologically, appear in Chart 1.

**CHART 1. Survey on working conditions of the National Institute for Safety and Hygiene on the Job**

Year	Survey
1983	<i>National Survey on working Conditions in Construction (Building)</i>
1987	<i>I – National Survey on Working Conditions</i>
1987	<i>Survey on Working Conditions. Risk Map of La Rioja (Industry and Services)</i>
1987	<i>Survey on Working Conditions, Risks Map of La Rioja (Agriculture)</i>
1990	<i>Survey on Working Conditions in the Wood Industry</i>
1990	<i>National Survey on Working Conditions in Construction</i>
1993	<i>II – National Survey on Working Conditions</i>
1997	<i>III – National Survey on Working Conditions</i>
1999	<i>IV – National Survey on Working Conditions</i>
2003	<i>V – National Survey on Working Conditions<sup>(18)</sup></i>

The surveys on working conditions carried out have had a different sectoral ambit, and none of them represents all the sectors of activity.

Some of them are specifically sectoral, such as those relative to Construction, the first edition of which, corresponding to 1983, is limited to a section of this industry: Building. This is a very important sector due to the high level of risk of accident normally involved and, for this reason, in the survey of the sector carried out in 1990, the ambit was widened and versions III, IV and V of the National Survey on Working Conditions already include this sector.

An activity scarcely represented in these studies is Agriculture, which was only surveyed in 1987 on the occasion of the preparation of the "Risks Map of La Rioja"; in this case, two surveys were made, one for workers of Industry, Construction and Services, and another aimed at agricultural autonomous workers<sup>(19)</sup>.

Recently, the Autonomous Communities of Navarra and La Rioja have carried out a survey on said sector and, the National Institute for Safety and Hygiene on the Job INSHT has planned to design this year a survey of a national ambit.

Other sectors scarcely studied are Fishing and Mining; in this latter sector the Labor and Social Affairs Ministry has no competence with respect to labor safety and health.

### **3. The National Surveys on Working Conditions of the National Institute for Safety and Hygiene on the Job (INSHT)**

As shown on Chart 1, since 1987 the INSHT has carried out periodically the National Survey on Working Conditions (ENCT), whose fifth edition was developed in 2002-2003. The first ENCT of this series was made in the absence of studies of a global nature that would serve as reference to establish programs and assign priorities in the action policy in the ambit of working conditions in Spain; on the other hand, the increase in the initiatives related to the work environment in the European Union, evidenced the need for the availability of homogenous and general studies on the working conditions existing in our country. The results obtained with this first ENCT made it possible to have access to global data on different aspects of the working conditions which arose the interest of the different groups engaged in the study of this subject.

**FIGURE 3. National Surveys on Working Conditions**



EDITIONS	
I ENCT – 1987	NATIONAL SURVEY ON WORKING CONDITIONS
II ENCT – 1993	NATIONAL SURVEY ON WORKING CONDITIONS
III ENCT – 1997	III NATIONAL SURVEY ON WORKING CONDITIONS
IV ENCT – 1999	IV NATIONAL SURVEY ON WORKING CONDITIONS
V ENCT – 2003	V NATIONAL SURVEY ON WORKING CONDITIONS
	V NATIONAL SURVEY ON WORKING CONDITIONS



The ENCT constitutes nowadays a consolidated reference instrument for those working in the study of labor safety and health in Spain, as it makes available abundant quantified data on different aspects of working conditions and of the health of workers which it is not possible to find in other private or public statistical sources. These data are the basis for the performance of other studies related to labor risks prevention and their effects (specific studies on certain risks, on certain sectors of activity, etc.) In order to make it possible to prepare these other studies, the INSHT makes available at, no cost, a CD with the matrixes of data from these surveys to all the investigators, experts and professionals in the field of prevention who request them, not only at a national level but also at an international levels. To this effect it is necessary to justify the request within the frame of a specific study or activity, using a form furnished by the INSHT, where the necessary instructions are offered.

On the other hand, these data constitute a reference to establish working lines and assign priorities in the action policy of the Administration, in collaboration with the different social agents, within the ambit of working conditions in Spain.

Comparative studies of international surveys of the same characteristics as the Spanish ENCT, as the already mentioned comparative study requested by the European Foundation from the INSHT, have evidenced the variety of methodologies and technical developments presented by the different surveys. Analyses of this type imply a methodological debate, added to the suggestions made from different scientific-social ambits with respect to the Spanish survey; this is why the INSHT is considering the renewal of certain procedures applied so far.

