

SURVEYING THE ROLE OF SAFETY PROFESSIONALS: OBJECTIVES, METHODS AND EARLY RESULTS

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Abstract - This paper describes the survey set up by the International Social Security Association (ISSA) and taken over by the European Network of Safety & Health Professional Organisations (ENSHPO), which is collecting data on the tasks carried out by safety professionals in a range of European countries. It provides some background of the reasons why the survey was undertaken, describes the set up of the survey, the design of the questionnaire and the way in which it was distributed and analysed. It then describes some initial results of the survey. The initial tabular results of studies carried out in seven countries are compared to give an indication of how uniform the role and tasks of safety professionals are across the enlarged European Union. The results cover Norway (N), the Netherlands (NL), Germany (D), Finland (Su), Italy (I), Poland (PL) and the United Kingdom (UK). The paper concentrates on discussing the core tasks of the safety professionals and the main types of hazard with which they are occupied in their professional work. From the Dutch and Norwegian data there are results showing some profiles of safety practitioners, indicating some diversity in clustering of tasks. The paper raises some questions for discussion and further analysis once the full results of the survey are available.

Keywords - Safety professional, roles and tasks, international comparison

1. INTRODUCTION: SOME HISTORY

The safety profession is a venerable one. We can trace its origins back to 1844, when legal requirements were first made for accident prevention measures such as machinery guarding [Factories Act 1844]. Inspectors had the powers to declare any part of machinery dangerous, although the employer could only be prosecuted if there was subsequently an accident as a result of that particular part of the machine. Specialist technical inspectors were first appointed in the UK in 1899 and the first national safety museums were established in Germany and the UK from the 1890s onwards [Hale 1978]. The first 'safety officers' employed by industry can be traced to the origins of the "Safety First Movement" during and after the First World War. Their primary tasks were to ensure discipline in following safety rules, using protective equipment and not removing safety fencing (guards). After the Second World War, these safety officers began to get together in a number of countries to form an association. These associations — aided and directed by regulatory initiatives — began on the path of professionalisation of the discipline, leading through the stages of regulating entry requirements, defining training requirements and a career path in the profession, defining the areas of expertise and tasks belonging to the profession, striving to protect that area of professional practice with statutory rules, and stimulating the academic development of the discipline underpinning that area [Atherley & Hale 1975, Hale et al 1986, Dingwall 1996, Evetts 2002].

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Throughout this century and a half of history, a broad shift in the area of concentration of these safety professionals can be traced. The first “technological age” of safety remained dominant for the professional group until well into the 1980s and is still seen as an important strand in the tasks that safety professionals perform. From the 1920s, a second strand was added, arising from studies of accident proneness, namely the selection and training of workers. After the Second World War, the emphasis was shifted to the design of jobs and man-machine interfaces. From the 1980s, this was overtaken by the “third age of safety” [Hale & Hovden 1998] which heralded the dominant concern for safety management. However, it is not clear what the effect of all of these changes has been on the actual jobs being carried out by safety professionals in their companies, inspectorates and consultancies.

2. WHO ARE THE SAFETY PROFESSIONALS?

We have to face, from the outset of this study and paper, a central problem in carrying out research in this area. There is no clear and agreed definition across Europe of who should be considered to be safety professionals. This means that any survey of the work that these people do suffers from a number of potential biases. These come particularly from the means by which the participants receive the questionnaire for completion. We chose in this survey to use as the prime route for questionnaire distribution the professional associations in participating countries, which, from their name and description of membership requirements, seemed most to represent the area of work which was relevant to us.

In the area of occupational health and safety and related disciplines there are a large number of professional groups who carry out tasks under different titles [Hale 2000, 2002]. We wanted to limit our survey to a section of this total population, for reasons of limitation to research funding. We defined our focus as safety, which we saw as primarily concerned with acute injury and damage, as opposed to the chronic harm from occupational diseases. Through the contacts of the ISSA working group and the ENSHPO network, we were able to choose the relevant professional associations to use as source of the addresses for distributing the questionnaire. In many countries there are associations for occupational safety, as well as ones for occupational hygiene, occupational health or medicine, occupational psychology, physiotherapy and ergonomics. We chose not to use associations concerned with the last six areas of work, in order to limit our scope.

Even with this restriction in associations approached, we knew that the population we surveyed would not be homogeneous. As is described in the section on the conduct of this survey, each European country has its own definitions, only partly harmonised through the application of the European Framework Directive and its article on the requirement for employers to organise that they should have access to professional advice in the field of health and safety. Safety professional associations in different countries have different degrees of restriction to membership. Some require an approved qualification in safety; others open membership to all those working in the field with an interest in the subject and its professionalisation. Their definitions of what constitutes safety also differ. Some consider fire prevention as a part of safety, others as a more separate area of work. Some consider occupational hygiene as part of safety, others again as separate task dealt with by another professional association.

In this very lack of clarity, we saw one of the main reasons for carrying out the research. We wished to find out how the tasks carried out by the members of these safety professional associations cluster in the different countries and across the European scene. However, readers should bear in mind the possible biases introduced by our sampling method. Not all people with tasks in occupational safety and injury prevention will be members of the professional association in a country; the definitions of who may join an association will differ across countries and there may be biases introduced by differences in response rates between countries and between sub-groups within any one professional association. In interpreting the results we will try to take account of these biases as far as possible.

3. THE ACTUAL TASKS OF SAFETY PROFESSIONALS

A number of influences can be postulated which will add up to determine the tasks that safety professionals actually do.

The first influence is the law, in so far as that specifies tasks for identified groups. In European law, based on the 1989 European Framework Directive [European Commission 1989], a number of countries have required the appointment of safety and health personnel. Most have only defined tasks, without defining which professional group should do them [Hale 2002]. Norway is an example, where compulsory tasks for health and safety personnel include [Forskrift om verne- og helsepersonale 1994]:

- Assisting with the planning and implementation of the establishment, maintenance and modifications of workplaces, premises, equipment and production methods, and preparing guidelines for the use of chemicals, machines and equipment.
- Assisting with a continuing assessment of the working environment, conducting workplace inspections and assessing the risk of health damage and injuries.
- Promoting suggestions on preventive measures and working actively for measures which remove causes of sickness and accident risks.
- Monitoring and controlling workers' health with respect to work situation and undertaking the necessary follow-up.
- Assisting in the adjustment of work to the employee.
- Assisting with the provision of information and training in the areas of workers' health, occupational hygiene, ergonomics, and general safety and environment work.
- Giving information on health, environment and safety risks to the employer and employees.
- Assisting with internal occupational rehabilitation in companies.
- Further, the employer must cooperate with health and safety personnel in the preparation of the following documentation:
 - Periodical plans for the health and safety personnel's work in the enterprise, which will be included as a part of the enterprise's total work plan.
 - Periodical reports or annual reports, which include the presentation of risk assessment, risk evaluation, suggestions of preventive measures and results.
 - Reports, measuring results, etc, which describe working conditions and health problems.

Poland is another example of a country which has taken this same approach, as part of the process of harmonising its laws with the EU (Dudka 2004). The tasks defined in the law in any country are usually based on a political debate, which may be informed by evidence of what the professionals actually do, but does not seem to be based on direct scientific studies of it. The professional association is often the source of this information to the political process. As such, this association is a second influence, through the work that it does to codify tasks and training requirements [Storm & Hale 1995]. The context of these deliberations usually determines that such publications have a strong political content, claiming territory or taking positions about what should be done.

The employer is a vitally important influence on the work done by the safety professional. The direct employer determines the job description, or as contract principal determines the tasks that the safety consultant has been hired to carry out. The vision that employers have of the objectives of their own safety policy and the expertise that they need to realise it, will determine what the emphasis is. Companies and industry associations sometimes write up these task specifications, but not usually in the easily available literature.

Finally, the development stage of the science and technology of safety and safety management also determines what knowledge is at the disposal of safety professionals, and hence the tasks that they can carry out and sell their services on.

