

# Evaluation of European Surveys in the Area of Health and Safety at Work and Identification of Risks in the Labor Environment

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**Abstract**—Occupational health and safety (OHS) is an area in which procedures and applications are constantly evolving and changing through legislation and new directives and guidelines. In this way, the relevant organizations strive to ensure continuous progress and the advantage of up-to-date information to ensure safety and prevent occupational accidents. Three ESENER surveys have been carried out in the European Union, led by the Agency for Safety and Health at Work (EU-OSHA). On the basis of surveys, it was determined how European workplaces manage risks and how they manage the field of safety and health protection at work. Thousands of companies and organizations in the European Union were involved in the surveys. Organizations and businesses were presented with a questionnaire that focused on the following topics: the impact of general risks on the field of OSH and the possibility of their management, psychosocial risks and other factors such as stress, harassment and bullying, and employee participation in OSH procedures. The article is dedicated to the fundamental conclusions from these surveys and their subsequent connection with the strategic intent of the Strategic Framework of European Union for the years 2021-2027. In the conclusion, emerging risks are identified and the EU will soon have to deal with them.

**Keywords**—ESENER, emerging risks, strategic framework in OSH, EU.

## I. INTRODUCTION

THE European Coal and Steel Community (ECSC) in 1951, as the cornerstone of the later European Economic Community (EEC), and subsequently the European Union (EU), united the European coal and steel industries and for the first time began to talk about safety and health protection at work. Two of the most dangerous work environments at the time came to the fore. This triggered one of the key objectives of the ECSC to "ensure equal rights and improve the living conditions of workers" in these industries. However, the tripartite approach to Occupational Safety and Health (OSH) was intensified in Europe only after 1985. Thanks to the initiative of Jacques Delors, then President of the European Commission, the concept of "social dialogue" received a constitutional mandate in the EU, which paved the way for the publication of the framework directive (89/391/EEC) in 1989. The year 1992 was declared by the European Commission as the European Year of Safety, Hygiene and Health Protection at

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Work due to the fact that in the early 1990s 4 million work accidents were reported annually, of which 8,000 were fatal and the cost of them was 20 million EUR [1], [14].

Currently, EU-OSHA covers the following key activities:

- Healthy Workplaces campaigns - raises awareness of OHS topics across Europe.
- Online Interactive Risk Assessment (OiRA) project - provides online risk assessment tools for SMEs to assess and manage risks in the workplace.
- ESENER surveys - provides brief information on health and safety risk management in European workplaces.
- OSHwiki - is a collaborative online encyclopedia that contains accurate and reliable OSH information.
- Prognostic projects – through targeted prognostic projects, draw attention to new and emerging risks in the field of health and safety and study them.

All campaigns are reflected in the activities of EU member states in individual areas [1]. In the article, we will focus on the evaluation of the European ESENER surveys and the decisive conclusions that were identified in them.

The EU-OSHA cooperates with the European Commission, European institutions, European social partners, as well as with international organizations and organizations that deal with the field of safety and health at work all over the world [2].

## II. EUROPEAN ESENER SURVEYS 1,2,3

The ESENER 1, ESENER 2, and ESENER 3 surveys are extensive surveys focusing on new and emerging risks. Surveys are conducted by EU-OSHA. On the basis of ESENER surveys, it is determined how European workplaces manage risks and the field of safety and health protection at work. Thousands of companies and organizations in the European Union were involved in the surveys. Organizations participated and answered a questionnaire, which mainly focused on the following topics: the impact of general risks on the field of OSH and the possibility of their management, psychosocial risks and other factors such as stress, harassment and bullying, and employee participation in OSH procedures [3], [4].

### ESENER 1

The first ESENER 1 survey in 2009 aimed to effectively

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address health and safety issues and provide relevant information for the introduction of new policies. As part of the first survey, it was investigated how workers are involved in the management of safety and health protection at work and what was an important factor in the success of the introduction and application of preventive measures [5].

As part of the survey in 2009, it was found that new technologies, social conditions, and economic changes affect workplaces to a certain extent. These changing work situations require several measures. The survey shows that European companies apply formal and less formal measures in the framework of OSH and psychosocial risks [6].

According to a survey from 2009, the main concerns in the field of health and safety in companies are diseases and damage to the musculoskeletal system, accidents, and stress. Organizations address psychosocial risk awareness through training and implementing organizational change. According to the survey, the main motive for solving OSH seems to be the fulfillment of legal obligations and requirements of employees [6].