One of these changes is that relative to the place where it would be more advisable to carry out the interview with the worker: at his domicile or at his place of work. The decision of carrying it out in one place or the other, presents advantages and inconveniences and is a topic of debate. In the case of the Spanish ENCT, the interview to the worker has been always made at his place of work.

With the objective of improving, if this should be the case, the procedure used at the ENCT and to respond to this methodological question, which transcends the ambit of the study made by the INSHT, this Institute is carrying out at present a survey of a national scope on working conditions applying, basically, the same questionnaire used in the fifth and last edition of the ENCT but carrying out the interview with the worker at his domicile instead of at his work center. The comparative analysis of the results with one or the other procedure, will be decisive for the incorporation of a different methodology in the Spanish case, and will give light among national and international investigators on the best environment for the interview to the worker.

### 3.1. OBJECTIVES

Each investigation has objectives that are related to the needs existing at the time in which its realization was decided and its design was undertaken. Thus, the last three surveys were mainly aimed at learning the degree of application of the preventive normative derived from the Law for the Prevention of Labor Risks enforced in 1995, as well as the development of the new preventive model derived from that Law.

In addition to these objectives, the ENCT has other objectives of a permanent nature, such as those aimed at increasing the understanding of the working conditions



and their relationship with the health of Spanish workers, trying to fill in the gaps of the existing official information system.

Thus, for example, the objectives presented in the V ENCT, can be grouped in various blocks.

In the first place, those relative to **risk factors** with their corresponding exposures:

- *Find out those factors of the labor environment that have influence on the health of the workers.*
- *Characterize the most frequent labor exposures.*

In the second place, those who intend to know the **degree of implementation of the established preventive model**, as well as the preventive activity developed. These are the following:

- *Find out the existing preventive structures.*
- *Estimate the preventive activity of enterprises as from the actions developed.*

Finally, since this is a periodical investigation, it is possible to analyze the **changes produced in working conditions in the course of time**. This sets forth also the objective indicated below:

- *Find out the evolution followed by the Spanish working population with respect to its working conditions.*

## 4. The V National Survey on Working Conditions

To facilitate the description of the characteristics of the surveys on working conditions carried out by the National Institute for Safety and Hygiene on the Job in Spain, as well as the presentation of the results obtained, we will use as a reference example the last survey published, which is the V-ENCT, bearing in mind that among the different surveys carried out there are specific differences that must be taken into consideration at the time of making comparisons.

### 4.1. TECHNICAL DESIGN

#### 4.1.1. Population and Sample

The population is made up of the work centers with more than one worker, corresponding to all economic activities, excluding Agriculture and Mining, and belonging to the entire national territory, except Ceuta and Melilla.

Two different sources of information have been specifically defined, the persons responsible for the enterprise and the workers —preparing different questionnaires in each case—. In total, 9,290 interviews were made; 4,054 of these interviews have been made with the persons responsible for the enterprise and 5,236 with the workers.

#### 4.1.2. Sampling error

For a reliability level of 95.5%, the maximum sampling error is +/- 1.57% for the overall sampling corresponding to those responsible for the enterprise and +/- 1.38% for that corresponding to the workers.

In the nine branches of activity considered, and in the five working force size intervals used in the analysis, the sampling error was lower than 5%.

#### 4.1.3. Sampling procedure

As in previous National Surveys, working centers have been stratified according to the main economic Activity as per the National Code of Economic Activities (CNAE-93), grouped in nine large groups or branches, and according to the size of the working force of the working center.

Later on, working centers were selected in an aleatory manner in each one of the strata integrated, and in each one of them, workers were selected with a simple aleatory sampling, on the basis of the personnel roll of the working center or construction work on the date of the visit of the interviewer. In the event that the working center should have 250 or more workers, two were selected instead of one.

The distribution of the sample in the different Branches of Activity considered, is shown in the following chart:

**CHART 2. Size of the sample by branches of activity**

BRANCH OF ACTIVITY	PERSONS RESPONSIBLE FOR THE ENTERPRISE	WORKERS
CHEMISTRY	395	461
METAL	496	66
OTHER MFG. INDUSTRIES	466	562
OTHER INDUSTRIES	424	490
ADMINISTRATION/BANKING	479	686
TRADE/HOTELS	466	600
SOCIAL SERVICES	436	623
OTHER SERVICES	472	637
CONSTRUCTION	420	516
<b>TOTAL</b>	<b>4,054</b>	<b>5,236</b>

*Source: V National Survey on Working Conditions (2003)*

## 4.2. QUESTIONNAIRES

Due to the special characteristics of the Construction sector, it was decided to prepare different questionnaires for the rest of the sectors, which will moreover differentiate the role of the enterprise in the specific work.