However, when we look at the literature on the role and tasks of the safety professional, it is striking that the vast majority of papers and reports are largely normative in character. They tell us about what various players in the system think the job should be, or even what they believe it is [Booth et al 1991, Cattaruzza & Hugué 1993, Hale & Storm 1997, Hale 2000]. Hardly any studies are available in the literature about what the safety professionals' job actually entails. A few studies in the United States indicate that there is great variability in the tasks performed by safety professionals depending on the hazards in the specific operations, the size and nature of the company, and its management and structure [Minter 1988, Kohn et al 1991, Limborg 1995]. DeJoy [1993] tried to cluster the jobs that were actually being done into dimensions. He identified five (and found little difference in the content of these over different industries):

- Serving as a safety consultant/advisor;
- Coordinating compliance/control activities;

- Assessing the effectiveness of controls;
- Analysing hazards and losses; and
- Conducting specialised studies and reviews.

Both DeJoy's study and other work [Limborg 1995, Brun & Loisel 2002, Swuste & Arnoldy 2003] have emphasised the importance of the communication, consultation and change agent roles of the safety professional.

Brun and Loisel [op. cit.] carried out a study of the current situation in Quebec concerning the roles, functions and activities of safety practitioners. Three activity profiles for safety professionals were identified:

- The *organisational/strategic* profile, which focuses on developing prevention programs, compiling accident statistics, setting up an OHS management system, and organising meetings of the OHS joint committee. It is work primarily at a strategic level, concerning the safety management system and closely linked to the company's business decisions;
- The *organisational/operational* profile, which is characterised by more operational activities, such as investigating work accidents, controlling the financial aspects of accident insurance, and bringing together legal information; and
- The *technical/operational* profile, which focuses primarily on the technical dimension at the operational level. A large part of this safety professional's time is devoted to choosing individual and collective protection equipment, providing company management with technical advice, and monitoring such things as lockout procedures.

A study in the Netherlands [Hale et al 1997b] concentrated particularly on the overlap and collaboration with occupational hygienists and, to a lesser extent, with the other professionals required by Dutch law to collaborate in the working conditions services. Three clusters seem to emerge: one around the safety professional, with strong links to occupational hygiene and ergonomics and to a lesser extent to fire; one around the medical personnel; and one around the organisational specialists (work & organisation psychologists), with the link from them to the medical and ergonomic areas being defined by the attention for stress and absence.

This overlap of tasks indicates that the area of health and safety, or risk control, is a crowded professional area, with a number of different professional groups working in it. This can lead to fruitful collaboration, but often it does not [Hale & Voets 2003]. It certainly leads to rivalry between the professional groups and to confusion among those who employ them [Booth et al 1991, Storm & Hale 1995, Hale et al 1997b]. Again this was a motivation to conduct this research, in order to see how broad or narrowly specialised the safety professionals were. A longer term aim would be to conduct similar surveys among the members of other professional groups, to see what overlap there is between their tasks and those of the safety professional association members (see e.g. Hale et al 1997b for a study using this methodology).

4. AN INTERNATIONAL STUDY OF SAFETY PROFESSIONALS' TASKS: OBJECTIVES & METHOD

4.1. Background and Objectives

The above network of questions and practical and political factors led to the decision in 2000 (initially within the International Social Security Association [ISSA] working group on the training of health and safety professionals, but later transferred to European Network of Safety and Health Professional Organisations[ENSHPO]) to set up a survey of the actual tasks being done by safety professionals in the different member countries. The ISSA working group had conducted a number of surveys in the two decades of its existence [Cattaruzza & Huguet 1993, Storm & Hale 1995, Hale 2000, Hale 2002]. These had collected comparative data, largely across European countries, about the law relating to professional competence in health and safety, the training programmes conducted in different countries to provide that competence, and the certification and accreditation systems for assessing and approving both the courses and the competence of their graduates. These surveys had originally been conducted for the full range of health and safety professionals, particularly concentrating on the core disciplines of safety, occupational hygiene and occupational medicine, with some attention to occupational health nurses and ergonomists. In the last decade of its existence the working group concentrated its efforts mainly upon the safety practitioner, as this group had no international body addressing its activities in the way that the International Ergonomics Association does for ergonomists, International Occupational Hygiene Association for the hygienists and International Committee on Occupational

Health for the occupational physicians. However, all of these studies were largely normative in nature, describing what the law required of safety professionals and what they were trained for, but not what they actually did. The working group, therefore identified the following objectives for the study:

1. To investigate the gap between the regulations and the actual work in practice done by safety practitioners;
2. To compare the work of safety professionals across countries to see whether the level and range of tasks that they carry out is comparable. This has an effect on mutual recognition of qualifications and for deciding which training experiences are transferable from one country to another;
3. To investigate whether there are different profiles within the safety profession, within or between countries, which need to be linked to different training requirements; and
4. To form a stronger basis for deriving learning objectives for the courses in each country and, eventually (if the study could be extended to the work of other professional groups), to group course members from different professions together for training on the basis of similarities in the competence that they require.

The study reported here fits into this framework. It addresses mainly objectives 2 and 3. Objectives 1 and 4 would require confronting the data generated by this survey with the legal requirements per country and in the European directives and with the results of comparable surveys of other professional groups.

4.2. Scope of the study

The ISSA preparatory group, consisting of experts from Netherlands, Germany, Austria and Switzerland, decided to limit the scope of the study to safety professionals in industry and not to include government or social security inspectors. In some countries (notably, in north-western Europe), there is a considerable interchange of personnel between inspectorates and industry or consultancies, and those destined for each type of job will often attend the same training course. Hence, people on both sides consider themselves as members of the same profession. In the rest of Europe, there is a much greater chasm between these jobs. The incumbents do not share the same training or background and do not move across the divide. To avoid respondents in the latter countries being alienated by having to read through a range of inspectorate tasks, which would be totally irrelevant to them and to shorten the questionnaire, we decided not to send the questionnaire to inspectors and to restrict the section on enforcement and regulatory activities considerably. A general question in the first part of the questionnaire was included in order to see whether members of any of the professional safety associations did have jobs as government inspectors, but they were excluded from the further analysis.

The geographical scope of the study was set primarily to Europe, but it was agreed that any country could in principle take part. Approaches were made to all EU and European Economic Area members and to as many of the then accession and candidate countries as possible, where information was available about professional safety associations. Information was also disseminated through the networks of the preparatory group members to a number of countries outside Europe, resulting in participation from Australia, interest from Canada and a proposal in 2004/5 to conduct the survey in Singapore. The initial contacts for the survey were made under the auspices of ISSA. However, decisions at a higher level in that organisation led to a change of policy and the disbanding of the working group on training of professionals. Luckily, another initiative had been started shortly before to set up a European network of professional bodies, which eventually became ENSHPO. This network, which had a certain amount of overlapping membership with the ISSA working party, was able to take over and continue the initiative without a break. Since this body brought together the safety professional associations from European countries, it formed an ideal organisation to provide access to the groups to be studied. The coverage of the survey was considerably expanded by this move.

The following European countries have completed the survey: Austria, Australia, Cyprus, **Finland, Germany, Great Britain, Italy, Netherlands, Norway, Poland**, Portugal Singapore and Switzerland. Initial interest was also shown by other countries (Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, France, Ireland, Spain and Sweden), but to date no surveys have been conducted there. This paper reports the results from the 7 countries in bold in the first list. Results for the other countries were not fully available at the time of writing.

4.3. Questionnaire

The questionnaire (see appendix to this paper and <http://www.enshpo.org>, where the questionnaire is downloadable) was based on the available literature about safety professionals' tasks and on the results of previous ISSA studies. The tasks of the safety professionals were divided into 8 sections, conceiving of the job as

one of assessing risk and identifying problems of risk control and of proposing solutions to those problems. These solutions consist of technical (hardware) design controls, controls depending on human behaviour and guided by procedures, training and motivation or safety culture, and controls at the level of the management system, which involve setting up and running a safety management system, ensuring that performance is assessed and learning from shortcomings that take place [Petersen 1988, Hale 1995, Hale et al 1997a]. We also wished to include the idea that the control of hazards has to take place throughout the whole life cycle of the technology, from design through operations to maintenance, also taking in the phase of emergencies, which must be planned for and managed. Finally the questionnaire asks about tasks relating to the management of the safety function itself and to the retention and extension of professional competence. It had been the original plan to pose the questions about the assessment of risks and design of controls separately for a wide range of different types of hazard, in order to see whether the safety professionals required a different depth of knowledge about some types of hazard than others. However, this would have made the questionnaire far longer and we were afraid that it would already be too long to get a good response. Hence these two sections of the questionnaire were separated. A few exemplary areas of hazard were picked out for checking the depth of tasks carried out, while a separate section was introduced to enquire which hazards professionals dealt with. In both task and hazard sections the respondents were asked to say how frequently they had dealt with a particular task or hazard. It was felt that this would give a sufficient indication of the depth of knowledge required about them.