### ESENER 2

According to the ESENER 2 survey, the biggest problems are the aging workforce, home office, and language comprehension. Statistically, according to the survey, 21% of EU-28 organizations state that employees over the age of 55 make up more than one quarter of the survey, the largest share of the aging workforce was recorded in Sweden (36%), Latvia (32%), and Estonia (30%). Based on the survey, it was found that 13% of organizations in the EU-28 work from home. The highest proportion of home offices was recorded in the Netherlands (26%) and Denmark (24%). An important figure that emerged from the survey is that 6% of EU-28 organizations and their employees have difficulty understanding the language used in the workplace. This problem was shown in countries such as Malta and Luxembourg (16%) and in Sweden (15%) [7]. The most risk factors resulting from the survey are psychosocial risks. The survey found that almost one in five organizations have a problem with psychosocial risks and do not have sufficient information or appropriate tools to eliminate them.

Among the other most common risk factors that were identified from the ESENER 2 survey are: meeting complicated customers, pupils and patients in representation (58% of the EU-28 organizations surveyed), tiring and painful work positions (56% of the organizations surveyed) and lastly the most frequently identified risk factor is repeated hand or shoulder movement (52% of organizations surveyed) [7], [8]. As part of the risk assessment in the ESENER 2 survey, several pieces of information were found. 76% of EU-28 organizations regularly perform risk assessments according to the results of the survey. Up to 90% of the surveyed organizations say that risk assessment is a useful way of managing safety and health at work. From the countries interviewed in connection with risk assessment, it follows that Italy and Slovenia carry out the most risk assessment in terms of percentage representation (94%) and Luxembourg the least (37%). In correlation with the

performance of risk assessment by internal employees, the order is as follows: Denmark (76% of organizations), United Kingdom (68%), and Sweden (66%). The lowest share was found in Slovenia (7%), Croatia (9%), and Spain (11%) [7], [8].

### ESENER 3

ESENER is a European enterprise survey on new and emerging risks. ESENER represents EU-OSHA's extensive research examining risk management in European workplaces in the field of OSH. The research consists of responses from companies and organizations to a questionnaire and a secondary analysis, which includes in-depth studies focusing on specific OSH topics. The questionnaire contains questions on topics such as: psychosocial risks (stress, bullying, harassment), general OSH risks and their management, employee participation in OSH procedures, incentives, and obstacles in OSH management (European Survey on New and Emerging Risks) [5].

The third European survey ESENER 3 clarifies the most frequently identified risk factors in the EU28. Among the most numerous identified risk factors are:

- repetitive hand or arm movements,
- the need to deal with demanding customers, students, patients,
- long-term sitting,
- lifting or moving people or heavy loads [18].

Compared to the survey in 2014, the worst identified risk factors increased in 2019: repeated hand and arm movements from 52% in 2014 to 65% in 2019, the need to deal with demanding customers, students, and patients from 58% in 2014 to 61% in 2019, lifting or moving people or heavy loads from 47% in 2014 to 54% in 2019, see Fig. 1.

In 2014, a total of 77% of surveyed companies in the EU28 claimed that they regularly perform risk assessment in the company. The survey in 2014 shows that 94% of enterprises in Romania carry out a risk assessment, 93% of enterprises carry out a risk assessment in Italy and Spain, and 42% of enterprises in Luxembourg. The data can be seen in Fig. 2, where 2014 is shown in blue and 2019 in orange [6], [18].

In Fig. 2 it is also possible to see that, compared to 2014, the risk assessment in some countries has increased. Countries such as: Slovakia, Finland, Austria and Serbia outside the EU28 dominate among the most significant changes compared to years in the framework of risk assessment in companies.

From the three main surveys in the field of health and safety, it is possible to describe the conclusions from the following analyses:

- Exposure to risks, specific risks in the area of disorders of the support-movement system and psychosocial risks, is the incentive for proper risk management in the field of health and safety, risk management in the field of musculoskeletal disorders and psychosocial risks.
- Information related to mental health, information on exposure to specific employee risks provided by employees significantly contributes to the management of psychosocial risks in enterprises.