On the other hand, the existence of two different sources of information, responsible for enterprise and workers, generated specific questionnaires.

The five questionnaires mentioned below were used:

- For the Construction Sector:
  - ◆ Questionnaire for Construction enterprises.
  - ◆ Reduced questionnaire for Construction enterprises (for companies participating in construction works as sub-contractors).
  - ◆ Questionnaire for the Construction worker.
- For Industry and Services:
  - ◆ Questionnaire for enterprises in general.
  - ◆ Questionnaire for workers in general.

The variables to be found through the surveys, are grouped in the following information blocks:

- Organization of prevention.
- Preventive activities
- Safety conditions
- Environmental conditions
- Design of the job.
- Physical work burden.
- Mental work burden.

- Psycho-social factors.
- Technological innovation: machinery and equipment.
- Damages to health.
- Working population and its perception of the working conditions: differences and similarities.

To facilitate the knowledge on the type of variables whose study was interesting, it is necessary to become familiar with the questionnaires used, which are accessible as indicated before. However, and in the context summarized in this article, we will enunciate below, in a summarized manner, the variables relative to the questionnaire for the general workers, bearing in mind that there are certain differences in the questionnaire for the Construction sector.

**CHART 3. Variables studied in the workers questionnaire in the Industry and Services sectors**

<u>Type of contract</u>	<ul style="list-style-type: none"> <li>• Contractual modality.</li> <li>• Remuneration method.</li> </ul>
<u>Type of work</u>	<ul style="list-style-type: none"> <li>• Job or position in the work center.</li> <li>• Alternation/permanence of the position held.</li> <li>• Mass production work.</li> <li>• Isolation/cooperation with other workers of the work center.</li> <li>• Seniority in the present enterprise.</li> <li>• Seniority in the present job.</li> <li>• Probability of losing the job or that the contract may not be renewed.</li> <li>• Instrument or fundamental materials means to perform the work.</li> <li>• Training on the part of the enterprise to develop the work.</li> </ul>
<u>Thermal environment</u>	<ul style="list-style-type: none"> <li>• Place where he performs his customary work.</li> <li>• Valuation of temperature.</li> <li>• Valuation of humidity.</li> </ul>
<u>Physical agents</u>	<ul style="list-style-type: none"> <li>• Valuation of noise level.</li> <li>• Existence of vibrations.</li> <li>• Existence of radiations.</li> </ul>
<u>Chemical contaminants</u>	<ul style="list-style-type: none"> <li>• Manipulation of toxic substances or products.</li> <li>• Labeling of toxic substances or products.</li> <li>• Inhalation of dust, smoke, gases or toxic vapors.</li> </ul>
<u>Safety conditions</u>	<ul style="list-style-type: none"> <li>• Principal risk of accident.</li> <li>• Principal causes of risks of accident.</li> </ul>