We were also interested in the role of the safety professional as coordinator, liaising between various groups inside and outside the company. A section was therefore included on the frequency with which the respondents had contact with different people, from shop floor to top management and from staff departments to external experts, regulators, inspectors or the public.

Finally we wanted to explore whether there were differences in all of these tasks, hazards and contacts depending on various demographic factors. It seemed interesting to see if those working in different industries had similar tasks, suggesting that the profession was not limited or split up by industry boundaries. Since many countries distinguished safety consultants, working for many companies, from internal safety advisers, we included questions on this aspect, and on whether they worked for large multi-site or multinational companies or for small or medium-sized companies. We also wanted to find out if there were large differences in the tasks carried out depending on the level of primary education and the level of safety training enjoyed by the respondents, or according to whether he/she worked as part of a team with other health and safety professionals, or just as a lone professional.

The final version of the questionnaire consists of 173 questions divided into five sections, and takes an estimated 45–60 minutes to complete. This is an indication of the complexity and variety of the safety professional's possible tasks. The sections are:

- Information about the organisation(s) for which the respondents work, how many employees the safety tasks cover and in how many sites or countries, and whether other professionals in the area of risk or working conditions worked in the same organization.
- A list of 83 tasks, which the respondents have to check according to how often they are conducted (weekly, monthly, yearly, never yet, not part of the task). The list distinguishes tasks relating to:
 1. risk identification and analysis;
 2. solution development;
 3. training, information and communication;
 4. inspection and research;
 5. emergency procedures;
 6. regulatory tasks;
 7. knowledge management; and
 8. management and financial aspects of the safety function.
- A list of 31 types of hazard, which the respondent has to check according to how frequently these are dealt with.

- A list of 36 types of people, from within and outside the company, with whom the respondents might interact, again with the question as to how often the interaction happens.
- Personal information about the respondent, including age, gender, length of experience, education, safety qualifications and job title.

The master version of the questionnaire was developed in English, for approval by the ISSA working group. Translations were then made into the different languages necessary for the study. A member of the preparatory group, or of the larger ENSHPO steering group, who was fluent in both languages, closely monitored this translation process and back-translations were used as checks. This process gave rise to an enormous amount of discussion about the exact meaning of specific words and was an education in itself. The parallel language versions — which are also available on the ENSHPO website — will be a valuable contribution in their own right to the development of a multilingual thesaurus of health and safety. Versions of the questionnaire are currently available in English, French, German, Italian, Portuguese, Polish, Finnish, Dutch and Norwegian.

A small number of questions had to be tailored to the national situation, notably, the questions asking about educational levels, safety qualifications, professional organisations and specific terms for national bodies and employing organisations. This means that, even within one language, there are several national versions of the questionnaire. Apart from these minor differences, however, the numbering and formulation of questions have been made strictly uniform, so that data can be compared between countries without an analyst needing to understand the language of each country.

4.4. Organisation of the study: population selection

Because little or no central financing was available from either ISSA or ENSHPO, it was agreed that each country would need to finance its own study. In order to keep costs low, countries were encouraged to seek the collaboration of the professional association(s) in their country so that questionnaires could be sent out with other mail from that body. They were also encouraged to approach research or education establishments, which could provide facilities for coding and analysis. The Delft University of Technology, Safety Science Group, provided central advice on the survey and analysis.

The first two countries to send out the questionnaires were the Netherlands (autumn 2002) and Norway (early 2003).

4.4.1 Netherlands

For the Dutch survey the questionnaire was distributed to the 1,100 active members of the NVVK (the Dutch association of safety professionals), which had at that time restricted its membership to people qualified on prescribed and approved safety courses at middle technical or higher education level, all with a technical or science background. (In 2003 the membership was opened more widely, but this was after the survey had been returned). The members work largely in industry.

The questionnaire was translated into Dutch by the first author (Hale) and the questionnaires were returned to the Delft University of Technology for analysis.

4.4.2 Norway

Norway has no single association of safety professionals, so the Norwegian questionnaires had to be sent to an address list which was specially compiled for the study. These addresses were obtained from five associations concerned with safety, NBLF (the federation of Norwegian fire prevention officers), ESRA (The European Safety and Reliability Association), VSF (The society of cooperation between safety personnel), TSF (the Interdisciplinary Safety Society) and an expert group on HSE within the Norwegian association for graduate engineers (NIF). From the contact network of the Norwegian University of Science and Technology (NTNU) and the Foundation for Scientific and Industrial Research (SINTEF) the participants at a yearly conference called the Safety Days were also selected. In total more than 1700 addresses were obtained, which were reduced by eliminating all functions clearly not related to safety and a number of doublings. Altogether 1,300 questionnaires were sent out in Norway. The distribution of respondents in Norway is, because of this less focused distribution, spread more widely both in type of work and in level of education. Members of ESRA are often graduates and work also in transport fields, whilst other professional associations have a lower average educational level. Because of the inclusion of NBLF members, there may be a bias towards professionals concerned with fire. The vast majority of members of all associations have a technical background.

The questionnaire was translated into Norwegian and sent out by, and returned for analysis to the Norwegian Technical University in Trondheim. This work and the analysis of the data from both the Netherlands and Norway were done by the last author of this paper (Ytrehus) as a graduation project.

4.4.3. Germany

The German survey was distributed via VDSI, which is the German safety professional association for industrial safety, to the full membership of 2896. The members work in German companies covered by the different Berufsgenossenschaften (Social Insurance associations), which have legally binding requirements for the employment of safety professionals of different levels of qualification, depending on the level of risk and size of the organisation. Qualifications range from middle technical up to graduate level, but all from a technical background.

The questionnaire was translated into German and prepared in three versions by members of the ISSA working party (German [Bratge, Grünewald], Austrian [Kaida] and Swiss [Lang]) to match small differences in word use and organisation of the profession in each of the three German-speaking countries. Questionnaires were analysed by the University of Wuppertal (Prof Helge Braunholz).

4.4.4. United Kingdom

The British questionnaires were sent out by the Institution of Occupational Safety & Health, the British professional body. They were sent to all the UK-based registered safety professionals who were members, a total of 2700. This sample is a small fraction of the total IOSH membership, representing the more highly trained and qualified group, most of whom are graduates or equivalent, the vast majority with a technical background. No technician level members were included. This was decided on purely logistical grounds, since IOSH has a total membership of more than 30,000.

Analysis was carried out by IOSH in collaboration with the University of Leicester (Dr Luise Vassie)

4.4.5. Finland

The Finnish questionnaire was sent to the members of four professional groups in Finland, the Finnish Ergonomics Society, Finnish Occupational Hygiene Society, Association of Finnish Safety Managers (Tyosuojelupaallikot) and the address list of the Centre for Occupational Safety. For the purposes of this paper only the results from the last two groups are presented, as their professional job coverage roughly equates to that of the other countries surveyed. These professionals are often of a middle technical level of qualification, with a proportion of graduates.

1250 questionnaires were sent out. The Finnish Institute of Occupational Health carried out the translation and the analysis (Perttula & Saari).

4.4.6. Italy

The Italian questionnaire was distributed to the full membership of AIAS, the Italian professional body representing safety professionals of varying levels of qualification, from middle technical to graduate, but very largely of technical background. 4200 questionnaires were sent out.

The translation was made and the data were analysed in collaboration between AIAS and the University of Genova [Bianchi 2004].

4.4.7. Poland

The Polish questionnaire was sent out by the Central Institute for Labour Protection (CIOP) to an address list established by the Institute through its training and advisory work. 600 questionnaires were sent out to the members of two Polish associations of safety professionals, all with a technical background, but with varying levels of qualification, from middle technical to graduate.

The questionnaire was translated and data was analysed by CIOP [Dudka 2004].

4.4.8. Biases in population

As can be seen, the populations sampled in the different countries show differences in education level, and to a lesser extent in the degree to which a technical qualification is required for membership of the associations used to distribute the questionnaires. This fact forms a result of the survey in its own right. What is interesting in the further analysis is whether these differences are reflected in the sort of tasks carried out by the members of the

associations in different countries. What unites the populations is the fact that they are the groups which identify themselves as representing safety professionals in their own countries and ones which seek to be recognised as 'sister' associations across the countries studied. The survey will indicate the degree to which the tasks their members do are indeed comparable.