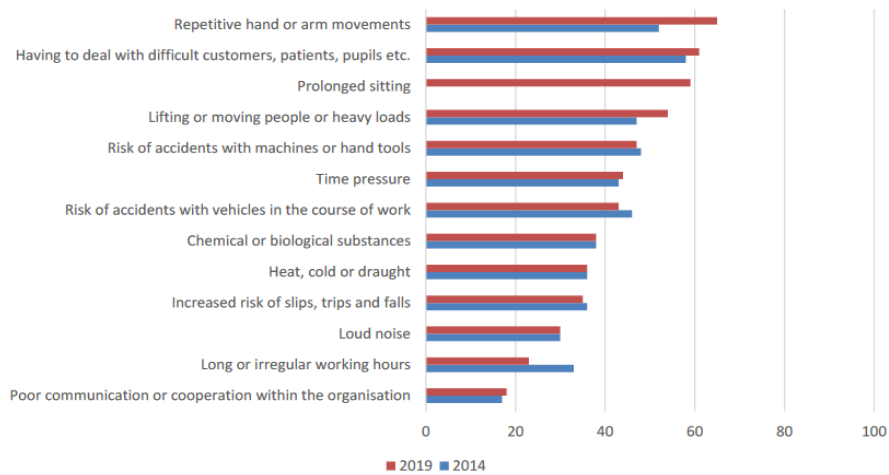


Fig. 1 Survey of OSH management and risk assessment in companies according to ESENER 3 [6]

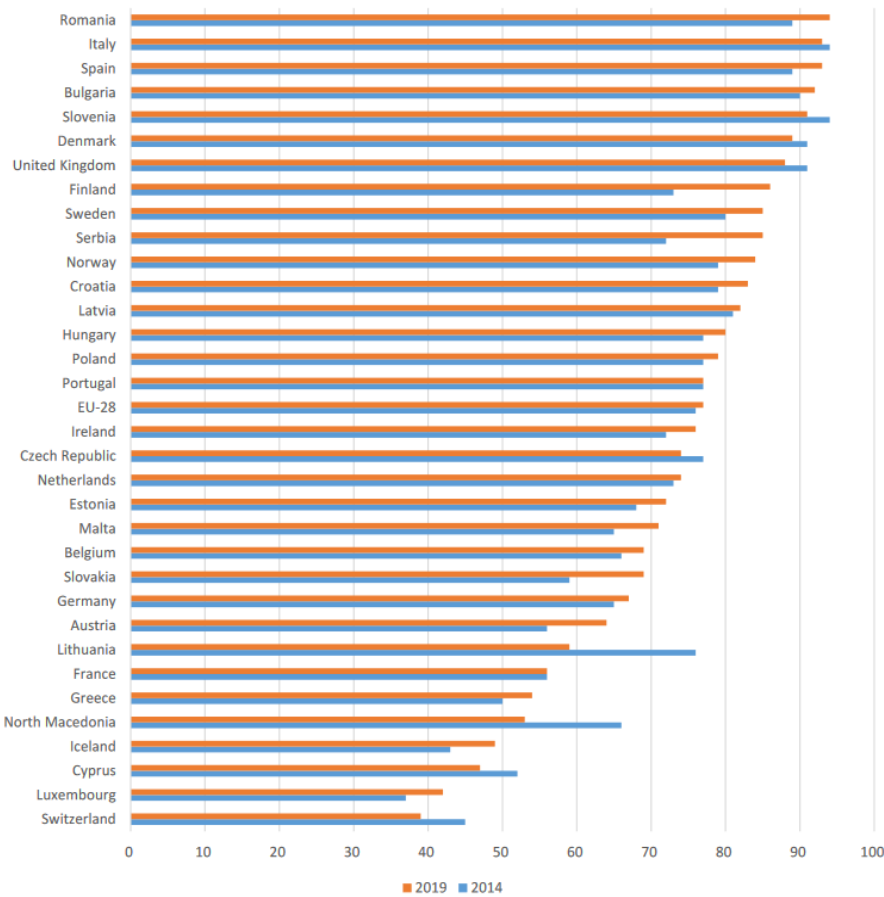


Fig. 2 Regularly performed workplace risk assessments by country (% of enterprises), 2019 and 2014 [6]

- Incentives and obstacles to risk management can significantly influence the way risks are managed in the field of health and safety in enterprises [14].
- Incentives that have an impact on OSH risk management include: the presence of an official employee representative, informal employee participation in OSH management, management involvement [8], [15].

In conclusion, it can be stated that the main outputs from the surveys should be translated into EU-OSHA strategic

documents for the next years. Therefore, in the next chapter, we will provide information regarding the strategic document, which is authoritative for all member states of the European Union.

### III. STRATEGIC FRAMEWORK IN OSH 2021 - 2027

The European Commission has created an EU strategic framework in the field of health and safety at work for 2021-

2027. In the strategic framework, the basic priorities and measures are set, which are supposed to contribute to improving the safety and health of employees, to deal with sudden changes in the economy, working regimes and demography.



Fig. 3 EU strategic framework in the field of health and safety at work for the years 2021-2027 [9].

The EU strategic framework emphasizes three main priorities:

- streamlining the prevention of accidents and illnesses (improvement of prevention) that are caused by the performance of work and the effort to manage and ensure a zero accident rate in relation to work-related deaths,
- change management and their anticipation in connection with the digital, demographic and green transformation,
- response to current and future health crises with an effort to increase preparedness.

The first goal from the strategic framework, which focused on managing change in the new world of work, brought about by the demographic, digital and green transformation. The second goal resulting from the EU Strategic Framework is defined as: improving the prevention of work accidents and occupational diseases. Increasing preparedness for potential future health crises is the third key objective of the EU's European Strategic Framework.

The objective and the overall key to success for the proper implementation of the strategic framework is not only the implementation of the framework at the national and EU and sectoral levels, but mainly awareness-raising, data collection, social dialogue, capacity-building and empowerment, and funding. Due to its broad scope, the EU-OSHA agency is adequately positioned to achieve the goals of the framework and other activities [9].

The implementation of the tasks and objectives set out in the EU Strategic Framework is the primary task of EU-OSHA. The EU-OSHA agency aims to predict risks and identify priorities within its study projects, it also aims to provide information that is necessary for the creation of policy and procedure with a focus on ensuring safety and health protection at work in areas such as: psychological risks and stress, green jobs and digitization. The agency is involved in the healthy workplace campaign and the action plan against carcinogens. The activities carried out by EU-OSHA are clear evidence of its involvement and support for prevention throughout Europe [9]-

[11].

The field of health and safety is covered by several institutions in the European Union. The European Parliament has under it the European Commission, which it supervises and has several competences within its operation. The European Parliament together with the European Commission performs several tasks and duties in the field of health and safety.

The European Parliament is interested in and implements the necessary requirements for improving conditions in the field of health and safety: it emphasizes the need for optimal protection of the safety and health of workers, it adopts resolutions of legislation and their focus on the psychological and physical well-being of workers, it has the merit of changing the directives for improving working conditions and supports the European Commission in the field of providing information for small and medium-sized enterprises. Parliament calls on the European Commission to focus more on the area of new risks such as: stress, exposure to nanoparticles, burnout, violence and harassment in the workplace [12], [13], [16].

#### IV. WORKPLACE EMERGING RISKS

Work and workplaces are constantly changing through the introduction of new technologies, substances and work procedures, changes in the structure of the workforce and the labor market, and new forms of employment and work organization. This can lead to new risks and challenges for workers' safety and health. They need to be anticipated and addressed in order to ensure safe and healthy workplaces in the future.

One of EU-OSHA's key objectives is to identify and provide reliable and high-quality data on these new and emerging OSH risks that meet the needs of policymakers and researchers and enable them to take timely and effective action.

EU-OSHA has launched a series of projects aimed at evaluating the possible effects of new technologies, new ways of working and, societal changes on the safety and health of workers. The aim of the projects is not only to identify new risks as soon as they appear, but also to anticipate changes that could affect safety and health in the workplace. EU-OSHA projects are based on a variety of methods, including literature reviews, expert consultations and, scenario building.

Among the areas with new risks, we can include the following:

1. Circular economy and its impact on health and safety. Here, the EU focuses on making the use of resources, materials and products more efficient. The basic goal is to achieve a zero carbon balance by 2050 alongside sustainable development. Within these changing conditions, it will be necessary to create jobs that will be of a different character than we know them today.
2. Development in the field of ICT and digitization of work. Activities that are developed in this area focus on the impact of the rapid development of digital technologies on work, including artificial intelligence and robotics, and on the potential resulting impact on OHS.
3. Management of work with nanomaterials in the workplace. Nanoparticles are approximately 10,000 times smaller than

human hair. They are used in various industries such as construction, automotive, and food industry. Despite ongoing uncertainty, there are major concerns regarding the hazardous health and safety effects of nanomaterials. Therefore, it is essential that employers, together with employees, proceed carefully in relation to risk management when choosing preventive measures.

4. Safety and health protection of employees in ecological workplaces. In this category we can include those that help to protect the components of the environment, reduce the consumption of energy and raw materials, or reduce waste and pollution. As the green economy is expected to grow rapidly, it is important that we anticipate any new or emerging health and safety risks to green jobs before they arise.

#### V. CONCLUSION

Surveys have found that new technologies, social conditions, economic changes, an aging workforce, home office, language comprehension pose a particular problem in the workplace. The individual findings were also reflected in a document that is strategic from the point of view of dealing with risks within the European Union states: EU strategic framework in the field of health and safety at work for the years 2021-2027. It is necessary for stakeholders in the health and safety field to pay increased attention to individual campaigns in the EU member states and implement selected components in their environment. However, many challenges associated with new risks await us in the future, and it is necessary to focus our attention on them, especially in educational activities, both in the educational process and in the business environment [17].

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