<p><u>Design of the job, work burden and psycho-social factors</u></p>	<ul style="list-style-type: none"> <li>• Design of the job.</li> <li>• Customary body posture during work.</li> <li>• Physical demands of the work.</li> <li>• Muscular-skeletal discomfort derived from the physical burden.</li> <li>• Demands for attention, rhythm and repetitiveness.</li> <li>• Duration of repetitive tasks.</li> <li>• Amount of work.</li> <li>• Other demands of the job.</li> <li>• Monotony.</li> <li>• Facilities/difficulties to perform the work.</li> <li>• Consequences of errors.</li> <li>• Seriousness of errors.</li> <li>• Aspects that prevent or make it difficult to talk with fellow workers while working</li> <li>• Valuation of the relationship with superiors, fellow workers and subordinates.</li> <li>• Training required to perform the job.</li> <li>• Opportunity to apply capacities and know-how on the job.</li> <li>• Autonomy in the performance of the job.</li> <li>• Determining aspects of the rhythm of the work.</li> <li>• Frequency with which the task being performed must be interrupted.</li> <li>• Consequences of interruptions in the development of the work.</li> <li>• Possibility of stopping or being absent from work.</li> <li>• Promotion.</li> <li>• Participation.</li> </ul>
<p><u>working schedule</u></p>	<ul style="list-style-type: none"> <li>• Number of working hours per week.</li> <li>• Normal working schedule</li> <li>• Number of days for a change of shift.</li> <li>• Present work shift.</li> <li>• Work during holidays.</li> <li>• Flexibility/rigidity of working schedule.</li> <li>• Increase in working hours.</li> <li>• Fundamental reason for increasing working hours.</li> </ul>
<p><u>Organization of prevention</u></p>	<ul style="list-style-type: none"> <li>• Existence of a Prevention Delegate in the work center or enterprise.</li> <li>• Existence of an On the Job Safety and Health Committee.</li> <li>• Resources implemented at the enterprise for the prevention of risks.</li> </ul>
<p><u>Preventive activities</u></p>	<ul style="list-style-type: none"> <li>• Medical check-up made by the company in the last 12 months.</li> <li>• Reason for the medical check-up.</li> <li>• Information on the results of the medical check-up.</li> <li>• Evaluation of the medical check-up.</li> <li>• Study of risks of the job.</li> <li>• Aspects analyzed in the study of risks of the job.</li> <li>• Adoption of measures after the study of risks of the job.</li> <li>• Measures adopted after the study of risks of the job.</li> </ul>

	<ul style="list-style-type: none"> <li>• Mandatory use of individual protection equipment.</li> <li>• Mandatory individual protection equipment.</li> <li>• Participation of the worker in the selection of individual protection equipment.</li> </ul>
<u>Training</u>	<ul style="list-style-type: none"> <li>• Training furnished by the company during the last 12 months.</li> <li>• Orientation of the training activity.</li> <li>• Characteristics of training relative to the prevention of labor risks.</li> </ul>
<u>Violent behavior on the job</u>	<ul style="list-style-type: none"> <li>• Exposure to violence or discrimination during the last 12 months.</li> <li>• Exposure to specific violent behavior during the last 12 months.</li> <li>• Persons who have exercised violent behaviors.</li> <li>• Number of persons who have exercised violent behaviors.</li> </ul>
<u>Damages to health</u>	<ul style="list-style-type: none"> <li>• Work accidents during the last 12 months.</li> <li>• Causes of work accidents.</li> <li>• Recognition of a professional illness.</li> <li>• Nature of the professional illness.</li> <li>• Symptomatology.</li> <li>• Number of medical consultations for one problem, discomfort or illness during the past year.</li> <li>• Number of medical consultations for health problems derived from the job.</li> <li>• Health problems derived from the job that motivated the medical consultation.</li> <li>• Consumption of medicines.</li> <li>• To which degree do certain aspects of the work annoy the worker.</li> </ul>
<u>Personal data</u>	<ul style="list-style-type: none"> <li>• Age.</li> <li>• Nationality.</li> <li>• Genre.</li> <li>• Number of children younger than 18 years of age living with the worker.</li> <li>• Degree of literacy.</li> <li>• Level of studies.</li> <li>• Person who contributes more income to the household.</li> <li>• Traveling time to the place of work.</li> </ul>

**Source:** Workers questionnaire. V National Survey on Working Conditions (2003)

### 4.3. RESULTS

The results obtained through the V National Survey on Working Conditions are shown amply and in detail in the publications made by the National Institute

for Safety and Hygiene on the Job<sup>(20)</sup>. To summarize, a selection of the most relevant data is shown below.



- **Insufficient growth of the presence of prevention delegates in work centers.**

55% of work centers with six or more workers have *prevention delegates*. This percentage has increased by twelve points since 1999 (IVENCT) and by twenty six with respect to 1997 (IIENCT). In spite of this important increase, a prevention delegate has not yet been designated in 44% of work centers with six or more workers.

On the other hand, the constitution of the *committee for safety and health on the job* is a fact in 90% of the enterprises with 50 or more workers that have appointed a prevention delegate.

- **Generalized increment of existing preventive resources. The *outside prevention service* is the dominant element of the Spanish preventive system.**

The frequency of enterprises that have some preventive resource to meet its obligations on the matter of work risks prevention is 90.5% (this figure represents an increase of fifteen percentage points with respect to 1999).