4.5. Response rate and representativity bias

The response rates in the different countries varied from only 5% in Italy to 60% in UK (see table 1 in the results section). In the three countries with response rates less than about 40% (Italy, Poland, Finland) very great care needs to be taken in interpreting the results, since it is almost certain that they will not be representative of the safety professional population of those countries. In the remaining four countries the response rate is at, or around, the level which is normal for such surveys. The UK response rate of 60% is high for a general survey of this type, particularly one which has so many questions. However, this level of non-response is still always a challenge for interpreting the results.

The representativity of the samples for Norway and the Netherlands were tested against data from the total populations in those countries, in so far as that was available. The Norwegian sample showed some bias depending on the association to which the respondents belonged. The highest response rate came from ESRA, VSF and NBLF members and those attending the 'Safety Days' at NTNU. These form the expected core of the safety professionals. The respondents were representative on gender and the dimension of employer; whether the respondents were employed by companies as in-house experts, or as consultants, or by insurance companies. The Dutch sample was representative of the total population on gender and age. However, there was a significant bias that the more highly qualified members (with higher education qualifications) were more likely to respond than the middle technical level technicians.

The representativity of the UK and German populations has not yet been verified. All of the results should therefore be treated with care in the light of these limitations in sampling. In the discussion section we will return to this issue where necessary.

5. CODING AND ANALYSIS OF RESULTS

In the first section of the results we compare the data from the seven countries on a number of demographic variables and then on the tasks and hazards which are dealt with by many or few professionals. In the final section we present the first results of a factor analysis of the Dutch and Norwegian data. Further analysis awaits the final collation of results and finding funding to conduct the analyses.

The data were coded into either SPSS or Excel files for tabulation of the data and production of the simple cross-tabulations. For this paper the data is grouped and reduced in order to bring out the main features. The respondents gave their answers to the questions on tasks and hazards in terms of the frequency with which they carried them out, or dealt with them. This scale gave them options of weekly or more, monthly or quarterly, yearly or less, 'never yet, but is part of my job' and 'not part of my job'. For this paper we have grouped the responses in the first three categories together and in the last two categories together, to indicate tasks and hazards which are in the core of the work of the professional and ones which are peripheral or outside their work. We have then grouped the responses into three categories:

- tasks done or hazards dealt with by 60% or more of the respondents from a country
- those done or dealt with by less than 30% of the respondents
- those done or dealt with by between 30 and 59%.

This gives an idea of the core content of the job of the safety professional. Later analyses will provide more nuances and will also look at the differences between sub-groups of the populations.

A Principal Components Analysis was conducted on the Dutch and Norwegian data independently. A varimax rotation was used and a number of factors identified for interpretation. These correspond to clusters of tasks or hazards, which are either carried out, or not carried out by a particular group of respondents. This analysis enables us to see whether there are interesting sub-groups within the total population, which tend to have different groupings of tasks or deal with different clusters of hazard types.

6. RESULTS AND DISCUSSION OF SIMPLE COMPARISONS

6.1. Demographic & employment data

Table 1 shows the data for a number of demographic and employment variables. These are:

- the response rate in percentage, with the total number of respondents in brackets next to it. The total number of questionnaires sent out per country has been given above.
- the percentage of respondents who are male
- the percentage who have a full-time safety function
- the percentages who are employed by one company as internal staff, as opposed to working as an external consultant hired in by companies. The difference between the combined percentage of these two groups and 100% is taken up with a miscellaneous ‘other category’, consisting largely of regulators (not further analysed) and those working for public bodies such as the fire service, but not in an advisory function.
- the percentage whose responsibilities are restricted to one site only, as opposed to several sites (either of one company, or of many clients)
- the percentage who have safety responsibilities outside their base country
- the percentage with a bachelor or master degree from a university or higher technical establishment giving equivalent degrees, as opposed to those with only a middle level technical qualification

Table 1. Demographic and employment data for five countries

Topic	D	I	N	NL	PL	Su	UK
<u>Response rate</u>	44 (1330)	5 (195)	45 (473)	46 (503)	19 (112)	24 (303)	60 (1621)
Male	93	92	80	96	80	78	89
Full-time safety	63	69	70	65	53	27	85
Internal vs. External	64/27	66/34	60/30	62/35	94/3	72/8	67/29
1 site only	30	24	33	20	38	73	10
More than one country	8	4	17	17	9	11	22
Higher Education vs. Technician level	77/23	39/61	81/19	77/23	62/38	68/32	99/1

The extremely low percentage of female safety professionals except in Scandinavia and Poland reflects national participation in jobs and courses which are perceived to be technical. By Norwegian and Finnish standards, the percentage of women in the profession is also relatively low. This is surprising given the relatively high content of health related topics which form part of the job (see below).

The very low number of full-time safety professionals in Finland needs explaining. The somewhat smaller spread across other countries may be a feature of their particular legal frameworks for specifying when safety professionals should be employed. This factor shows a negative correlation with the percentage of respondents having only one site for which they give advice. Part-timers tend to be occupied, as might be expected with only one site.

The low level of external consultants in Poland is a reflection of the law there, which requires an internal expert except in companies with less than 50 staff [Dudka 2004]. Elsewhere the ratio of internal to external staff is around two thirds to one third, with the highest percentage of externals in the Netherlands, which has regulations framed in a way which encourages outsourcing of professional advice to external working conditions services. Overall it would appear that, despite the current tendency in industry to outsource many tasks, the safety professional in our sample is still an in-company position for the majority.

The differences in international spread of the responsibilities of the respondents probably reflect the number of multinationals working in the different countries, with higher numbers with plants in the UK, Norway and the Netherlands.

The higher percentage of highly qualified professionals in Norway is a result of the sample characteristics, which included one association (European Safety and Reliability Association) which has mainly risk analysts and researchers as members. The association in the Netherlands which organises these people did not take part in the Dutch study. The extremely high level of graduates in the UK sample is also a factor of the sampling, which concentrated on the registered professionals and not on the lower level qualifications. In later analyses the samples will need be stratified according to this variable, in order to overcome any bias that may be present because of these differences in sampling characteristics and possible differences in the response rate between higher and less qualified professionals.

6.2. Core tasks

In this section we look at the tasks which are done by either a high percentage of the respondents in a country, or a low percentage. We have chosen the cut-off at more than 60% (A in the following tables 2), 30-59% (B in the tables) and less than 30% (C in the tables) respectively. We present the data in a descending order of commonality; first the tasks where all countries score above 60% and then successively where less and less of the countries score so highly. The reasoning is that the real core of the task will be what is common across most countries. We may then find that additional tasks done by many respondents in only some of the countries represent differentiation of the tasks, or shifting into new areas of work. We seem to see a reflection of the development of safety science from technical through human factors to organisational as we present this progression. The following tables show the lists of tasks presented in this analysis.

Table 2. Core tasks for all countries

Task	D	I	N	NI	PI	Su	UK
Check compliance of policy & procedures with the law	A	A	A	A	A	A	A
Workplace risk assessment	A	A	A	A	A	A	A
Machinery, process or workplace safety (specify safeguards, make procedures, give instructions, check compliance)	A	A	A	A	A	A	A
Inform/discuss with all levels in company on risk (safety committee, employees, supervisors, line managers, top management)	A	A	A	A	A	A	A
Investigate accidents/incidents	A	A	A	A	A	A	A
Carry out physical inspections	A	A	A	A	A	A	A
Prepare annual safety plan	A	A	A	A	A	A	A

Table 2 shows the core tasks that are carried out by more than 60% of the respondents in all seven countries:

The list reflects a very conventional view of the technically oriented safety practitioner, which is not far removed from the picture of half a century ago, as described in the opening of this paper. The main tasks cluster around machinery and its physical inspection and intensive consultation with and attempts to support and persuade all levels of line management and employees. The law is the touchstone for the job and accidents are the feedback as to its success.

When we look at the tasks which are to be found by more than 60% of professionals in at least six of the seven countries (table 3), we begin to see more human factors, policy and management related tasks emerging.

The presence of safety culture improvement here may be a reflection of the current buzzword status of this term, which tends to have as many meanings as it has users [Hale 2000]. There is more concentration on individual behaviour in this group of tasks. We also see that issues related more to health protection than acute injury begin to be visible, namely the concern with personal protective equipment (PPE).

Table 3. Core tasks in 6 of 7 countries

Task	D	I	N	NI	PI	Su	UK
Job safety analyses	A	A	A	B	A	A	A
Develop company policy on safety of machines/ workplaces/processes	A	A	A	B	A	A	A
Personal protective equipment (prepare policy, develop procedures)	A	A	B	A	A	A	A
Develop safety management system	A	A	B	A	A	A	A
Propose improvements to safety management system	B	A	A	A	A	A	A
Propose improvements to safety culture	A	A	A	A	B	A	A
Advise on organisational change to improve safety performance	A	A	A	A	A	B	A
Give safety training	A	A	A	A	A	B	A
Carry out workplace audits of safe behaviour	A	A	B	A	A	A	A
Make recommendations based on accident/incident investigations	A	A	A	A	A	B	A
Emergency situations (prepare policy, make procedures)	A	A	B	A	A	A	A
Prepare annual report on safety	A	A	A	A	A	B	A

If we take the list of tasks done by more than 60% of the respondents in four or five of the seven countries (table 4), this concern with occupational health related tasks is more apparent, with tasks related to the control of dangerous materials becoming visible, together with further aspects of the use of PPE.

Further safety management and culture tasks now emerge, as does safety training and information in the UK, Italy and the Netherlands, but less so in Germany, Poland and Scandinavia. A task which now emerges in the UK, Italy, Netherlands and Norway is the involvement in assessment of design. In the case of Germany this lack of involvement in these two tasks is compensated for by the involvement as internal member of the design team (see the next list below), but in Finland and Poland this involvement seems not to be part of the core tasks of our sample.

Table 4. Core tasks in 4 or 5 of 7 countries

Task	D	I	N	NI	PI	Su	UK
Review design as external to design team	B	A	A	A	B	B	A
Make risk assessments of projects/designs	B	A	A	A	B	B	A
PPE (specify purchase, monitor use)	A	A	B	A	A	B	A
Dangerous materials (specify measures/ procedures)	A	A	B	A	A	B	A
Dangerous materials (check compliance)	A	A	A	B	B	A	A
Develop safety management systems	A	A	B	A	B	A	A
Propose improvements to safety management systems	B	B	A	A	B	A	A
Safety culture (prepare policy, assess)	B	A	B	A	A	A	A
Prepare policy on safety training	A	A	B	A	A	B	A
Design safety training	B	A	B	A	A	A	A
Publish/distribute information internally on safety	A	A	B	A	B	B	A
Develop and carry out safety campaigns	A	A	B	A	B	B	A
Keep accident statistics	A	A	B	A	A	B	A

Finally we look at the tasks done by 60% or more of the respondents in only one, two or three of the seven countries (table 5). We see the strong emphasis on the safety management system in the UK and to a lesser extent in the Netherlands. We see also the addition of tasks related to company policy on dangerous materials and sustainability in Norway and the UK.

Table 5. Core tasks in only 1, 2, or 3 of the 7 countries

Task	D	I	N	NI	PI	Su	UK
<u>Member of design team</u>	A	B	B	B	B	B	A
Develop company policy on sustainable products	B	B	A	B	B	B	A
Prepare policy on dangerous materials	A	B	A	B	B	B	A
Monitor/audit safety management systems	B	B	B	A	B	B	A
Develop/carry out safety campaigns	A	B	B	B	B	B	A
Develop safety performance indicators	B	B	B	B	B	B	A
Document safety management system)	B	B	B	B	B	B	A
Document safety training	A	A	B	B	A	B	B
Organise emergency drills	A	A	B	B	B	B	B
Answer questions from the public on safety	B	A	B	C	A	C	B
Investigate environmental incidents	C	B	C	C	A	B	B
Member of company fire brigade	C	A	C	C	C	C	C
Advise on damage or injury claims	B	C	C	C	A	B	B

In Germany, Italy and Poland we see operational (as opposed to strategic/policy) tasks, such as administration and fire brigade membership. In Poland there is a clear tendency for more external and environmental tasks to be given to the safety professional. The large disparity between countries on the tasks relating to injuries and claims, environmental investigations and public questions is striking

If we turn to the other end of the spectrum and look at tasks which are done by less than 30% of the respondents in a given country, we find the following list (Table 6).

Striking here is the low involvement in planning, assessment and conduct of maintenance in Norway, Italy and the Netherlands. This seems unexpected, given the importance of the maintenance phase as one in which many accidents happen.

The low involvement in national level activities is to be expected. There are not so many opportunities for that to happen, though more than 30% of respondents in Germany and the UK claim to be involved in such advisory and standard setting activities in respectively law-making and training.

Table 6: Tasks done by few people in most of the 7 countries

Task	D	I	N	NI	PI	Su	UK
<u>Keep statistics about sickness absence</u>	C	C	C	C	C	C	C
Head of company fire brigade	C	C	C	C	C	C	C
Prepare policy on insurance & compensation	C	C	C	C	C	C	C
Sit on standards committees	C	C	C	C	C	C	C
Advise at national level on safety campaigns	C	C	C	C	C	C	C
Member of the company fire brigade	C	A	C	C	C	C	C
Act as expert witness	C	B	C	C	C	C	C
Advise: national level on laws, regulations	B	C	C	C	C	C	C
Advise at national level on training	C	C	C	C	C	C	B
Part of team to make maintenance plans	B	C	C	C	B	B	B
Assess maintenance plans	B	C	C	C	B	B	B
Prepare permits to work	B	C	C	C	B	C	B
Check permits to work	B	C	C	B	B	B	B
Involved in devising selection criteria for employees	C	C	C	C	C	C	B
Give first aid courses	B	C	C	C	B	B	C

Striking also is the fact that the UK is most often an exception in this last list. If we take this finding with the greater number of 'A' responses in the earlier tables, it is clear that the British safety professional, of all the countries included in this analysis, claims to be involved most broadly in the whole range of tasks in the questionnaire. It may be that the bias in the UK sample towards the more highly educated safety professionals produces this result. They may be more involved with policy matters, rather than the nuts and bolts of safety, and may do that across a broader range of topics. Later analyses, in which only the more highly educated in all the samples with a reasonable response rate are analysed, may be able to resolve this point.

The safety professionals in our sample do not seem to have jobs extending to areas of risk management in the sense of insurance. Nor is there much overlap between safety jobs and company fire brigades, except in Italy. These appear to be two separate jobs, even in Norway, where the sample contained members of the association dealing with fire prevention.

Finally in this section on tasks, we give a list of the professional development tasks of the safety professional (Table 7), with the percentage of respondents replying that they carry out these tasks at least once a year. Keeping up to date is clearly something that almost all professionals do, reading literature and attending courses or workshops. The low interaction with national colleagues of the Finns is surprising, as is the quite wide range of difference in the international orientation between countries. The latter finding matches quite well the order in which the countries come in terms of the number of practitioners who have responsibilities for sites outside their home country (table 1 above).

Table 7. Professional development tasks

Task	D	I	N	NL	PL	Su	UK
Reading the professional literature	100	100	95	98	100	96	100
Writing in the professional literature	14	14	25	19	4	11	23
Attend courses or workshops	99	100	93	95	91	90	99
Exchange experience with national/regional colleagues	95	94	92	96	83	62	98
Exchange experience with international colleagues	26	31	50	38	8	21	41

In the numbers who write in the professional literature there is considerable room for improvement, if we are going to boost the evidence base of our profession. One must also wonder how this question was exactly interpreted, as the number of publications coming out in each country in the field of safety hardly matches the claims made. Perhaps respondents are interpreting presentations for workshops and meetings as ‘publications’.

6.3. Core hazards

Table 8 shows the results of the survey relating to the hazards dealt with by the safety professionals. The same conventions are used: A = >60% of the sample deal with the hazards at least once a year; B = 30-60% and C = <30%

The hazards which are dealt with by more than 60% of all respondents in all seven countries again reflect the traditional area of expertise of the safety practitioner. They are: machinery, human error, lifting, electricity. These, plus fire and explosion and falls are the only hazards dealt with by more than 60% of the respondents in Norway, who have the narrowest range of coverage of hazards by the survey population of all countries. This may be because the Norwegian group is more heterogeneous, covering risk analysts, workplace safety staff and fire prevention personnel. It could be that each group has its own core set of hazards, with only the limited overlap between them which is indicated in the results, so producing the result that less than 60% of the total sample concern themselves with more of the hazard types.