The modality of preventive organization more frequently adopted by enterprises is the *outside prevention service* whose presence grows spectacularly from 39.2% in 1999 to 73.4% in 2003. In their majority, enterprises hire this service with their work accidents and professional illnesses mutual institutions.

As could already be observed in 1999, in addition to the outside prevention service, considering the size of the working force the adoption of the following preventive resources stands out: the direct assumption of prevention

on the part of the *enterprise* itself in enterprises with less than 6 workers (23.1%); *the designation of workers* to take care of prevention in enterprises with 6 to 499 workers (23.2%); and the *internal or joint preventive service* in enterprises with 500 or more workers (73%).

- **Notable increase of activity in risk prevention on the part of enterprises.**

The results show a notable increase of all investigated preventive activities and this has been true in all sectors of activity. In spite of this, the group of enterprises that inform having carried out no preventive activity in the last two years still represents 14%, a percentage that in 1999 was 25%.

The preventive activities carried out more frequently in work centers are *medical check-ups* - health prevention – (carried out by 69% of the work centers) and the *initial evaluation of risks* (carried out or in the process of realization by 61% of the Industry and Services work centers). The activities in the work center aimed at *information* on risks and on measures adopted (50.2% of the centers), and *training* on the matter of safety and health on the job (49.5% of the centers) also stand out.

- **An increase in studies related to body posture on the job, physical efforts and repetitive movements.**

34.5% of the workers inform that in their job a *specific study of the risks* for their health and safety has been made during the past year; these studies have increased by fifteen percentage points since 1999. The aspects more frequently studied have been those related to body posture on the job, physical efforts and repetitive movements (40% in 1999 and 51% in 2003).

- **Skepticism grows among workers with respect to the usefulness of medical check-ups and their relationship with the risks of their jobs.**

During the past year 66% of the workers have been subject to a medical check-up on the part of their enterprise; the check-ups have increased by nine percentage points with respect to 1999. Although most of those workers (58%) consider that this check-up is useful, since 1997 an increase in skepticism has been detected with respect to its usefulness and its relationship with the risks that exist in their work area (39% in 2003).

- **The frequency of workers who have received training on the matter of prevention has increased twofold.**

Training on preventive matters has increased with respect to the previous Survey, because the percentage of workers trained during the past year has increased from 15.9% in 1999, to 29.8% in 2003. This growth is detected practically in all branches of activity

- **For more than 70% of the workers there are still risks of accidents on the job.**

In the current Survey, the risk of accident on the job is perceived by 73.7% of the workers, without there being differences with the frequently found in 1999. The activities where workers perceive a higher percentage of a risk of accident are Construction (98.4%), Metal (91.7%) and Chemistry (88.8%).

With respect to type, the most frequent risks are: *blows*, mentioned by 35.6% of the workers, *cuts* and *stabs* (35%), the *falls of persons on the same level* (23.8%)

and the *falls of objects, materials or tools* (21.4%).

- **Muscular-skeletal discomfort derived from work constitute a growing problem for the safety and health of the workers.**

79% of the workers indicate feeling discomfort derived from body posture and efforts made in their work, especially at the lower zone of the back (41%), neck (40%) and at the higher zone of the back (23%). This discomfort, added to that suffered at the upper limbs, have shown a continuous increase in the five Surveys carried out up to this date.

In this same sense, we must point out that 47% of the workers who demanded medical care due to causes related to work, were motivated by back pain; following in frequency were consultations for neck problems (29.3%) and upper limbs (16.4%).

- **The percentage of workers who find it difficult to sleep or who do not sleep well is increasing.**

With respect to 1999, it should be pointed out that among workers, alterations of sleeping habits have increased (from 10.2% to 14.5%); this type of alterations are more frequent in the Social Services, Administration/Banking and Chemistry activities.

We should also point out the increase in the continuous sensation of fatigue (from 10.2% to 12.3%) and in headaches (from 12.3% to 14.1%).

- **The exposure to chemical contaminants increases**

Since the first Survey (1987) and up to the current fifth Survey, the workers who say that they "manipulate" toxic or

harmful substances or products, as well as those who assert that they «breathe» dust, smoke, aerosols, gases or harmful or toxic vapors (excluding tobacco smoke) have not ceased to increase, and have reached at present percentages of 22.3% and 19% respectively.

- **The performance of the work demands a high level of attention and a high rhythm of work.**

We have observed an increase in the demand to maintain a *high or very high level of attention*, and to maintain a *high rhythm of work* during more than half of the working day (65% and 40% respectively).