The list of hazards dealt with by more than 60% of respondents in the other six countries add: vehicles, lighting, cold/heat, noise, working posture, physical workload and VDUs. This shows a spread into the occupational hygiene and ergonomics areas.

In Poland fire and explosion do not feature as core hazard areas, but in the other six countries fire is covered by more than 60% of the respondents. In Finland the core hazards extend into the areas of well-being (stress/mental workload, bullying, alcohol/drugs), far more than in any other country. The UK list, as with the list of tasks, is the most extensive, followed by the Dutch and German ones.

Table 8: Hazard types dealt with by the survey sample

Hazards	D	I	N	NL	PL	Su	UK
Lighting	A	A	B	A	A	A	A
Cold or heat	A	A	B	A	A	A	A
Noise	A	A	B	A	A	A	A
Vibration	B	B	B	A	B	B	A
Toxic and carcinogenic substances	A	A	B	A	B	B	A
Biological risks	B	B	C	A	C	C	A
Other occupational disease	A	B	B	B	B	B	A
Ionising radiation	B	B	C	B	C	C	B
Non-ionising radiation	B	B	C	B	C	C	B
Fire	A	A	A	A	B	A	A
Explosion	A	B	A	A	C	C	A
Electricity	A	A	A	A	A	A	A
Machinery and installations	A	A	A	A	A	A	A
Vehicles	A	A	B	A	A	A	A
Human errors	A	A	A	A	A	A	A
Subsidence and Collapses	B	B	B	B	A	C	B
Falls	A	A	A	A	B	B	A
Lifting	A	A	A	A	A	A	A
Working posture	A	A	B	A	A	A	A
Other physical workload	A	A	B	A	A	A	A
VDUs	A	A	B	A	A	A	A
Mental workload/Stress	A	B	B	B	B	A	A
Bullying and harassment	B	C	B	B	C	A	B
Violence against employees	C	B	C	B	C	B	B
Alcohol or drugs	B	C	B	B	C	A	B
Environmental pollution	B	B	B	B	B	B	B
Sustainability of production or products	B	C	C	B	B	B	C
Product liability	C	C	C	B	C	B	C
Road/transport safety	A	B	B	B	B	B	A
Accidents to patients, passengers, students or other clients	B	C	C	B	C	B	A
External safety	B	B	B	A	C	B	A

6.4. Profiles and factor analysis in the Dutch and Norwegian data

In further analyses of the Dutch and Norwegian samples, which are currently being carried out looking at the subgroups of each sample and which will be reported later, we are finding more similarities between these two countries. We have been able to identify profiles in both countries with the following characteristics:

1. Higher level professionals, dealing with safety in design, policy making across different hazard areas, safety management and performance indicators, and who are involved in national and international networks; and

2. Technical level professionals, centred on procedures, instructions, workplace compliance checks in, discussions with employees and supervisors, physical inspections and behavioural audits, accident statistics and emergency drills.

In the Dutch sample, these profiles are associated with two different levels of safety qualification and basic education level. In the Norwegian sample somewhat similar splits can be discerned, but the division is one which goes along the lines of the different associations which the respondents are members of. The two profiles seem comparable to two of the profiles found in the Quebec survey by Brun and Loiseau [2002]. It is, however, clear that these differences within each sample are not as great as had been expected, given the considerable differences in training and education level of the different parts of the samples.

A factor analysis of the Dutch and Norwegian data was also conducted to see how the tasks and hazards would cluster in the samples. This process identifies the tasks and hazards which behave similarly in the respondents' answers. This may be because they are all dealt with seldom by the same group or, in contrast, because they are all dealt with frequently by a coherent group. We are still analysing these data to understand the clusters produced, but they appear to be interpretable. When we look at the clusters of hazards, we find three clusters which occur in both samples. These are the health risks, the well-being risks and the vehicle safety risks. Relatively few safety professionals deal with the first two, but those who do deal with them seem to deal with the full cluster. In the Dutch sample, we find a cluster of external risks and a cluster of fire and explosion risks, the latter being separate from a combined cluster of workplace safety, hygiene and ergonomic risks. The Norwegian data cluster differently, with workplace safety and fire in one cluster and hygiene and ergonomics apart. There is also a cluster associated with product risks in Norway.

The task clusters which emerge are:

- knowledge management;
- safety services management;
- safety management system tasks;
- workplace safety;
- design and risk analysis;
- personal protective equipment;
- machinery safety — associated with design in the Dutch sample, but with personal protective equipment in the Norwegian sample;
- dangerous materials;
- selection and training;
- investigation/monitoring tasks;
- communication with line and top management;
- external relations tasks;
- emergency management — associated in the Dutch sample with fire fighting, but separate in the Norwegian sample;
- claims and insurance tasks;
- maintenance and permit to work; and
- statistics and records.

These clusters show how the overall safety job splits into sub-tasks, which are recognisable as components in many training courses for professionals.

7. CONCLUSIONS

The international study of the tasks of the safety professional is now beginning to show some interesting results. Those shown here have to be considered with great care, given the very low response rate in three of the countries surveyed and the respectable, but still less than 50% response in two others. However, what is presented here are only the broad, general data, which is likely to be more robust. Further analyses of sub-samples in the data, and further checks of representativity are needed to dig more deeply into the data and to arrive at conclusions with more confidence.

However, there is a clear core of tasks and hazards emerging, which is dealt with by safety professionals across all of the countries for which we have results. This core covers particularly the technical and mechanical hazards which stem from the origins of the safety profession. Human factors and safety management tasks have joined that core in some countries, but not (yet) all. These would appear to have been added to the tasks of the professionals with higher levels of education and training, more than to the tasks of the technician level practitioners. The data also confirm earlier studies that many safety professionals deal with the areas of occupational hygiene and ergonomics as well as workplace safety. Further analysis of the data within and across countries will be able to make this emerging picture sharper and will further repay the major effort in international cooperation which went into launching and coordinating this comparative survey.

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APPENDIX: THE QUESTIONNAIRE

The full text of the master questionnaire as posted on the website of ENSHPO is given below. Any researchers may use it, but we request that you inform us of the results obtained by using it. Please send any data or reports to: a.r.hale@tbm.tudelft.nl

Questionnaire Safety Professionals:

What tasks does a safety professional carry out?

Section A Organisation

This section is concerned with establishing what kind of organisation you work for. **Please circle just one of the shaded numbers for each question.**

A1	What kind of organisation do you work for? Choose only one.			01
	1	Internal to company in industry / services	(Go to question A2)	
	2	External consultant or advisory body	(Go to question A3)	
	3	Social insurance, or other insurance organisation (Go to question A4)		
	4	Other incl. government inspectorate (Please specify) (Go to question A4)		
A2	Which description best classifies the main process of your organisation or company? This list is based on the official NACE classification for your company. Please try to circle only one category unless that is impossible, and then go to question A4			02 03
	1	Agriculture or forestry	15	Furniture and woodworking
	2	Fishing	16	Recycling and waste
	3	Mining, quarrying	17	Electricity, gas and water
	4	Food, drink and tobacco	18	Building and construction
	5	Textiles, leather and clothing	19	Retail trade
	6	Paper and printing	20	Hotel and catering
	7	Oil and coal	21	Transport, post, communications and storage
	8	Chemicals	22	Financial services
	9	Rubber and plastics	23	Property & real estate
	10	Glass, ceramics and cement	24	Defence
	11	Metal manufacture and products	25	Education
	12	Machines and other technical equipment	26	Health and welfare
	13	Electrical, electronics and optical instruments	27	Other services (Please specify)
	14	Car & other transport vehicle manufacture	28	Other: (Please specify)
	(Go to Question A4)			

A3	What sort of external advisory body do you work for?		04
	1	Occupational health & safety service Go to question A4	
	2	Consultancy / engineering bureau Go to question A5	
	3	Industry, national or regional advisory body Go to question A4	
	4	Fire service Go to question A4	
	5	Other: (Please specify) Go to question A4	
A4	What is the total number of people covered by your safety (advisory) responsibilities? External consultants		05
	1	Under 100	
	2	101-500	
	3	501-1000	
	4	1001-5000	
	5	Over 5000	
A5	Are other safety advisors employed in your organisation and if so, how many?		06
	1	No others	
	2	1	
	3	2-5	
	4	More than 5	
A6	Does your work as safety advisor relate to more than one site/company?		07
	1	Yes If so, how many?	
	2	No (go to question A8)	
A7	Are these sites/companies in more than one country?		08
	1	Yes If so, which countries?	
	2	No	
A8	Do you work full time or part time as a safety advisor?		09
	1	Full time (Go to question A11)	
	2	Part time	
A9	If you work part time, how many hours a week do you work on safety activities?		10
	Hours.	
A10	What other work do you do besides your safety activities?		11
		

A11	Are there other health, safety- or environment specialists working in your organisation?		
	1	Occupational physician	12
	2	Occupational hygienist	13
	3	Occupational health nurse	14
	4	Work and organisation specialist	15
	5	Ergonomist	16
	6	Environmental specialist	17
	7	Fire specialist	18
	8	Health physicist/radiation expert	19
	9	Other: (Please specify)	20

Section B Tasks

This section contains a list of tasks which you, in your safety professional role, may carry out. We would like to know which ones you do carry out and how frequently.

We have split this section into several parts, grouping together tasks which have something in common. We hope this makes it easier to understand and fill in. You may find most of your tasks grouped under one heading, but please go through all the sections and tasks and give an answer to each one.

For each task please circle the shaded number that reflects best how frequently you personally carry out the task on average in your job. If you have never yet done a task, but it does form part of the responsibilities of your job, please circle 8. If the task mentioned is not part of your job please circle 9. **Please circle only one answer per task.**

		Weekly or more	Monthly/Quarterly	Yearly or less	Never yet, but it is part of my job	Not a part of my job	
	Please circle only one number per task						
1	Problem identification and analyses						
B1	Investigate & evaluate workplace or plant risks	1	2	3	8	9	21
B2	Perform job safety analyses	1	2	3	8	9	22
B3	Involved, as a member of a design team, in integrating safety in the design of plant, processes, buildings, etc.	1	2	3	8	9	23
B4	Review a design, based on safety criteria, as someone external to the design team	1	2	3	8	9	24
B5	Carry out risk analysis of projects, designs or activities	1	2	3	8	9	25
2	Developing and implementing of solutions						
B6	Develop company policy for sustainable processes or products	1	2	3	8	9	26
B7	Develop company environmental policy	1	2	3	8	9	27
B8	Prepare company policy related to safety of machines, processes or workplaces	1	2	3	8	9	28
B9	Specify safety measures for machines, processes or workplaces	1	2	3	8	9	29
B10	Develop/improve procedures for the safe use and maintenance of machines, processes or workplaces	1	2	3	8	9	30
B11	Give instruction on the safe use and maintenance of machines, processes or workplaces	1	2	3	8	9	31
B12	Check compliance with safety procedures for machines, processes or workplaces	1	2	3	8	9	32
B13	Prepare company policy relating to dangerous materials	1	2	3	8	9	33

		Weekly or more	Monthly/Quarterly	Yearly or less	Never yet, but it is part of my job	Not a part of my job	
	Please circle only one number per task						
B14	Specify safety measures for dangerous materials	1	2	3	8	9	34
B15	Design/improve the safety procedures for the use and the storage of dangerous materials	1	2	3	8	9	35
B16	Check compliance with safety procedures for dangerous materials	1	2	3	8	9	36
B17	Preparation company policy for PPE	1	2	3	8	9	37
B18	Specify which PPE to purchase	1	2	3	8	9	38
B19	Design/improve procedures for the use and maintenance of PPE	1	2	3	8	9	39
B20	Monitor the correct use of PPE	1	2	3	8	9	40
B21	Develop the company safety management system	1	2	3	8	9	41
B22	Design performance indicators for the safety management system	1	2	3	8	9	42
B23	Monitor the functioning of the safety management system	1	2	3	8	9	43
B24	Propose improvements to the safety management system or parts of it	1	2	3	8	9	44
B25	Prepare company policy on safety culture	1	2	3	8	9	45
B26	Assess the safety culture	1	2	3	8	9	46
B27	Propose improvements to the safety culture	1	2	3	8	9	47
B28	Lead or advise on organisational change to achieve improvement in safety performance	1	2	3	8	9	48
B29	Check whether company policy or procedures conforms to legal rules and regulations	1	2	3	8	9	49
B30	Prepare permits to work for dangerous work	1	2	3	8	9	50
B31	Check compliance with permits to work	1	2	3	8	9	51
B32	Member of the team for planning large scale maintenance or modifications	1	2	3	8	9	52
B33	Assessing the plan for large scale maintenance and modifications	1	2	3	8	9	53
3	Training, information and communication						
B34	Design a safety campaign	1	2	3	8	9	54
B35	Implement a safety campaign	1	2	3	8	9	55
B36	Inform/discuss with safety representatives/ committee about possible risks and safety measures	1	2	3	8	9	56
B37	Inform/discuss with employees about possible risks and safety measures	1	2	3	8	9	57

		Weekly or more	Monthly/Quarterly	Yearly or less	Never yet, but it is part of my job	Not a part of my job	
	Please circle only one number per task						
B38	Inform/discuss with first line supervisors about possible risks and safety measures	1	2	3	8	9	58
B39	Inform/discuss with line managers about possible risks and safety measures	1	2	3	8	9	59
B40	Inform/discuss with top management about possible risks and safety measures	1	2	3	8	9	60
B41	Publish information about safety in a company newsletter or other internal communication medium	1	2	3	8	9	61
B42	Involved in defining selection criteria for the safety of new employees	1	2	3	8	9	62
B43	Prepare company policy relating to safety training	1	2	3	8	9	63
B44	Design safety training programmes, or workshops	1	2	3	8	9	64
B45	Give safety training programmes, courses or workshops	1	2	3	8	9	65
B46	Keep records of employees safety training	1	2	3	8	9	66
4	Inspection and research						
B47	Investigate accidents or incidents	1	2	3	8	9	67
B48	Investigate environmental incidents	1	2	3	8	9	68
B49	Keep statistics about accidents and incidents	1	2	3	8	9	69
B50	Keep statistics about sickness absence	1	2	3	8	9	70
B51	Make recommendations for improvement arising out of investigations	1	2	3	8	9	71
B52	Conduct workplace inspections of physical prevention measures	1	2	3	8	9	72
B53	Conduct workplace audits of safe behaviour	1	2	3	8	9	73
B54	Conduct audits of the safety management system	1	2	3	8	9	74
5	Emergency procedures and settlement of damage						
B55	Prepare company policy on emergency procedures, intervention and first aid	1	2	3	8	9	75
B56	Prepare company policy on insurance and compensation	1	2	3	8	9	76
B57	Design/improve emergency procedures	1	2	3	8	9	77
B58	Organize practice of emergency procedures	1	2	3	8	9	78
B59	Manage a company fire fighting team	1	2	3	8	9	79

		Weekly or more	Monthly/Quarterly	Yearly or less	Never yet, but it is part of my job	Not a part of my job	
	Please circle only one number per task						
B60	Be a member of the company fire fighting team	1	2	3	8	9	80
B61	Give first aid courses	1	2	3	8	9	81
B62	Advise employer or employee about damage or injury claims	1	2	3	8	9	82
B63	Act as expert witness in legal cases or claims	1	2	3	8	9	83
6	Regulatory tasks						
B64	Involved with making national/regional or industry wide safety laws and rules	1	2	3	8	9	84
B65	Be a member of a standards committee for product safety	1	2	3	8	9	85
B66	Be a member of a standards committee for safety competence or skills	1	2	3	8	9	86
B67	Be a member of a standards committee for safety management systems	1	2	3	8	9	87
B68	Take part in designing guidance or standards for safety courses or training at national or industry level	1	2	3	8	9	88
B69	Take part in the design and implementation of safety campaigns at national or industry level	1	2	3	8	9	89
B70	Advise on insurance premiums for a workplace or company	1	2	3	8	9	90
B71	Advise on damage claims	1	2	3	8	9	91
B72	Answer questions from the public about safety	1	2	3	8	9	92
7	Knowledge management						
B73	Read professional safety literature	1	2	3	8	9	93
B74	Attend courses or workshops about safety subjects	1	2	3	8	9	94
B75	Exchange knowledge and practical experiences with colleagues at local or national level	1	2	3	8	9	95
B76	Exchange knowledge and practical experience with colleagues at international level	1	2	3	8	9	96
B77	Write on safety in the professional or scientific literature	1	2	3	8	9	97
B78	Document the safety management system	1	2	3	8	9	98
8	Management & Financial						
B79	Manage other safety or working conditions professionals	1	2	3	8	9	99

		Weekly or more	Monthly/Quarterly	Yearly or less	Never yet, but it is part of my job	Not a part of my job	
	Please circle only one number per task						
B80	Prepare (parts of) an annual plan for safety	1	2	3	8	9	100
B81	Prepare (parts of) an annual report on safety	1	2	3	8	9	101
B82	Advise on/set the budget for safety	1	2	3	8	9	102
B83	Carry out cost-benefit analyses of safety measures or policies	1	2	3	8	9	103

Although we have tried to make this list as complete as possible, we know that this can never be done, given the great variety in what safety professionals do. If you think we have left out a significant safety task which you carry out, please insert it in the table below and tell us how frequently you carry it out. If this space is not enough, use an extra sheet.