There has also been an increase in the *amount* of work with respect to 1999 (with a decrease in the group of those that consider it normal and an increase in those that are oppressed by considering it excessive – 14.5% in 1999 and 18% in 2003) and in the responsibility in the performance of the task related to the *consequences of possible errors* (28% of the workers state that errors may have serious consequences - 22% in 1999).

- **Almost half of the workers have little autonomy in the performance of their work.**

48% of the workers can never modify any or several of the following aspect of their work: sequence of the tasks, working method, work rhythm and distribution or duration of breaks in the work.

On the other hand, the obstacle to the *communication* among workers while performing their work have increased, mainly due to the rhythm of work to be maintained and to the impossibility of deviating attention from the work. Otherwise, the "good relationship"

among fellow workers and bosses are maintained.

- **More and more workers have atypical working schedules.**

Atypical working schedules such as working in shifts affect progressively a higher percentage of workers. Thus, the percentage of workers who have to work in rotating morning/afternoon, morning/afternoon/night shifts or any other type of rotating shifts has increased (11% in 1999 and 16.5% in 2003).

In addition to the above, 21.6% of workers indicate that they must *always* or *frequently* work on Saturdays and 10.8% must work on Sundays and holidays.

On the other hand, almost half of the workers state that they their working schedule is sometimes lengthened; an increase in length that in 22% of the cases is made with no kind of compensation, neither of an economic nor of a free time nature. While men normally lengthen their working schedule more frequently than women, the latter do so to a higher extent without compensation. The principal reason for these extensions of the working schedule is the overload of work.

- **Workers with a temporary contract have working conditions that are more unfavorable than those of workers with an indefinite period contract.**

They perceive to a greater extent risks of accident in their job (82% versus 72%); they perform more fatiguing physical tasks (painful or tiring body postures, manipulation of heavy burdens, etc.); they more frequently perform very repetitive and short tasks (33.5% vs. 28.6%); they complaint more

frequently of muscular-skeletal discomfort at the lower zone of the back (46.4% vs. 39.8%) or at the upper limbs (39.3% vs. 28.8%); or receive less training in general on the part of their company (55.9% vs. 59.7%).

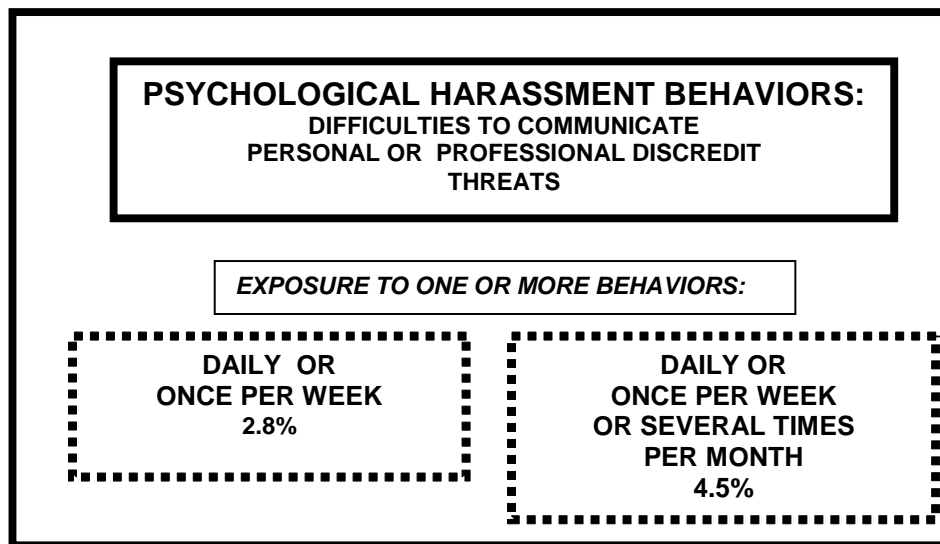
- **The workers say that they have been subject to different kinds of psychological harassment behaviors.**

One of the novelties of this fifth edition of the survey, is the inclusion of questions with respect to psychological harassment on the job, which refers to a

type of problems in which social sensibility is growingly high, and on which very unequal data are offered in communication media. The INSHT decided to include these variables in the V ENCT, as was the case in the III European Survey on Working Conditions.

The results obtained indicate that 2.8% of the workers had been subject to psychological harassment on the job daily or at least once a week, and that 4.5% had been subject to psychological harassment several times during the month.

**FIGURE 4. Psychological harassment behaviors**



Source: - Workers Questionnaire. V National Survey on working Conditions (2003)

To complete the above data summary, we are going to comment briefly the results obtained with respect to the perception of the working conditions on the part of workers. With this we pretend to complement the descriptive vision of existing working conditions with the "degree of annoyance" felt with respect to them.

To carry out this analysis we started from the question *To which extent do the following aspects of your work annoy you?*, offering the worker the possibility of giving his opinion on fourteen aspects relative to his working conditions: lack of autonomy; rhythm imposed; control exercised by supervisors; working schedule; monotony; difficulty of communication with others; physical effort; body posture on the job;

lighting; noise; temperature and humidity; chemical contaminants; risks of accident; and instability on the job. With respect to each one of them, the worker had the options of replying: "none", "not much", "average", "very much" or "too much".

The following chart shows the results obtained in each variable comparing this survey with the previous survey.

**CHART 4. Distribution of workers who consider very or too annoying different aspects of their work. Comparison between 1999 and 2003**

	1999		2003	
	N	%	N	%
Lack of autonomy	177	4.8	310	6.0
Imposed rhythm	307	8.3	499	9.6
Control exercised by supervisors	159	4.3	217	4.2
Working schedule	293	8.0	418	8.0
Monotony	320	8.7	497	9.6
Difficulty in communication	103	2.8	153	3.0
Physical effort	175	4.8	282	5.4
Body posture	364	9.9	576	11.1
Lighting	214	5.8	275	5.3
Noise	276	7.5	380	7.3
Temperature/humidity	410	11.2	571	11.0
Contaminants	141	3.8	195	3.8
Risk of accident	312	8.5	465	9.0
Instability on the job	311	8.4	450	8.7

**Base:** workers who consider «very» or «too annoying» different aspects of their work.

**Source:** Workers Questionnaire. IV and V National Surveys on Working Conditions (1999 and 2003)

We observe the difference of "annoyance" among the various aspects considered, as well as the tendency to the worsening of most psycho-social factors (lack of autonomy, imposed rhythm, monotony), as well as of the ergonomic factors (physical effort and body posture), and even in the risk of accident. These results are blended considerably when analyzed by branch of activity, as can be verified in the report published.

The above data make it possible to make an analysis of conglomerates or cluster, seeking to detect the existence of homogeneous groups of workers with respect to their perception of annoyance regarding the working conditions offered.

The analysis made it possible to distribute the workers who shared a similar global profile in the four following groups:

**First group:** This is the most numerous group; it is made up by 59% of the sample surveyed. This group is the one that perceives better working conditions, because all the aspects considered are as an average not "very much" annoying.

**Second group:** This group is made up by 6.9% of the sample surveyed. This group is the one that reports the worse working conditions, because all the aspects considered are as an average "too much" annoying.

**Third group:** This group is made up by 15.4% of the sample surveyed. In this group annoyance is centered in psycho-social factors and mental burden.

**Fourth group:** This group is made up of 18.7% of the ample surveyed. In this group annoyance is centered in physical burden factors, noise, temperature and risk of accident.

If we consult Chart 5 which shows the comparison of the results obtained in 2003



with those obtained in 1999, we may observe that although it is still the more numerous group, there is a decrease in the percentage of workers included in the group that perceived better working conditions (group 1). From 63% observed in 1999, it has decreased to 59% in 2003. On the other hand, group 2, that ranks all aspects as annoying, remains constant.

**CHART 5. Distribution of cluster groups. Comparison between 1999 and 2003**

Data in % points	1999	2003
Group 1: Scarce perception of annoyance	63.1	59.0
Group 2: High degree of annoyance	6.6	6.9
Group 3: Annoyance relative to psycho-social aspects	10.9	15.4
Group 4: Annoyance relative to physical burden, temperature/humidity and safety	19.5	18.7

*Source: Workers Questionnaire. IV and V National Survey on working conditions (1999 and 2003)*

The group that perceives annoyance of a psycho-social nature (group 3) has increased, from 10.9% of the workers in 1999 to 15.4% in 2003. However, the annoyance relative to body posture loses relevance as a defining characteristic of the group, just as was the case in the previous survey. Finally, the fourth group remains unchanged, which centers the negative factors of its work in very specific aspects such as physical burden, temperature/humidity and the risk of accident.

As a conclusion of the above results, it should be pointed out that the Spanish preventive system is rapidly becoming structured as reflected by the growth in resources and activities observed at present. On the other hand, working conditions as a whole offer a panorama of worsening in certain of their important dimensions, capable of producing negative effects on the health of the workers. In this sense, the data indicate a relative increase in actual or potential, objective or subjective, damage to the health of the workers.

It is necessary that the evolution of working conditions experienced in the past years and that contains elements capable of provoking negative consequences, is controlled adequately. Hopefully, the reinforcing of the preventive system in the enterprises that we are observing, will generate the necessary preventive activities so that the safety and the health of Spanish workers will become adequate.

## 5. Conclusions

The evolution of the labor world needs information, and the surveys on working conditions are a useful tool to make it possible to furnish such information.

They are instruments that make it possible to complement official information systems and to support the development of new tools, such as the "observatories", more and more present in different ambits, with the purpose of having a better knowledge of the existing problems of safety and health on the job, as well as to favor the early identification of emerging risks to provide preventive strategies with utmost speed and effectiveness.

1. Order TAS/2926/2002, of November 19, which establishes new models for the notification of work accidents and makes possible their transmission through electronic procedures.
  2. Consultation date: 28.1.2005 <http://www.mtas.es/estadisticas/presenta/index.htm>
  3. Law 31/1995 of November 8 on the prevention of work risks.
  4. International Labor Organization. "Registration and notification of work accidents and professional illnesses". ILO. Geneva. 199, page 28.
  5. "Analysis of mortality from work accident in Spain, 2002". National Institute for Safety and Hygiene on the Job (INSHT). Madrid 2004. Accessible on the web page of the INSHT (Consultation date: 28.1.2005.
- <http://www.mtas.es/insht/statistics/mortalidad2002.htm>)
6. European Commission. Recommendation of the Commission of September 19 2003 relative to the list of professional illnesses (2003/670/CE).
  7. The information on the National Commission for Safety and Health on the Job and the results of its Work Teams, can be found in the web page of the INSHT (Consultation date: 28.1.2005 <http://www.mtas.es/insht/cnst/index.htm>)
  8. Law 31/1995, article 4.7<sup>th</sup>.
  9. "Working conditions surveys. A comparative analysis". The complete report can be unloaded from the web page of the Foundation. Consultation date: 28.1.2005.
- <http://www.eurofound.ie/publications/files/EF0371EN.pdf>)
10. Consultation date: 28.1.2005 <http://www.eurofound.ie/working/surveys/index.htm>
  11. Consultation date: 28.1.2005 <http://www.eurofound.ie/working/working.htm>
  12. The Agency operates through a network made up of all the countries that are members of the European Union and offers connections with other international organizations. Its principal means of information is its web page.  
(Consultation date: 28.1.2005 <http://europe.osha.eu.int/index.php?lang=es>).
  13. European Communities Commission. Brussels.11.03.2002.COM (2002)118 final. Paragraph 3.2.1.
  14. Among the most recent we can mention those corresponding to the Comunidad Valenciana, Pais Vasco, Navarra, La Rioja, Cantabria, etc.
  15. Consultation date: 28.1.2005 <http://www.mtas.es/estadisticas/presenta/index.htm>
  16. Consultation date: 28.1.2005 <http://www.mtas.es/estadisticas/ECVT/Welcome.htm>
  17. Law 31/1995, of November 8 on the prevention of labor risks. Article 8.1.
  18. The information on the last three surveys, can be found at Consultation date 28.1.2005. <http://www.mtas.es/insht/index.htm#>
  19. Fraile A., Rosel L. and Eransus, J (1988) "Surveys on working conditions. Map of Risks of La Rioja. (Industry, Construction and Services Workers)" Health and Labor. Magazine of the National Institute for Safety and Hygiene on the Job No. 67 May-June. Madrid.INSHT.
  20. The report of the "V-ENCT", can be consulted and unloaded on consultation date: 28.1.2005 [http://www.mtas.es/insht/statistics/enct\\_5.htm](http://www.mtas.es/insht/statistics/enct_5.htm)

that can be generated. I consider this a beautiful challenge to overcome in this, its 42<sup>nd</sup> anniversary; I can only wish the best and greatest of success in that beautiful and fundamental mission.