B84		1	2	3	8	9	104
B85		1	2	3	8	9	105

Section C. Types of hazard/issue

This section contains a list of types of hazards/issues which you, in your professional role, may have to deal with. You may not have to deal with all of them, and certainly not equally frequently. Please circle the shaded number that reflects best whether, and if so how frequently, you deal with these hazards/issues. If the hazards/issues are present in the organisation(s) you deal with in your professional role, but you don't have anything to do with advising about them, please circle 8. If the type of hazard/issue is not present in the organisation(s) at all, please circle 9.

		Weekly or more	Monthly	Yearly or less	Present in company but no	Not present in company	
	Please circle only one number per hazard	1	2	3	8	9	
C1	Inadequate lighting	1	2	3	8	9	106
C2	Extremes of cold or heat	1	2	3	8	9	107
C3	Noise	1	2	3	8	9	108
C4	Vibration	1	2	3	8	9	109
C5	Toxic and carcinogenic substances	1	2	3	8	9	110
C6	Biological risks	1	2	3	8	9	111
C7	Causes of other occupational disease	1	2	3	8	9	112
C8	Ionising radiation	1	2	3	8	9	113
C9	Non-ionising radiation	1	2	3	8	9	114
C10	Fire	1	2	3	8	9	115
C11	Explosion	1	2	3	8	9	116
C12	Electricity	1	2	3	8	9	117
C13	Machinery and installations	1	2	3	8	9	118
C14	Vehicles	1	2	3	8	9	119
C15	Human errors	1	2	3	8	9	120
C16	Subsidence and Collapses	1	2	3	8	9	121
C17	Falls	1	2	3	8	9	122
C18	Lifting	1	2	3	8	9	123
C19	Working posture	1	2	3	8	9	124
C20	Other physical workload	1	2	3	8	9	125
C21	Computers and VDUs	1	2	3	8	9	126
C22	Mental workload/Stress	1	2	3	8	9	127
C23	Bullying and harassment	1	2	3	8	9	128
C24	Violence against employees	1	2	3	8	9	129
C25	Alcohol or drugs	1	2	3	8	9	130
C26	Environmental pollution	1	2	3	8	9	131
C27	Lack of sustainability: production or products	1	2	3	8	9	132

		Weekly or more	Monthly	Yearly or less	Present in company but no	Not present in company	
C28	Product liability	1	2	3	8	9	133
C29	Road/transport safety	1	2	3	8	9	134
C30	Accidents to patients, passengers, students or other clients	1	2	3	8	9	135
C31	External safety	1	2	3	8	9	136
C32	Other (Please specify)	1	2	3	8	9	137

Section D Internal and external relations

This section contains a list of people and authorities with whom you may deal, in your role as safety professional. We would like to know whether you work with these people and how often. Please indicate that by circling one shaded number by each group, which best indicates your frequency of contact. If you have not yet had contact with these people, but it is part of your job, please circle 8. If it is not part of your job to have contact, please circle 9.

		Weekly or more	Monthly	Yearly or less	No contact yet, but is part of job	Contact is not part of my job	
D1	Occupational hygienist	1	2	3	8	9	138
D2	Occupational physician	1	2	3	8	9	139
D3	Ergonomist	1	2	3	8	9	140
D4	Work & organization psychologist	1	2	3	8	9	141
D5	Other medical specialists	1	2	3	8	9	142
D6	VISITORS	1	2	3	8	9	143
D7	Employees	1	2	3	8	9	144
D8	Line management	1	2	3	8	9	145
D9	Top management	1	2	3	8	9	146
D10	Works council or equivalent	1	2	3	8	9	147
D11	Quality department	1	2	3	8	9	148
D12	Technical/maintenance service	1	2	3	8	9	149
D13	Personnel department	1	2	3	8	9	150
D14	Financial division	1	2	3	8	9	151
D15	Lawyer	1	2	3	8	9	152
D16	Designer	1	2	3	8	9	153
D17	Company planner	1	2	3	8	9	154
D18	Environmental expert	1	2	3	8	9	155
D19	Policy maker in Ministry	1	2	3	8	9	156
D20	Policy maker or planner in local authority	1	2	3	8	9	157
D21	Government inspector (national, local)	1	2	3	8	9	158
D22	Occupational health & safety service	1	2	3	8	9	159
D23	Standards body	1	2	3	8	9	160
D24	Certification body	1	2	3	8	9	161
D25	Industry federation	1	2	3	8	9	162
D26	Professional association	1	2	3	8	9	163

		Weekly or more	Monthly	Yearly or less	No contact yet, but is part of job	Contact is not part of my job	
D27	Employers' federation	1	2	3	8	9	164
D28	Trade-union official (local or national)	1	2	3	8	9	165
D29	Insurer	1	2	3	8	9	166
D30	Inspector of (social) insurer	1	2	3	8	9	167
D31	Safety officers of other organizations	1	2	3	8	9	168
D32	Safety Committee or safety representative	1	2	3	8	9	169
D33	External safety consultant	1	2	3	8	9	170
D34	Educational establishment	1	2	3	8	9	171
D35	People living around the company	1	2	3	8	9	172
D36	Local fire service	1	2	3	8	9	173
D37	Other (Please specify).....	1	2	3	8	9	174

Section E Personal information

This section asks for some personal information. Please answer by circling the shaded number appropriate to you.

E1	How many years have you been working as a safety professional?		175
	1	0-5 Years	
	2	6-10 Years	
	3	11-20 Years	
	4	More than 20 Years	
E2	How many years have you worked as a safety professional with your present company?		176
	1	0-5 Years	
	2	6-10 Years	
	3	11-20 Years	
	4	More than 20 Years	
E3	Are you a member of a professional association related to safety? (Circle more than one if appropriate)		
	1		177
	2		178
	3		179
	4		180
	5		181
	6	Other (Please specify)	182
	Each country should give the names of appropriate associations in spaces 1-5. If you do not need all the spaces, leave some blank, but keep 'Other....' As number 6.		
E4	What is your highest level of education?		183
	1		
	2		
	3		
	4		
	5		
	6		
	Each country should add the appropriate descriptions of levels of education in their country, in the spaces 1-6. Start in 1 with the highest and work downwards. E.g. for most countries the highest will be 'university degree' and the lowest will be 'secondary school'. If you do not need all 6 spaces, leave the last ones blank		

E5	Which training for a safety qualification have you completed? (Circle more than one if appropriate)			
	1	None		184
	2			185
	3			186
	4			187
	5			188
	6	Other (Please specify)		189
Each country should insert the names of the appropriate courses leading to a safety qualification in their country in the spaces 2-5. If you do not need all spaces, leave some blank, but keep 'Other....' As number 6.				
E6	What is the job title of your safety function?			190
E7	What is your gender?			191
	1	Male	2	Female
E8	What is your age?			192
	1	20 - 24 year	5	41 - 45 year
	2	25 - 30 year	6	46 - 50 year
	3	31 - 35 year	7	51 - 55 year
	4	36 - 40 year	8	55 year or older
E9	Have you any additional comment you wish to make about your role or tasks, or about this questionnaire?			193

Thank you for your assistance. It will make an invaluable contribution to our project, to try and understand the role of the safety professional better.

Please return the completed questionnaire to:

If you have questions or comments you can also phone, fax or e-mail to: