

Portugal's approach to supporting occupational safety and health compliance: the role of labour inspectorate and prevention services

Report

Authors: Liliana Cunha and Sarah Maggioli, Center for Psychology at University of Porto (CPUP); Faculty of Psychology and Education Sciences at University of Porto (FPCEUP), Portugal

Sara Ramos, Centre for the Study of Socioeconomic Change and the Territory (DINÂMIA'CET); University Institute of Lisbon (ISCTE), Portugal

Joana Guedes, Joana Duarte and João Santos Baptista, Laboratory for the Prevention of Occupational and Environmental Risks (PROA)/Associate Laboratory of Energy, Transports and Aerospace (LAETA); Faculty of Engineering of the University of Porto (FEUP), Portugal

Project management: Dietmar Elsler, Ioannis Anyfantis, European Agency for Safety and Health at Work (EU-OSHA).

This report was commissioned by the European Agency for Safety and Health at Work (EU-OSHA). Its contents, including any opinions and conclusions expressed, are those of the authors alone and do not necessarily reflect the views of EU-OSHA.

Neither the European Agency for Safety and Health at Work nor any person acting on behalf of the Agency is responsible for the use that might be made of the following information.

© European Agency for Safety and Health at Work, 2025

Reproduction is authorised, provided the source is acknowledged.

For any use or reproduction of photos or other material that is not under the copyright of the European Agency for Safety and Health at Work, permission must be sought directly from the copyright holders.

List of abbreviations

ACT - Autoridade para as Condições do Trabalho (Authority for the Work Conditions)

ANDST - Associação Nacional dos Deficientes Sinistrados no Trabalho (National Association of Workers with Work-Related Disabilities and Injuries)

ANQEP, I.P. - Agência Nacional para a Qualificação e o Ensino Profissional (National Agency for Qualification and Vocational Education)

BIM - Building Information Modelling

DGE - Direção-Geral da Educação (Directorate-General for Education)

DGS - Direção-Geral da Saúde (Directorate-General for Health)

EU-OSHA - European Agency for Safety and Health at Work

GEP - Gabinete de Estratégia e Planeamento (Office for Strategy and Planning – Ministry of Labour, Solidarity, and Social Security)

GIO - Operational Interinstitutional Groups

IEFP, I.P. - Instituto do Emprego e Formação Profissional (Institute of Employment and Professional Training)

ILO - International Labour Organisation

IMT, I.P. - Instituto da Mobilidade e dos Transportes (Institute for Mobility and Transport)

IoT - Internet of Things

IPQ - Instituto Português da Qualidade (Portuguese Institute for Quality)

OSH - Occupational Safety and Health

PPE - Personal Protective Equipment

S360 - A customer relationship management platform for the requests submitted to ACT

SINAI - Sistema de Informação Nacional da Atividade Inspetiva (National Information System for Inspective Activity)

SLIC - Senior Labour Inspectors' Committee

SMEs - Small and Medium-sized Enterprises

SNS - Serviço Nacional de Saúde (National Health System)

Table of Contents

1	Introduction	5
1.1	Project objectives	5
1.2	Overview of the Portuguese OSH legal framework and relevant OSH indicators	6
2	Research objectives and methodology	8
2.1	Objectives	8
2.1.1	Grey literature analysis	9
2.1.2	Systematic literature review	9
2.2	Individual interviews and focus groups	10
2.3	Qualitative analysis	11
2.4	Case studies	11
3	Labour Inspectorate monitoring practices and compliance	12
3.1	Literature Review	12
3.1.1	The Portuguese Labour Inspectorate	12
3.1.2	The Portuguese Labour Inspectorate's action in numbers	15
3.1.3	Results from the systematic review	16
3.2	Interviews and focus group sessions	16
3.2.1	Participants	16
3.2.2	Results and discussion of the fieldwork data collection	17
4	OSH prevention services and supporting compliance	25
4.1	Literature review	25
4.1.1	Framing Portugal's prevention services	25
4.1.2	Results from the systematic review	30
4.2	Interviews and focus group sessions	32
4.2.1	Participants	32
4.2.2	Results and discussion of the fieldwork data collection	33
5	Brief presentation of the case studies	39
6	Discussion and policy pointers	42
	Policy pointers:	42
6.1	Policy pointers regarding labour inspection	43
6.2	Policy pointers regarding prevention services	46
7	References	49
8	Annexes	53

List of figures and tables

Figure 1: Distribution of the ACT's services.....	24
Figure 2: Thematic Map for The Role of the Labour Inspectorate	30
Figure 3: Thematic Map for The role of Prevention Services	46
Table 1: Research String by database and research questions	21
Table 2: Evolution of the number of labour inspectors 2018 - 2024	25
Table 3. Number of OSH Inspective Procedures regarding OSH violations 2023 - 2024	27
Table 4. Sociodemographic characteristics of the participants in the individual interviews and focus groups for the topic The Role of the Labour Inspectorate	28
Table 5: Number of work establishments per typology of organisation of safety services	42
Table 6: Number of work establishments per typology of organisation of health services	42
Table 7: Sociodemographic characteristics of the participants in the individual interviews and focus groups for the topic The Role of Prevention Services	45

1 Introduction

Labour inspection, as well as enforcement practices and policies, are crucial for guaranteeing occupational health and safety (OSH) compliance and outcomes (EU-OSHA, 2024a). However, there is a lack of comprehensive analyses regarding: i) the diverse practices used for labour inspection and OSH prevention, and their respective impacts (EU-OSHA, 2021); ii) the challenges and opportunities encountered by labour inspectors and OSH actors in light of the unique characteristics of their work and the specific geographical areas they cover; and iii) the overarching challenges that arise for these professionals due to demographic and technological changes.

With regard to the megatrends observed in the world of work, the Senior Labour Inspectors' Committee (SLIC, 2020) has been emphasising that the cumulative impact of technological transformation, new ways of working, demographic and climate change, and globalisation affects organisations, job design and working conditions, calling for an appropriate approach from the labour inspectorate. An in-depth and detailed analysis of the work environments and the experience of the OSH actors are necessary to ensure that regulatory compliance aligns with the actual conditions of the new work environments.

Following this perspective, this research in Portugal is part of a series of national studies discussing the Labour Inspectorate and prevention services in supporting OSH compliance, presenting inspection methods and OSH prevention practices used.

Specifically, sections 1.1 and 1.2 present the study's overall objectives and an outline of Portugal's OSH legal framework, while section 2 depicts the methodological framework and research aims that supported each task's development.

Following this, section 3 delves into a more detailed description of the Portuguese Labour Inspectorate, describing its structure, organisation and role, and presenting some indicators of their action. Similarly, section 4 describes the prevention services in the country and also the different forms of organisation of OSH services, taking into account the applicable legal framework. These sections both stem from the literature review and data provided directly by the Portuguese Authority for Working Conditions (Autoridade para as Condições do Trabalho – ACT), while also presenting the participants of the qualitative fieldwork data collection phase and incorporating some of its findings.

Section 5 contains a summary of each of the seven case studies developed, numbered and categorised according to the subject they are framed within.

The presentation and discussion of the research outcomes from both phases are presented in section 6 for both the role of the Labour Inspectorate and the role of prevention services, highlighting the main insights and challenges found for monitoring action and supporting compliance in the country, framing them within the country's characteristics (e.g. type of economic structure).

Section 7 concludes with a set of policy pointers aimed at social partners, researchers and policymakers to improve the practicality and relevance of the research findings.

1.1 Project objectives

The objectives of the project were to analyse and describe in detail:

- I. the role of the Labour Inspectorate in Portugal, with a focus on exploring the traditional as well as the innovative enforcement measures used for OSH compliance support;
- II. the organisation of internal and external OSH services, while exploring what enterprises use each one, and the cooperation between the two types of services;
- III. the role and activities of prevention services to ensure compliance with OSH in workplaces, exploring under which forms of employment safety experts can carry out their functions; and
- IV. the link between OSH professionals from prevention services, the Labour Inspectorate and employers.

The overall aim of the project was to explore the current OSH practices of ACT as well as prevention services in terms of supporting compliance and providing OSH support in work contexts with different characteristics, while deriving pointers for policymakers and researchers.

The content of the research was divided into two main subjects: the role of the Labour Inspectorate, and the role of prevention services.

1.2 Overview of the Portuguese OSH legal framework and relevant OSH indicators

The Legal Framework for Promoting Safety and Health at Work (Law No 102/2009 from 10 September, transposition of, among others, OSH Framework Directive 89/391/CEE, from 12 June) provides a comprehensive and detailed account of the legal framework regulating safety and health at work in Portugal. Law No 102/2009¹ (amended by Decree-Law No 88/2015² and others) defines the foundations of OSH, following the terms of Article 284 of the Labour Code, approved by Law No 7/2009³ (subsequently amended by other legal acts). The main goal of this law is to create a legal framework to ensure safety and health at work, protect workers, promote safe working conditions, and prevent accidents and occupational diseases. The law applies to all sectors of activity, covering both the public and private sectors. It establishes the need for integrated OSH management involving the active participation of workers and their representative organisations.

In the Portuguese Labour Code, Law No 7/2009 from 12 February regulates labour relations in general, establishing the rights and duties of workers and employers. Chapter IV, Title I of Book II of this law sets out the obligations of employers, including the prevention of occupational risks, the identification and assessment of risks in the workplace, and the adoption of prevention measures. Furthermore, the law indicates that employers must provide training and information to their workers about workplace risks.

The legislation provides a more precise definition of the obligations of employers with regard to risk prevention, the establishment of OSH services and cooperation with inspection bodies. It defines risk assessment and management procedures and the implementation of prevention measures by requiring internal, common or external OSH services, which must be appropriate to the companies' economic activity sector and their number of workers. In addition, the legislation establishes the right of workers to be informed and consulted on all OSH issues and the prevention of occupational accidents and diseases.

The responsibility for implementing and managing safety and health conditions lies with the employer, as outlined in both regimes. Conversely, workers are duty-bound to collaborate with their employers in implementing OSH measures, and failing to do so constitutes a disciplinary offence. The Labour Code acknowledges the employer's responsibility to ensure workers' safety and health. Yet, the OSH legal regime delineates the practical measures and mechanisms for fulfilling this obligation. The OSH regime reinforces the provisions of the Labour Code by outlining the necessity for concrete risk assessment and prevention measures to be put in place within the workplace. The Labour Code serves to guarantee the general rights of workers, while the OSH legal framework provides a detailed account of the specific rights to protect workers' health and safety.

Portugal's ACT is the governmental body responsible for monitoring compliance with the general labour standards set out in the Labour Code and the specific safety and health standards established in the OSH legal framework by conducting workplace inspections. ACT's competencies are defined by the Regulatory Decree No 47/2012, from 31 July, which establishes the structure and organisation of ACT, defining its regulatory powers and its competencies as an inspection body. Law No 25/2017⁴ (amending Law No 35/2014 — the General Labour Law in Public Functions) delegates inspection powers in matters of OSH to ACT, which, in addition to promoting the application of legislation, carries

¹ More information is available at: <https://diariodarepublica.pt/dr/detalhe/lei/102-2009-490009>

² More information is available at: <https://dre.pt/application/file/67332701>

³ More information is available at: <https://diariodarepublica.pt/dr/detalhe/lei/7-2009-602073>

⁴ More information is available at: <https://files.diariodarepublica.pt/1s/2019/09/16700/0003900041.pdf>

out audits and offers guidance and training in matters of occupational safety. The inspection activity involves executing procedures that allow for the analysis of a given situation in light of the legislative framework to which it is or may be subject, in order to assess whether or not it complies with the applicable legal, contractual and regulatory provisions. If necessary, measures to ensure compliance are determined. In this regard, based on ACT's mission and its activity plan, the inspector must, for each situation encountered, consider the added value of the options and procedures adopted, as well as the tools and resources utilised. The inspector should act within the legal framework with diligence, availability and a spirit of cooperation. Although the public sector is covered by specific legislation — Law No 35/2014 from 20 June (General Labour Law in Public Functions) — in matters of OSH, it is covered by Law No 102/2009, from 10 September, through the terms set out in Law No 79/2019, from 2 September.⁵

In addition to ACT, other public entities are also responsible for OSH promotion, even though they do not carry out inspections in this matter. Namely, the Directorate-General for Health (Direção-Geral da Saúde – DGS) is active in health promotion and disease prevention, including providing guidelines on workers' health and prevention of work-related risks, having specific data related to occupational accidents and diseases; and the Social Security Institute (Instituto da Segurança Social) is responsible for coordinating workers' social protection, including social security issues in the event of an occupational accident.

Furthermore, there are sectoral laws in construction (Law 41821/58), commerce and services, industry (Ordinance 53/71⁶), mining and quarrying (Decree Law 162/90⁷) and fishing (Decree Law 116/97⁸), as can be seen in Annex 1.⁹

The legislation for specific risks encompasses several types of risks, including chemical risks (such as exposure to chemical, carcinogenic or mutagenic substances), physical risks (such as noise, vibrations, ionising and non-ionising radiation, or thermal environment), and biological and ergonomic risks. There are also specific safety regulations concerning machinery, protective equipment and other aspects of OSH. These have been synthesised in Annex 2.

Sector-specific and risk-specific legislation is designed to address activities or work environments that are characterised by particular risks. It serves to complement and provide greater detail regarding the obligations outlined in the OSH legal framework.

There are some additional factors to be considered. Psychosocial risks, for example, are not covered by specific legislation. However, they may be considered as part of the risk assessment process mentioned in the general law. Furthermore, the legislative framework for the prevention of harassment is strengthened by: i) the 12th amendment to the Labour Code, approved in the annexe to Law No 7/2009, from 12 February; and ii) by the sixth amendment to the General Law on Labour in Public Functions, approved in the annexe to Law No 35/2014, from 20 June, and the fifth amendment to the Labour Procedure Code, approved by Decree-Law No 480/99, from 9 November.

The OSH legal framework sets out overarching principles that apply to all workers. Specific legislation offers additional details and tailors these standards based on the characteristics and risks of particular sectors or activities. In some cases, the legislation imposes extra requirements on employers, such as the provision of specialised training, the use of protective equipment or the development of customised safety plans. Moreover, sector-specific legislation introduces heightened responsibilities in high-risk sectors, such as construction, the chemical industry or roles involving exposure to hazardous agents.

Despite this legal framework, various related OSH indicators concerning work accidents and occupational diseases highlight the significance of analysing the practices implemented to ensure OSH compliance. In 2022, statistics on work accidents in Portugal, published by GEP (2024a),¹⁰ revealed

⁵ More information is available at: <https://diariodarepublica.pt/dr/detalhe/lei/79-2019-124346830>

⁶ More information is available at: <https://diariodarepublica.pt/dr/detalhe/portaria/53-1971-446313>

⁷ More information is available at: <https://diariodarepublica.pt/dr/detalhe/decreto-lei/162-1990-571472>

⁸ More information is available at: <https://diariodarepublica.pt/dr/detalhe/decreto-lei/116-1997-385205>

⁹ More information is available at: <https://files.diariodarepublica.pt/1s/1958/08/17500/08510864.pdf>

¹⁰ More information is available at: <https://www.gep.mtsss.gov.pt/documents/10182/26338/at2022sint.pdf/2d7fb1d9-6714-443e-a51b-6f2281fef0dd>

that there were 184,622 reported work accidents, including 141 fatal work accidents. This marked a 5.5% increase in total accidents and a 4.4% rise in fatal work accidents compared to 2021. Of all accidents, approximately 23.9% were in the manufacturing sector, while 31.2% of fatal accidents occurred in construction. When analysing company size, firms with one to 49 workers had the highest concentration of both work accidents (47.3%) and fatalities (71.3%). Additionally, the majority of work accidents (68.3%) involved male workers, reflecting the prevailing gender segmentation in employment distribution.

When it comes to occupational diseases, unlike work accidents, there is no consistent and regular documentation of occupational morbidity. The Green Book on the Future of Safety and Health at Work (MTSSS, 2024) states that 'the latest available official data on occupational diseases dates back over ten years [according to Eurostat¹¹ Portugal only provided data for 2013-2015], which possibly explains why Portugal, together with Germany and Greece, has yet to provide data for the European Occupational Diseases Statistics (EODS)' (p. 109). Furthermore, the same document reports that 'the incidence of occupational diseases is higher among women' (p. 110), and it is estimated that occupational disease cases, particularly cancer, are often under-reported. However, Portugal registered a 6.4% rate of people, both employed and not employed who had worked in the previous 12 months, reporting work-related health problems.¹²

2 Research objectives and methodology

The research work combined top-down (literature and policy analysis) and bottom-up (participatory and extended case method) approaches leading to more informed outcomes. The project employed the same approach for its two main subjects: the Labour Inspectorate, and prevention services. The research objectives guiding the study are outlined in this chapter, accompanied by a description of the methodological approach.

2.1 Objectives

Overall, this research aimed to address the following objectives:

- To provide an in-depth analysis of the approach followed by the Portuguese Labour Inspectorate to promote compliance, presenting any innovative method of inspection used (see section 3).
- To gather and present the existing data in Portugal regarding OSH enforcement, sanctions, inspections, the work of labour inspectors and prevention services, and any other evidence that could assist this research in assessing the effectiveness of the methods/strategies followed (see sections 3 and 4).
- To identify and present examples (short case studies) of innovative strategies, initiatives, approaches or methods implemented by the Portuguese Labour Inspectorate and prevention services that support compliance (see section 5).
- In short, the overall objective was to explore traditional and innovative enforcement activities carried out by the Labour Inspectorate, but also the day-to-day activities carried out by internal and external prevention services in Portugal.

A comprehensive review of existing literature was needed to outline the state of the art of the Labour Inspectorate in Portugal and identify gaps regarding labour inspection and OSH prevention practices. This was achieved by exploring both scientific and grey literature, focusing on OSH regulation and

¹¹ More information is available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Occupational_diseases_statistics.

¹² The concept of the work-related health problem is based on a self-assessment of survey respondents in regard to their work-related state of health. More information is available at: https://ec.europa.eu/eurostat/databrowser/view/hsdw_pb11/default/table?lang=en&category=hlth.hsw.hsw_apex.hsw_pb

enforcement (e.g. guidelines for action, specific inspection or prevention practices) by the Labour Inspectorate, and the role of the policymakers (e.g. policies, entities and assigned responsibilities).

The literature review specifically addressed the current OSH strategy in Portugal, focusing on several key areas. Firstly, it explored the legal and practical guidelines for action and whether the current strategy and inspection practices address the various challenges identified by the European Agency for Safety and Health at Work (EU-OSHA) (e.g. responsiveness to different technologies, types of companies and work arrangements). Secondly, it aimed to investigate innovative inspection practices and their respective efficiency measures. Thirdly, this review also sought to examine the existence of combined strategic enforcement and co-enforcement inspections in Portugal, in order to understand the potential of this model for tackling the complexities of enforcing OSH regulatory standards, particularly within the gig economy. Finally, taking all these aspects into account, it explored if there are any existing debates or initiatives aimed at rethinking enforcement methods and developing a responsive strategy for their application in Portugal.

2.1.1 Grey literature analysis

The team developed a manifest content analysis of grey literature (Verra et al., 2019). Due to the process of scientific document indexation and the scope of scientific databases, grey literature is not included in these records. Thus, the team consulted documents from governmental databases, such as those of ACT and the General Secretariat of the Ministry of Labour, Solidarity, and Social Security (Secretaria Geral do Ministério do Trabalho, Solidariedade e Segurança Social – MTSSS).

2.1.2 Systematic literature review

To complement the first level of analysis, a systematic literature review following the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines (Page et al., 2021) was carried out.

This literature review aimed at systematically synthesising existing international research on labour inspection practices (for instance, traditional versus innovative practices) and outlining the impacts of different evidence-based practices. The purpose was also to contribute towards the definition of the case studies for the qualitative fieldwork phase, and, afterwards, to support the analysis of the results in the specific case of Portugal. Specifically, this phase of the review focused on answering the following research questions (RQs):

RQ1: What are the traditional and innovative practices carried out during labour inspections, considering their facilitators and issues?

RQ2: What activities are carried out by prevention services (internal versus external), considering traditional and innovative practices, as well as respective obstacles and improvement opportunities?

Sources were identified by searching for previously identified keywords and manually searching references (citation tracking), following an iterative process. Two multidisciplinary bibliographic databases, Scopus and Web of Sciences, were used.

Concerning inclusion criteria, only documents referring to the European context, available in indexed, peer-reviewed journals, classified as research articles and published in the last 10 years were considered. The selected articles were divided into two groups to answer RQ1 and RQ2, as can be seen in Table 1. The first group concerns all the articles that present information on inspection activities carried out by the Labour Inspectorate (RQ1), and the second group analyses practices used within prevention services (RQ2).

Table 1: Research string by database and research questions

Database	RQ	Research String
Scopus	RQ1	(TITLE ("labo* inspect*") OR (TITLE ("safety inspect*") AND ALL ("health and safety"OR"safety and health"))) AND (LIMIT-TO (DOCTYPE, "ar"))
Web of Science	RQ1	(TI=("labo* inspect*") OR (TI=("safety inspect*") AND ALL =("health and safety"OR"safety and health")))
Scopus	RQ2	(TITLE-ABS-KEY ("health and safety" OR "safety and health") AND (TITLE-ABS-KEY ("Prevention service*" OR "prevention practice*" OR "prevention guide*") OR TITLE ("prevention and control" OR "accident prevention"))) AND (LIMIT-TO (DOCTYPE, "ar"))
Web of Science	RQ2	(TS=("health and safety" OR "safety and health") AND (TS=("Prevention service*"OR "prevention practice*"OR "prevention guid*") OR TI=("prevention and control" OR "accident prevention")))

The documents were further reorganised within each of these groups according to the main topics covered. In terms of eligibility criteria, only empirical studies were included, as the purpose was to collect concrete information regarding specific practices. Specifically, regarding labour inspection (RQ1), all studies presenting labour inspection practices and issues related to labour inspection activities were considered; and, for RQ2, all studies related to analysing the activities and challenges of prevention services were included. The results of this phase are presented in sections 3.1.3 and 4.1.2.

2.2 Individual interviews and focus groups

Including participants with varied experiences (e.g. hierarchy, seniority, qualifications) is valuable for exploring how the research problem is perceived from different viewpoints (Baškarada, 2014). Therefore, this aspect was considered for selecting the participants for the individual interviews and focus group sessions.

In the case of The Role of the Labour Inspectorate, which refers to the characterisation of the Labour Inspectorate's action in Portugal, 12 participants (i.e. the General Labour Inspector, labour inspectors from different local centres, OSH promotion experts at ACT, the president of the Union of Labour Inspectors, the president of the Portuguese Association of Labour Inspectors) took part in the semi-structured individual interviews, and two focus group sessions were also held with seven and nine labour inspectors each. The eligibility criteria for the selection of participants in this task were as follows:

- Geographical location — as the obstacles and opportunities for practices may differ throughout different locations in Portugal, the purpose was to include key actors from at least three of the 35 different Labour Inspectorate services. That is, including inspectors from larger cities such as Porto and Lisbon, but also from cities with smaller-sized populations and different dominant activity sectors in Portugal such as Vila Real, Penafiel and Algarve.
- The diversity of participants' sociodemographic characteristics in the sample, envisaging categories such as gender, age and seniority, but also valuing their experience within the Labour Inspectorate.

Regarding The Role of Prevention Services, focused on the characterisation of the OSH prevention services in Portugal, 12 OSH professionals (i.e. safety experts, representatives from the Portuguese Society for Occupational Safety and Hygiene, representatives from the Portuguese Association of

Security Coordinators and Managers, a representative from the National Association of Workers with Work-Related Disabilities and Injuries (Associação Nacional dos Deficientes Sinistrados no Trabalho – ANDST), a family doctor from the National Health System, Serviço Nacional de Saúde – SNS) participated in the semi-structured individual interviews and 12 safety experts participated in the Focus Group Session. For the selection of the participants in this phase, the following eligibility criteria were considered:

- experience within work contexts with internal OSH services, and/or with external services;
- OSH actors with varied training and experience, which had to include both occupational safety and occupational health professionals, but also other actors involved in OSH practices: safety experts and occupational doctors; workers' committee representatives; and occupational accident insurance professionals.
- the diversity of participants' sociodemographic characteristics, envisaging categories such as gender, age and seniority, but also valuing their experience with OSH procedures.

The characterisation of the participants has been presented in sections 3.2.1 and 4.2.1. All the interviews lasted between 60 and 75 minutes. Before scheduling the interview, all participants were informed about the project (e.g. regarding the project's description and objectives, anonymity and confidentiality information, as well as data storage and access information), that the interview would be recorded, and that ethical principles of anonymity and data restitution would be upheld. At the start of each interview, and before recording, the free and informed consent of all participants was ensured.

It is important to recognise that while this project's goal was to reduce bias by selecting interviewees (labour inspectors, OSH service providers and other OSH experts) with diverse characteristics — such as individuals from different geographic areas and, in the case of safety experts, representatives from various types of companies, as described above — the information presented from the interviews do reflect the views of those interviewed. The results have to be interpreted with caution due to the small sample size and a possible selection bias.

2.3 Qualitative analysis

All the individual interviews (n=24) and four focus group sessions (n=28) were audio-recorded and transcribed. The thematic analysis was done following Braun and Clarke's (2020) guidelines, and using the ATLAS.ti 9 © software. As the data concerned two distinct professional categories, the thematic analysis was divided into two main analysis groups: one for the Labour Inspectorate, and the other for prevention services.

This phase resulted in a table supporting the data analysis, with primary and secondary categories, along with the sources and frequency of verbalisations. Due to their extension and considering the project's objectives, the tables then served as the basis for the development of two thematic maps, presented in sections 3.2.2 and 4.2.2, following examples of verbalisations to support the discussion of the main findings.

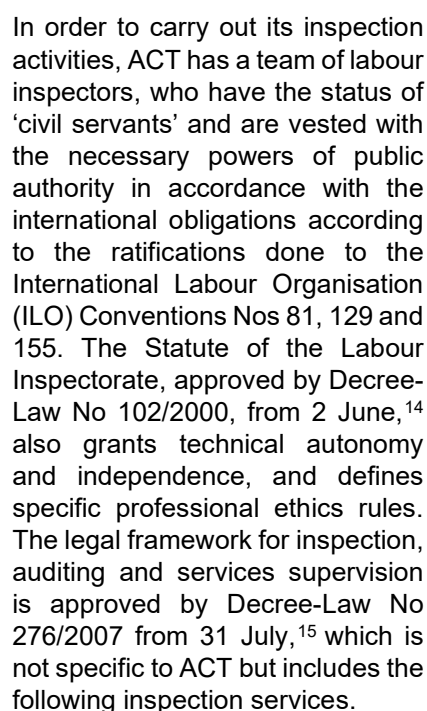
2.4 Case studies

Based on the desk research phases and interviews with different OSH actors, the team planned seven thematic case studies: four for The Role of the Labour Inspectorate, and three for The Role of Prevention Services. These case studies allowed for identifying innovative strategies, initiatives, approaches or methods implemented in Portugal in different contexts, as well as obstacles, needs, policy gaps and policy pointers. The case studies are briefly presented in section 5.

3.1.1 The Portuguese Labour Inspectorate

In Portugal, labour inspection carried out within the scope of ACT's missions follows a generalist inspection model in which the inspectors' actions cover labour relations as well as OSH at work.

Figure 1: Distribution of ACT's service



¹⁵ Available at: <https://diariodarepublica.pt/dr/legislacao-consolidada/decreto-lei/2007-107687493-107687434>

- | | |
|---------------------------------------|---|
| a) Finances | j) Public Works, Transport and Communications |
| b) Internal Administration | k) Ministry of Labour, Solidarity, and Social Security |
| c) Local Administration | l) Working Conditions Authority |
| d) Diplomatic and Consular | m) Health Activities |
| e) National Defence | n) Education |
| f) Justice Services | o) Ministry of Science, Technology and Higher Education |
| g) Environment and Spatial Planning | p) Cultural Activities |
| h) Food and Economic Safety Authority | |
| i) Agriculture and Fishery | |

The most recent recruitment calls for labour inspectors occurred in 2015, 2016 and 2021. According to ACT's report regarding inspection activities carried out in 2022 (ACT, 2023a), the number of work inspectors in the service has increased from 303 in 2018 to 457 in 2022. From 2023 to 2024, this number decreased slightly from 458 to 448, respectively, as can be seen in Table 2.

Table 2: Evolution of the number of labour inspectors from 2018 until 31 August 2024

Year	2024	2023	2022	2021	2020	2019	2018
Number of labour inspectors¹⁶	448	458	457	481	447	337	303

The primary objective of the labour inspection activity has been to decrease work-related accidents and occupational diseases by improving safety and health measures in the workplace and, thus, promoting prevention. This activity involved the development of actions to combat precariousness and undeclared work, promote the decent work agenda, and guarantee equality and non-discrimination, as well as to boost social dialogue. In 2022, ACT invested in the training of its labour inspectors in various technical areas, including audits of organisations providing OSH services. The focus was on enhancing their skills and knowledge to improve OSH management. The strategic objectives of ACT for 2022 were:¹⁷

Preventing accidents at work and occupational diseases

- 1.1. Increase occupational health and safety promotion
- 1.2. Increase the quality of occupational health and safety services
- 1.3. Monitor occupational accidents and illnesses

Reducing irregular situations

- 1.4. Expand inspection intervention
- 1.5. Reduce action deadlines
- 1.6. Improve the response to requests for intervention
- 1.7. Address new forms of work

¹⁶ Data from ACT's yearly Social Report for 2018, 2019, 2020, 2021, 2022 and 2023. Data regarding 2024 were provided directly by ACT and were collected up to 31 August 2024.

¹⁷ More information is available at: <https://portal.act.gov.pt/Planeamentoegestao/RA%20ACT%202022.pdf>

Optimising communication and organisation

- 1.8. Improving the relationship and communication with the workers
- 1.9. Strengthening available resources and teams
- 1.10. Increasing team motivation within the Labour Inspectorate

Several performance indicators exist for each of these specific objectives to evaluate the efficacy of its intervention. For instance, one of those indicators is the number of inspection visits carried out throughout the year. The goal of visits for 2022 was 37,000, but the actual number of visits was 46,483, with 25,983 being proactive, covering 416,246 workers and 41,369 establishments (an 18.1% increase in comparison to 2021) (ACT, 2023). In addition, 33.5% of all establishments in Portugal were inspected over the three years leading up to 2021, as presented in the OSH Barometer (EU-OSHA, 2024b). It is worth noting that Portugal is one of the countries reporting the largest increase in the number of inspective visits to establishments in the three years prior to 2024 (from 33% in 2019 to 40% in 2024) among those included in the European Survey of Enterprises on New and Emerging Risks (ESENER) (EU-OSHA, 2025). Most of ACT's objectives except for 1.5, 1.6, 1.8, and 1.9 are related to one of ACT's main current weaknesses: the lack of technical staff. Despite the several recruitment processes, many jobs remain unfilled, particularly OSH promotion experts and technical assistants.

ACT's inspection activities are subdivided into reactive and proactive actions (EU-OSHA, 2021). In the reactive activities, inspection actions are initiated in response to requests from workers, companies or trade unions, prioritised based on the severity and issues described in the request. In 2022, 13,700 intervention requests were recorded, predominating in the sectors of industry, wholesale and retail trade, construction, accommodation and catering. Proactive activities are part of a centralised action. However, they also include local inputs that define areas, subjects or sectors considered at higher risk regarding OSH or labour relations, such as civil construction. This centralised planning is carried out through national inspection actions, benefiting from the decentralised structure and geographical distribution of services and teams of ACT.

In 2022, numerous contributions to technical committees and working groups were made by ACT to advance OSH in the post-pandemic landscape. In terms of awareness-raising actions, ACT's organisation and participation in 2022 stand out with 740 awareness-raising actions with 31,590 participants. As part of the EU's Strategic Framework on Health and Safety at Work 2021-2027: Occupational safety and health in a changing world of work, the national Prevention of Accidents at Work campaign is underway.¹⁸

On ACT's website, there are several technical documents and resources available, such as electronic publications concerning clarification on some relevant areas of the law that support both employers and workers, thematic posters and leaflets, diagnostic tools for OSH matters, checklists to support internal auditing activities on labour safety and health, particularly in SMEs, a database of collective regulation instruments and, more recently, the ACTia Chatbot. Workers are the group that uses these information and counselling services the most, accounting for 85% of the total number of accesses.

Portugal has developed policies and strategies to promote OSH to protect workers from work-related hazards (e.g. Prevention of Accidents at Work Campaign,¹⁹ #EU4FairConstruction,²⁰ Working safely and healthily in the digital age,²¹ #Road2FairTransport²²), and labour inspection has been essential for ensuring compliance with safety and health standards. Yet, there is still a need to increase the effectiveness and efficiency of the practices used, especially in companies of different modalities and structures, particularly when it comes to the number of workers and activity risk, as explained in section 4.1.2 – Results from the systematic review.

¹⁸ More information is available at: https://portal.act.gov.pt/AnexosPDF/Campanhas/2024/CampanhaEuropeiaPrevencaoAcidentesTrabalho/GuiaCampanha_PrevencaoAcidentesTrabalho_2024CARIT.pdf

¹⁹ More information is available at: <https://portal.act.gov.pt/Pages/campanha-europeia-prevencao-acidentes-trabalho.aspx>

²⁰ More information is available at: <https://portal.act.gov.pt/Pages/trabalhadores-destacados-no-setor-da-construcao.aspx>

²¹ More information is available at: <https://portal.act.gov.pt/Pages/campanha-trabalhar-seguranca-saude-era-digital.aspx>

²² More information is available at: <https://portal.act.gov.pt/Pages/o-caminho-para-uma-mobilidade-justa.aspx>

ACT also has a strategic dimension concerning its interventions within educational environments. Recognising the importance of a preventive approach from the onset of the educational journey, ACT implements initiatives within schools aimed at enhancing information dissemination and awareness among students (who will become future workers and/or employers), educators and the broader school community. These efforts are designed to contribute to the establishment of a prevention culture. Furthermore, to encourage and facilitate the integration of OSH contents into the curricula of various educational levels, which helps prepare students for active life, and as a result of a joint effort by ACT, the Directorate-General for Education (Direção-Geral da Educação), the ILO Office in Portugal, the National Agency for Qualification and Vocational Education (Agência Nacional para a Qualificação e o Ensino Profissional – ANQEP, I.P.), and the IEFP, the 'Reference Framework for Education for the World of Work' has been developed. This document is intended to serve as a working basis for teachers to address the 'World of Work', particularly concerning OSH issues.

3.1.2 The Portuguese Labour Inspectorate's action in numbers

As of 31 August 2024, ACT employed a total of 448 labour inspectors distributed throughout the country's different centres, having significantly increased from a total number of 303 inspectors registered in 2018 (ACT, 2023). This means that the country has also increased its ratio of labour inspectors per 10,000 workers, which is now slightly above average even among high-income countries, registered at .87 in 2021.²³

During the period from 2019 to 2022, there was an increase in the number of employers receiving ACT intervention, rising from 17,569 to 28,731 (ACT, 2023). Moreover, the total number of workplace visits rose from 39,786 in 2021 to 44,167 in 2022, indicating an 11% increase. Eighty-one per cent of inspective visits are first visits,²⁴ while about 33% of this percentage accounts for reactive responses to intervention requests. The construction sector accounts for the largest share of inspective visits, at around 37%. Furthermore, inspective visits were mainly conducted in companies with fewer than 10 workers, making up approximately 89% of the visits. Among the indicators showcasing ACT's action results, we highlight the 14,386 violations that were registered, as well as 28,158 notifications requiring improvement in OSH matters (ACT, 2023). The data regarding OSH inspective procedures for 2023 and 2024 are represented in Table 3.

Table 3: Number of OSH inspective procedures regarding OSH violations in 2023 and 2024²⁵

OSH inspective procedures regarding OSH violations	2023	2024 (until 31 August 2024)
Warning Notice	99	40
Report of Occurrence (issuing fines)	6,070	3,375
Notifications Requiring Improvement	15,966	9,816
Criminal Prosecution	1	-
Stopping Work Activities	462	215

ACT has also prioritised ongoing efforts to raise awareness on OSH issues to promote a safety culture. In 2021, 805 information sessions were conducted to promote workplace safety and health, with 42,377 participants. The key topics discussed included work-related accidents and diseases, occupational risk assessment, use of personal protective equipment (PPE), COVID-19, exposure to carcinogens, chemical hazards, psychosocial risks and specific hazards such as asbestos (ACT, 2023).

²³ See: <https://ilostat.ilo.org/blog/safety-in-numbers-what-labour-inspection-data-tells-us/>

²⁴ Meaning that, in that period of time, it was the first time an inspector paid a visit to that specific work context.

²⁵ Data were provided directly by ACT and were collected up to 31 August 2024.

3.1.3 Results from the systematic review

The search for labour inspection practices resulted in 22 eligible articles. However, as five full-text analyses were unavailable, this search phase resulted in a final total of 17 articles. The results highlighted the shortage of research on labour inspection practices in Portugal and the lack of evaluation of inspective practices in general. However, this phase allowed for an overview of the labour inspectors' functions in different EU Member States, their challenges in enforcing OSH compliance and improvement suggestions.

Regarding labour inspection in Europe, labour inspectors are viewed as street-level bureaucrats tasked with the enforcement of regulations, the adaptation of laws through interpretation and the exercise of decision-making based on discretion, as highlighted by recent studies (Håkansta, 2022; Loyens & Paraciani, 2023). Safety experts also play a crucial role in advising organisations on compliance with laws and integrating safety practices into their daily operations, thereby contributing significantly to overall workplace safety.

Labour inspectors, however, encounter various challenges, such as: i) legal ambiguity, requiring the adaptation and interpretation of laws in practical situations to ensure effective enforcement (Loyens & Paraciani, 2023; Paraciani & Rizza, 2020); and ii) work overload and inadequate training hinder the efficiency of inspection activities, underscoring the importance of adequate resources and training programmes to enhance the effectiveness of inspections (Bonanno, 2020; Loyens & Paraciani, 2023). In response to these challenges, European countries engage in cooperative efforts and capacity-building initiatives that involve information exchange, audits and training programmes to strengthen enforcement systems and ensure alignment with the social policies of the EU (Garshol et al., 2022; Hartlapp, 2014).

Furthermore, the discretionary power wielded by inspectors, though essential for decision-making, can sometimes lead to inconsistencies in enforcement practices. To address this challenge, clear guidelines and comprehensive training programmes are crucial for ensuring the consistent application of laws across different scenarios (Hartlapp, 2014; Paraciani & Rizza, 2020). Additionally, the potential for improvement in efficiency and effectiveness within the Portuguese's ACT local services indicates the value of sharing best practices to enhance overall performance (Weissbrodt, 2018). The evolving nature of workplace structures, such as restructurings and subcontracting, presents challenges for inspection interventions, emphasising the need to focus on risk factors in work design and organisation (Weissbrodt, 2018).

Enhancing inspector training, promoting information exchange, establishing communities of practice, implementing efficient and interconnected work methodologies, and utilising participative inspection techniques are some of the recommended strategies found in the revised literature to address these challenges effectively (Dahl et al., 2022; Garshol et al., 2022; Håkansta, 2022; Loyens & Paraciani, 2023; Weissbrodt, 2018). These measures can help overcome obstacles and enhance inspection outcomes.

3.2 Interviews and focus group sessions

3.2.1 Participants

The following table showcases the participants' main demographic and professional characteristics. The participants in this task were labour inspectors and OSH promotion experts at ACT.

Table 4: Sociodemographic characteristics of the participants in the individual interviews and focus groups for the topic 'The Role of the Labour Inspectorate'

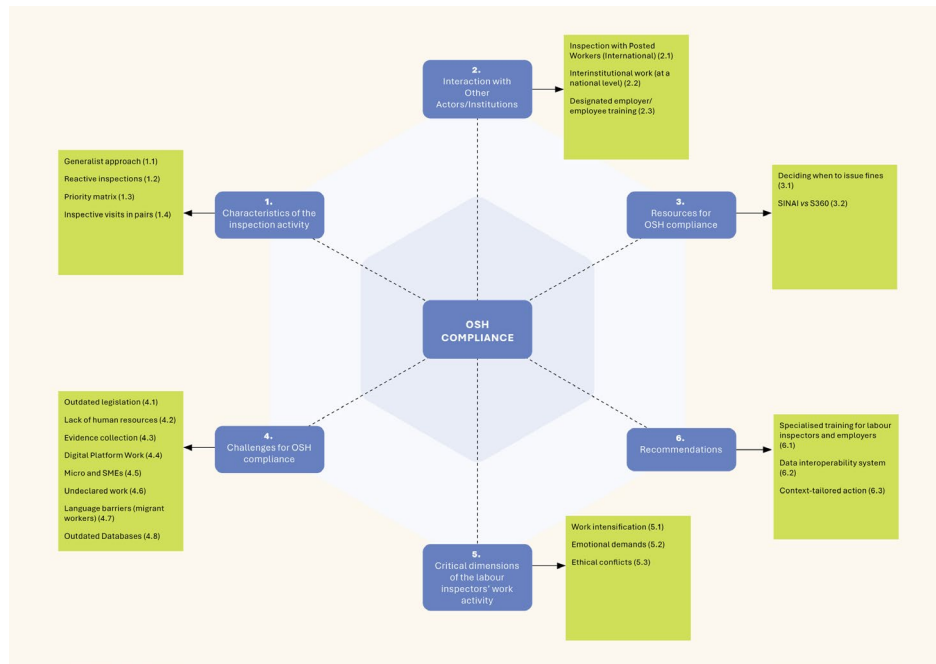
N	Gender	Seniority	Individual Interview	Focus Group
1	Male	15	•	
2	Female	28	•	
3	Female	30	•	

N	Gender	Seniority	Individual Interview	Focus Group
4	Female	23	•	
5	Female	23	•	
6	Female	13	•	
7	Female	30	•	
8	Female	28	•	
9	Male	15	•	
10	Female	22	•	
11	Female	14	•	
12	Female	28	•	
13	Male	28		•
14	Female	15		•
15	Female	15		•
16	Female	15		•
17	Male	5		•
18	Male	17		•
19	Female	28		•
20	Female	15		•
21	Female	19		•
22	Female	22		•
23	Female	15		•
24	Female	19		•
25	Female	20		•
26	Male	4		•
27	Male	15		•
28	Male	5		•

3.2.2 Results and discussion of the fieldwork data collection

The interviews and focus group sessions with labour inspectors and ACT OSH promotion experts (n=28) were analysed following Braun and Clarke's (2020) guidelines, resulting in a thematic map (Figure 2).

Figure 2: Thematic map for the topic 'The Role of the Labour Inspectorate'



The categories that resulted in the diagram stemmed from the project's objectives, but also from emerging topics: 'Characteristics of the inspection activity' outlines the way the labour inspector's work is organised, referencing the Portuguese labour inspection model and its specificities; 'Interaction with other actors/institutions' describes practices in which ACT inspectors interact with actors from other institutions, and how their work is coordinated; 'Resources for OSH compliance' describes legal and technical resources — including the technological systems — used by the labour inspectors to support their activity; 'Challenges for OSH compliance' compiles a list of challenges encountered by labour inspectors to enforce OSH compliance, ranging from legal challenges to global macro-changes and their relationship with the tasks carried out on by inspectors on a daily basis; 'Critical dimensions of the labour inspectors' work activity' provides visibility to different moments in which the labour inspectors themselves have to manage conflicting demands; and 'Policy pointers' synthesises the main suggestions for improvement that these actors make to improve their activity, as well as OSH compliance in the country. These results are further presented and discussed below, exemplifying their experience with verbalisations while considering a macro approach to the Portuguese context.

As has been mentioned throughout this report, the predominance of micro businesses, family businesses and SMEs poses a challenge to the application of the main legal framework in force (Law No 102/2009, from 10 September), as they typically lack OSH management systems and advanced reporting mechanisms (EU-OSHA, 2021). This fact also contributes to the common practice of outsourcing OSH services, due to market competition and legal requirements, which presents additional challenges (Hartlapp, 2014). Among these challenges, the participants highlighted:

- the frequent separation between safety and health, and the insufficient coordination between these areas;
- the coexistence of different service providers within the same company;

- the limited presence of occupational doctors and safety experts in the workplaces, which is exacerbated by their own working conditions (e.g. working as service providers for multiple companies at the same time) and by the lack of available occupational doctors;²⁶
- the low quality of services offered by some providers;
- the additional workload this represents for ACT in authorising and auditing the activity of these providers; and
- how employers seem to overlook OSH issues by often seeking to comply with the law at the lowest possible cost rather than improving company performance and working conditions through an integrated strategy with high worker safety and health standards.

In addition, knowledge-intensive and high-value-added sectors (which seek more qualified human resources and where wages are generally higher) are not predominant in the market (IEFP, 2023). Low-value-added economic activities (such as the footwear, clothing and cork industries) and service activities (tourism, catering and the social sector) continue to prevail. This phenomenon, combined with the size of companies, contributes to a scenario of low investment in non-core areas. Companies tend to focus their investment on core business areas, sidelining investment in OSH, training or human resources. That is, small companies often view OSH demands as a cost rather than a crucial long-term investment for their business's success and sustainability. Meanwhile, workers often lack OSH representatives in these contexts and have low unionisation levels,²⁷ which contributes to their limited bargaining power in OSH matters.

In this context, financial penalties are described by labour inspectors as a necessity and an efficient way of ensuring OSH compliance, with amounts deemed adequate to the country's reality — defined according to the company's turnover and the severity of the situation. Thus, Portuguese labour inspectors do not consider financial penalties to be too large or that they are likely to lead to regulatory resistance.

Inspection activities constantly attempt to overcome the mentioned difficulties and ensure legal compliance. Several noteworthy aspects stand out upon analysing the labour inspection activity in Portugal.

A fragmented legal framework in Portugal

As mentioned in section 1.2., in addition to the Legal Framework for the Promotion of Safety and Health at Work (Law No 102/2009, from 10 September), there is a plethora of legal instruments that define sectoral regulations and specifications (such as in civil construction), for certain high-risk activities (such as working at height or in confined spaces), or even for specific risks (such as chemical risks, with specific instruments for certain components like asbestos). Participants extensively mentioned this reality, which results in a fragmented legal framework that is difficult for each inspector to fully master, especially considering that inspection activity is carried out under a generalist model.

'... We need some legislative changes. We have a lot of legislation, a lot of separated laws. It makes it difficult for everyone, I think it's hard not only for the employer, who has to know what to do, but also for the workers to know what rights they have, what obligations they have, and the risks. All that information... we have a lot of laws, a lot of scattered legislation in the area of occupational safety and health.' (Labour inspector, Female, 13 years of seniority)

'Regarding OSH norms, some of them reflect outdated references. I'm talking, for example, about specific norms for civil construction, which are from the 1950s. From the last century. ...

²⁶ There are around 1200 doctors registered in this speciality, in Portugal. However, according to the MTSSS (2024), about 45% of these doctors do not work in the area because they have another speciality that they are practising. Furthermore, a significant number of active occupational doctors are aged 60 and older, nearing retirement, while very few vacancies become available each year for the Specific Training Program in Occupational Medicine.

²⁷ For micro, small and medium companies, the percentage of unionisation is 1.9%, 8.4% and 34.2%, respectively (GEP, 2023a). More information is available at: <https://www.gep.mtsss.gov.pt/documents/10182/10925/befev2023.pdf/78503bde-d8ca-4dec-9811-3770a10a4b15>

We have some specific laws for certain risks. We have others that essentially say that it [the workplace] must be adequate.' (Labour inspector, Male, 5 years of seniority)

'Regarding occupational safety and health legislation, based on Law 102/2009 and its successive amendments, this law functions as a framework norm, complemented by various other documents specific to each risk, such as those related to chemicals, equipment, among others. I believe that at the legislative level, the EU directives have been imported exactly as they are, without going much beyond what they require.' (Labour inspector, Female, 30 years of seniority)

The experience inspectors acquire over time in a given sector is also due to the particular distribution of sectors across Portugal's mainland, with a predominance of economic activity along the coast, a higher concentration of industrial companies in the north, services in the centre, and hospitality and tourism in the south. This differentiation ultimately provides inspectors with a certain degree of specialisation, which is perceived as advantageous in the training of inspector teams and working groups. However, the generalist model of inspection activity sometimes conflicts with the development of this specialisation. A labour inspector highlighted the difficulty in creating specialised groups, taking into account the number of available inspectors:

'There are about 500 inspectors now. ... We are very few. And as we are few, it's not easy to create specialised groups. It's easier for us to be generalists. [And] within the generalist model, what do we try to do? We try to meet the need for specialists through [the development of] working groups. This is how we operate.' (Labour inspector, Male, 15 years of seniority)

Inspective visits carried out in pairs

Each open process has one inspector as a process holder, but a team of two inspectors always carries out inspection visits at a time. While formally each inspector is responsible for about 120-130 inspective processes over a period of two years, they end up doing double this number of visits.

Despite the overload this may entail, labour inspectors recognise a series of benefits from this form of work organisation:

This form of work organisation is:

- a safety and health prevention measure for labour inspectors, contributing to the sense of protection in situations of violence towards them;
- a legal safeguard measure, as it allows for the presence of a second witness to the situation identified by the labour inspector in charge of the process;
- a technical training measure, as the pairs have different academic backgrounds and levels of experience, and also a way of 'compensating' for the generalist approach when one of the elements has specialised training in a specific domain or work sector; and
- a way of guaranteeing the complainant's anonymity in reactive inspections, as one of the inspectors can focus on gathering evidence about the worker or the issue related to the complaint, while the other can collect other types of information, concealing the real reason behind the visit.

Still, certain situations do not require the presence of a second inspector, such as cases in which there is a prior relationship with the company, or when the visit merely involves an administrative process that is not expected to be complex or unpredictable in its evolution (e.g. request for specific documentation).

This practice is widely recognised by inspectors, although they believe that the role of the second inspector should be more valued and reflected in the indicators defined for their performance evaluation. The following citations showcase how the work is divided between the two inspectors during the visits:

'We even have a higher-level directive that we work in teams, meaning there are always two inspectors, each one is responsible for their own case, but the colleague will accompany me in a way, so they can witness my intervention. ... And I think the sharing with colleagues and the fact that we go out with different colleagues, from various generations, enriches us.' (Labour inspector, Female, 28 years of seniority)

'We work as a team, helping each other in this team, from the moment we leave, ... and then during the visit. ... And we also try to share the tasks in this way, just as we can also share them when we are doing, for example, notifications or other procedures on-site, and this is more or less how our field operations work.' (Labour inspector, Female, 30 years of seniority)

'When we have requests for intervention, we use the trip to talk a bit about them with our colleague, meaning I usually explain to the colleague what brought me there, I give a brief description of what I have in the request for intervention and what would be important for him, since he will be the one to listen to the workers. ... If it's a matter of working hours, we need to know that if we have a complaint saying 'I never had medical exams', I need my colleague to ask very specific questions. Then, when we have local plan interventions, for example, ... we are all already aware of the objectives, because when the planification reaches us, we have the objectives and the areas where we need to intervene in that place, so, both I and my team colleague know those are the areas, therefore, the interventions ... will revolve around those points.' (Labour inspector, Female, 30 years of seniority)

Intervention in the context of new work scenarios

Although the labour inspectors' activity is guided by legal procedures, there are situations for which no defined procedure exists yet, or for which the existing one does not align with the reality under analysis. An example mentioned by the inspectors was the case of digital platform workers. From the inspectors' perspective, another methodology should be considered in these cases, as they do not align with the use of traditional procedures. They argue for the development of another approach, following a 'case study' logic, with pilot teams of inspectors from different local centres and collective discussion afterwards to define action protocols informed by their field experiences, which could be applied on a broader scale.

The selection of relevant situations for analysis, the availability of accessible information and the reliance on previous experience to adapt to new situations make this a valuable heuristic approach and a reference for training inspectors to operate in new work scenarios:

'I know that national actions are very important and that what is considered is very important, or what the leadership identifies as a national phenomenon, but then, there it is. The territorial asymmetry means that some actions don't make any sense, and we shouldn't all be doing the same thing when we have such different business realities, levels of workers, and intervention targets.' (Labour inspector, Female, 23 years of seniority)

'I'm thinking, a few years from now, about some action involving tuk-tuks, which covered ... other services that, in fact, didn't have tuk-tuks. ... In other words, some action plans are too generic for the reality of each service. There are services that are more similar to the port of Lisbon than other services in other parts of the country.' (Labour inspector, Female, 15 years of seniority)

'Last summer, we had 25 platform workers in Bragança just because it's the only city that has platforms in Bragança. For example, there's one Uber van in the entire city. In other words, the reality was completely different, it took up much less time. ... The procedures were decided at the national level, the analysis was done at the national level, and the guidelines were made at the national level. Here, at the local level, the result was zero. Twenty-five was already too much. It took up a lot of our time, consumed it, we could have used that time to do much more relevant work.' (Labour inspector, Female, 23 years of seniority)

Regarding the COVID-19 pandemic, there was no change to the inspectors' practices. ACT did, however, reinforce the number of labour inspectors and of visits to specific contexts (e.g. larger-sized companies), focusing on the inspection of biological risks.

Training of labour inspectors

The training of labour inspectors was highlighted as a determinant factor of the inspection activity, with a clear distinction made between initial training, which takes place during the early stages of their career, and continuous training. The inspectors consider initial training to be comprehensive and adequate to meet the job's demands.

The primary objective of the initial training internship is to equip trainees with the necessary preparation and skills required to fulfil the competencies outlined in Articles 10 and 11 of Decree-Law No 102/2000, from 2 June, in conjunction with Article 3 of Regulatory Decree No 20/2001, from 22 December. Additionally, it aims to evaluate their suitability and ability to adapt to exercising these competencies. This probationary internship lasts one year and encompasses the following phases:

- I. Theoretical phase: Aimed at imparting knowledge, skills and behaviours necessary for the performance of respective functions, spanning approximately four months.
- II. Practical phase: Designed to solidify the knowledge, skills and behaviours acquired during the theoretical phase, with the goal of developing professional skills in line with the institution's mission, lasting approximately eight months.

The programme for the theoretical training sessions encompasses a comprehensive range of subjects:

- ACT mission, duties, competencies and institutional framework [15 hours];
- general working conditions [129 hours];
- code of administrative procedure and inspection activity [6 hours];
- occupational safety and health conditions [144 hours];
- professional ethics, methodologies and tools of inspection activities [29 hours];
- information management system [12 hours];
- risks in inspection activities [3 hours]; and
- labour infractions [12 hours].

The theoretical phase includes:

- classroom or distance learning sessions;
- seminars, meetings, conferences and study visits; and
- research and investigation work.

Regarding continuous training, labour inspectors have access to a variety of training opportunities at ACT throughout their careers, particularly in areas determined as priorities by the Labour Inspectorate. These training opportunities encompass various aspects, including inspection (i.e. skills related to the implementation, improvement and updating of inspection functions and support for inspection activities), health and safety at work, relational skills (e.g. conflict management, leadership and public service), and digital skills (i.e. user-level IT proficiency). In 2023, a total of 8,114 hours of continuous training were provided to labour inspectors.

Despite the investment by ACT it is not perceived as being sufficient. There is still a need for training concerning the constant updates on legal changes regarding labour law (and the varied and scattered legislation already mentioned above), as well as training that focuses on how inspectors should act in critical situations (i.e. harassment and violence towards them) and in cases of new forms of work. Inspectors referred to the need for ongoing updates regarding legal changes to the Labour Code (and on the aforementioned fragmented legislation) and to more practice-oriented training for in-field inspections. For example, inspectors noted challenges during inspective visits targeting platform-based work, where they felt that their usual protocol was not suited to address the new situation. The inspectors acknowledged that better preparation for these operations would have been beneficial, as their standard approach required several adjustments.

'There are many questions about the characterisation of the relationship these people have with the platforms: are they workers, are they not workers, are they service providers, are they not service providers, etc.? Of course, this is a challenge, and we need to reflect on it. We need to think about whether, in fact, we are talking about an employment relationship or not. ... However, with the Decent Work Agenda, it seems that it's ACT's responsibility to regulate all these people, and we don't have the tools to do that.' (Labour inspector, Female, 26 years of seniority)

'Last year, there were major interventions for platform workers, but ... we didn't know what we were dealing with. It was a completely unknown reality to us.' (Labour inspector, Female, 26 years of seniority)

Available resources

In terms of human resources, there is a ratio of 10.5 inspectors per 100,000 workers, according to SLIC data from 2021 presented in the OSH Barometer (EU-OSHA, 2024b). However, besides the number of inspectors, all interviewees agreed that investment in OSH promotion resources is necessary, as the number of OSH promotion experts is below the needs. OSH promotion experts at ACT are scarce, their careers as perceived as less valued and attractive than those of inspectors, they exist in only a few decentralised services, and there is no coverage of all geographical areas, resulting in work that is not continuous. These actors raise awareness and provide technical support to employers, workers and the school community regarding OSH matters, they develop support instruments, references and technical guides, and they also ensure the certification of OSH training entities and the regulation of occupational safety services, including their authorisation and auditing.

There was a consensus that additional investment is required in resources related to promoting OSH, particularly through the training of labour inspectors and the increased number of ACT's OSH promotion experts. Participants noted that the current number of OSH promotion experts is inadequate to meet the demand, and their profession is perceived as less esteemed and appealing compared to labour inspectors. Furthermore, OSH promotion experts at ACT only exist in a few decentralised services, resulting in inconsistent and limited coverage across different geographic areas.

'I think it's absolutely necessary to invest in human and financial resources in the area of promoting occupational safety and health. For years there have been no external recruitment contests for OSH promotion experts at ACT. Then, I can say that another difficulty is that there's a high turnover of senior OSH promotion experts; they end up leaving because in other organisations, other careers are more attractive, even in the senior technical career.' (Labour inspector, Female, 13 years of seniority)

Conversely, it is essential to emphasise the dispersion of the business fabric in Portugal, which makes inspection activities more demanding. The employed population has experienced notable growth in recent years, reaching a total of over 4.8 million²⁸ workers in 2023. This increase emphasises the need to monitor the number of labour inspectors to maintain the effectiveness of inspection activities.

The investment in technology may be an essential resource for more efficient management of human resources. Following this perspective, three aspects are underlined:

- I. There is need for coordination among the two main IT systems utilised by the inspectors: the old system called SINAI, where all the inspective activity is carried out (e.g. where a number is assigned to the inspective process, and the inspectors insert all the information regarding the visits, dates, workers encompassed, if they made any notifications, ...), and the most recent one called S360 (a customer relationship management platform for the requests submitted to ACT), where they can have access to the intervention requests and they can respond to the person making the request. According to the interviewed inspectors, integrating them into a unified system could help save them time by providing facilitated access to information about the processes, thus eliminating the need for

²⁸ See: https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&indOcorrCod=0011439&xlang=pt&contexto=bd&selTab=tab2

frequent switching between systems during the form-filling process. While the goal of developing the new system is to have it as the sole option, in reality it has resulted in an excess of tasks since inspectors continue to depend on the old system to address ongoing issues. Inspectors noted, for instance, that the system is not very intuitive, as company addresses are not automatically saved upon creation, that it lacks warning notifications, and that there is no way to combine multiple requests into a single process:

'[About the programmes] It's called SINAI. It's a very old thing, it's a software that I think is completely obsolete but still works. ... And now we also have another thing called 'S360', and that doesn't work so well. It's new, and it doesn't work so well.' (Labour inspector, Male, 15 years of seniority)

'S360 is ambitious, but it's not working ... SINAI has never failed me when I'm registering a report, for example. ... [now, with the S360, it] is a redundancy of work, meaning I have to work with two programmes' (Labour inspector, Male, 15 years of seniority)

'Even though the complainant has already entered the address [when submitting the complaint], often the address is still not created [in the system]. We need to create it right there on the initial screen when reading the complaint. Later, when assigning it to a colleague, when we open the inspection process, still within S360, we need to confirm the address again on another screen. However, to actually open the inspection process, it is not done in S360, but in SINAI. ... We have to go to SINAI to assign that company to a colleague, and often the company is not [even] created. Or it may be created, but the address is not there. ... Even though I registered it in S360, those details were not automatically transferred to the initial screen. Thus, I had to write it again.' (Labour inspector, Female, 15 years of seniority)

... '[The new operational system] It is not effective at all, nor is it suitable for our inspection activities. Supposedly, it was meant to replace the previous programmes, but it did not. The previous programmes continue to coexist, and we remain dependent on them, which creates a significant amount of inefficiency, ... [about the new system] It lacks warning notices; there is no notification system to assign a process to someone nor a system to integrate multiple requests into the same process.' (Labour inspector, Female, 19 years of seniority)

- II. There is need for an integrated system that allows data interoperability between different public bodies for evidence-based action, and often without the need for in-person evidence collection by the labour inspectors (e.g. the verification of the limit of fixed-term contracts by simply crossing the data declared by the employers to Social Security).

'It is essential to provide services with adequate technology, modernising, and training people to use it. If nothing is [appropriately] integrated [with the other systems], nothing works. I am talking about these issues, but, for example, ACT has the potential for data interconnection with Social Security, the Tax Authority, the Notarial Registry, the Justice Department, etc. If integration does not even happen within the Ministry of Labour, imagine how it will happen with others. ... Each entity has its own systems, its own particularities, and then countless data access protocols are needed, because the data I need for inspection activities are scattered in different places. I sign the protocol, it goes to the Data Protection Commission, it comes back It is like water, which loses many litres between the source and the destination. That is how I feel.' (Labour inspector, Female, 28 years of seniority)

- III. There is urgent need to regulate the use of technological devices capable of facilitating inspection activities, saving time and resources, as is the case with drones. Drones can be useful for inspecting risky activities without exposing inspectors to those risks (such as working at heights or work carried out in confined spaces), but also in outdoor work situations over large areas (such as agriculture work or fishing). While these resources were available at ACT, they are not used due to the lack of an adequate legal framework, without a timeframe predicted for its resolution. Nevertheless, the labour inspectors recognise the limits of the use of this type of technology as the identification of workers in such situations still requires the intervention of the labour inspector:

'Yes, there are two drones, I think the ACT has two drones. ... Nowadays I see that drones can be used as an aid and even guarantee our safety in a way ... when used simultaneously with other tools [and] practices. But to do anything, I have to identify the workers, ... [and] a drone doesn't do that. ... Then [it] raises some problems for us, I say, in terms of image collection.' (Labour inspector, Female, 28 years of seniority)

Another challenge in the face of emergent trends is related to the language barriers with migrant workers:

'Last week, I went to a shipyard that was essentially Northern companies, and the team of workers were Indian. They spoke English, and I managed to speak ... but if I had to go into more detail, I would have had some difficulty. ... suppose it is foreseeable that we will operate in a certain sector, as is the case with platform workers, where we already knew that this might happen. In that case, we can prepare for it, but sometimes we do not have that possibility. For example, the agriculture sector, intensive labour in agriculture, greenhouses, we also have some of this work ... These are teams that do not speak [Portuguese or English]. They have an element [an intermediate actor] that speaks [the language] and translates the conversation for others ... but this is a difficulty.' (Labour inspector, Female, 30 years of seniority).

Some inspectors mention using automatic translation programmes to support the conversations carried out, using other intermediate actors, or resorting to drawings as mediators to understand risks or some specific aspect of the respondent's work activity.

4 OSH prevention services and supporting compliance

4.1 Literature review

As aforementioned, the team developed a manifest content analysis of grey literature (Verra et al., 2019). Documents from governmental databases were consulted, such as those of ACT and the MTSSS. To complement this initial level of analysis, and similarly to what was done regarding the topic of labour inspection, a systematic literature review was also conducted for the second part of this study — The Role of Prevention Services — in accordance with PRISMA guidelines (Page et al., 2021).

As a result of this analysis, a description of prevention services in Portugal is first presented in section 4.1.1, followed by a description of the main results from the systematic review in section 4.1.2.

4.1.1 Framing Portugal's prevention services

Portugal's current OSH strategy is based on compliance with the guidelines established by national legislation and international standards to ensure safe and healthy working conditions for workers. In legal terms, the Portuguese legislation regarding OSH includes Law No 102/2009, from 10 September²⁹ (legal framework for promoting safety and health at work), Law No 79/2019 from 2 September³⁰ (application of the occupational safety and health regime provided for in the Labour Code and complementary legislation to the bodies and services of the public administration), and Law No 42/2012, from 28 August³¹ (regimes for access to and exercise of the professions of superior occupational safety expert and occupational safety expert), among other specific rules and regulations that differ according to the different activity sectors.

In Portugal, employers have the legal obligation to respect and apply the Safety and Health at Work general principles (according to the Labour Code,³² Articles 281 to 284). This includes protecting workers' health and ensuring their safety in all aspects related to their work activity. The employer is responsible for informing workers about health and safety protection measures and providing

²⁹ More information is available at: <https://diariodarepublica.pt/dr/legislacao-consolidada/lei/2009-56365341>

³⁰ More information is available at: <https://diariodarepublica.pt/dr/detalhe/lei/79-2019-124346830>

³¹ More information is available at: <https://diariodarepublica.pt/dr/detalhe/lei/42-2012-174778>

³² More information is available at: <https://diariodarepublica.pt/dr/detalhe/lei/7-2009-602073>

appropriate training to prevent risks associated with work activities. As previously mentioned in section 1.2, the organisation of OSH services can take on four distinct forms (Law No 102/2009):

- **Internal Services:**³³ Employers implement internal OSH services and cover only the workers for whom they are responsible. These services aim to guarantee the protection of workers and prevent occupational risks. An internal service must be adopted in companies with at least 400 workers or by a group of establishments separated by up to 50 km, and in establishments that carry out high-risk activities to which at least 30 workers are exposed.
- **External Services:**³⁴ When employers lack the resources to prevent occupational risks and monitor workers' health, they may hire external services to provide OSH services. This is applicable when employers are not legally required to organise internal services. The state regulates the provision of external OSH services, which are subject to prior authorisation.
- **Common Services:**³⁵ These services are established by several companies (that are not required to organise internal services) and exclusively cover their workers through a written agreement. Although this is a legal option, interviewees indicated that this type of service is not currently a common practice among companies in Portugal.
- **Designated Employer/Employee(s):**³⁶ For companies or groups of establishments located within 50 km of the largest site, employing a maximum of nine workers and whose activities are not classified as high-risk, occupational health and safety activities can be performed directly by the employer or by one or more designated workers. In such cases, the designated workers must receive adequate training (50 hours long in total³⁷), be previously notified to ACT and regularly remain on-site. As companies do not adopt this modality very often, a strong investment was made in promoting this training by two public organisations, both supervised by the MTSSS: ACT and the IEFP.

However, for establishments with at least 400 workers, or a group of establishments located within 50 km of the one with the largest number of workers, which also have at least 400 workers and require the provision of internal services, the employer may obtain an exemption from the internal service (Article 80) with authorisation from ACT for occupational safety activities and from the DGS for occupational health activities, provided that the company:

- a) does not engage in high-risk activities;
- b) presents incidence and severity rates of work accidents, in the last two years, which do not exceed the average for the respective sector;
- c) has no records of occupational diseases developed while working for the company or to which the company's working conditions have contributed directly and decisively;
- d) has not been punished for very serious infractions concerning violations of OSH legislation committed within the same establishment in the past two years; and
- e) can confirm, through analysis of the risk assessment reports presented or through inspection, when necessary, that the exposure limit values for substances or risk factors are respected.

In short, the selection of the type of OSH services depends on two main factors. Firstly, the number of workers, as companies with a significant number of workers are obligated to organise internal OSH services. This involves creating a structure within the company to deal with occupational risk prevention issues and monitor workers' health. On the other hand, companies with fewer workers can consider other options, such as shared services or external services. Secondly, the activity carried out

³³ More information is available at: <https://portal.act.gov.pt/Pages/ServicosInternos.aspx>

³⁴ More information is available at: https://portal.act.gov.pt/Pages/Regulacao_Servicos_externosSST.aspx

³⁵ More information is available at: <https://portal.act.gov.pt/Pages/ServicosComuns.aspx>

³⁶ More information is available at: https://portal.act.gov.pt/Pages/Empregador_trabalhador_designado.aspx

³⁷ The training benchmark and the minimum number of 50 hours was defined with the IEFP so that they were able to receive funding for the training, and so that it is certified.

by the company also impacts this selection, as companies involved in high-risk activities (with at least 30 workers exposed) must have internal prevention services. In fact, companies with high-risk activities (e.g. construction, the chemical industry or metallurgy) generally adopt internal services or shared services. This allows for a more personalised approach to dealing with the specific risks of these activities. In contrast, companies with low-risk activities can opt for external services or designate a worker to OSH functions. The adherence to the latter, however, as indicated in Table 5, remains low in the country — due to the companies' lack of knowledge of this model and apprehension regarding the failure to comply with legal OSH requirements — even despite the increase registered in 2023 after the action promotion activities developed by ACT. Nevertheless, it is essential to note that the availability of human resources and technical skills in the companies also plays a very important role.

Regardless of the type of OSH service, all employers must guarantee preventive measures for all those who use their facilities, including for people with reduced mobility. They must also ensure social and welfare facilities for their workers.

Risk assessment is a fundamental aspect of effective occupational health and safety management and plays a crucial role in preventing workplace accidents and occupational diseases. As per the relevant legislation, companies must draw up and execute an occupational risk prevention plan to address and monitor OSH. This plan should include identifying risks, implementing preventive measures, and organising training and awareness-raising activities for workers. In companies with health and safety representatives, they are usually included in these activities.

According to ESENER findings,³⁸ there is a positive correlation between the level of OSH commitment and the extent of worker representation and the number of workers within an organisation. Moreover, the activity sector and the extent of trade union representation also affect the prevalence and nature of employee representation (EU-OSHA, 2022). While the involvement of worker representatives and worker participation are critical in ensuring OSH compliance, as they significantly contribute to increasing awareness regarding OSH issues, ESENER findings suggest that different forms of worker representation are not widespread in Portugal. In 2019, only 19% of the Portuguese companies participating in ESENER reported holding regular discussions in staff or team meetings about OSH issues, compared to an average of 35% among the EU-27. Portugal also has a low presence of 'health and safety representatives' (reported by 24% of surveyed companies, compared to an average of 56% in the EU-27), 'works councils' (4%, compared to 24% in the EU-27), and 'health and safety committees' (13%, compared to 22% in the EU-27) (EU-OSHA, 2022). In 2024, 65% of establishments reported having no form of worker representation (i.e. works council, trade union representation, health and safety representatives, health and safety committee) (EU-OSHA, 2025).

The supervision and regulation of preventive services is done by ACT. However, gathering national-level data regarding preventive services, including the quantity and types of available preventive services (both internal and external) and the corresponding staff allocation (in relation to the number of workers), was a challenge as this information is not publicly available. The data provided by ACT concerns the number of professional titles issued between 2000 and 2023: 7,320 for Occupational Safety Experts³⁹ and 38,344 for Senior Occupational Safety Experts.⁴⁰ The access and practice regulations for senior occupational safety experts and occupational safety experts are outlined in Law No 42/2012, dated 28 August. Article 3 specifies that only individuals holding a valid professional title can practice in these professions within the national territory. The certifying body, ACT, is tasked with issuing professional titles and certifying the relevant training entities. Specifically, ACT grants the professional title of Senior Occupational Safety Expert if at least one of the following requirements is met:

- a) a doctorate, master's degree or degree in the areas of occupational safety and occupational health and safety recognised by the government member responsible for education, provided that the certifying entity is notified;

³⁸ More information is available at: <https://visualisation.osha.europa.eu/esener/en>

³⁹ Professionals who develop prevention and protection measures for occupational risks.

⁴⁰ Professionals who organise, develop, coordinate and manage activities to prevent and protect against occupational risks.

- b) another degree or bachelor's degree and successful completion of an initial training course for Senior Occupational Safety Technicians taught by an entity certified by ACT; and
- c) recognised professional qualifications subject to prior verification (in accordance with Article 6 or Article 47 of Law No 9/2009 of 4 March).

In the case of Safety Experts, ACT grants the professional title if at least one of the following requirements is met:

- a) completion of the 12th year of schooling or its equivalent, along with successful attendance at an initial training course for occupational safety technicians provided by a training entity certified by ACT;
- b) completion of the ninth year of schooling and successful attendance at a training course for occupational safety technicians provided by a training entity certified by ACT, which is included in the education and training system that culminates in the 12th year of schooling; and
- c) recognised professional qualifications, subject to prior verification (in accordance with Article 6 or Article 47 of Law No 9/2009 of 4 March).

In addition, professionals who are nationals of a Member State of the EU or the European Economic Area, and who are qualified in another Member State or third country for the roles of Senior Occupational Safety Expert and Occupational Safety Expert, may work in Portugal under the freedom to provide services regime. However, they are not subject to the prior verification procedure of qualifications outlined in Article 6 of Law No 9/2009 of 4 March, and can operate in Portugal under the professional title from their Member State of origin or, if unavailable, under the name of their training title.

Regarding the institution of an occupational safety external service, this must also be authorised by ACT through an application (Law No 102/2009, of 10 September, Articles 84, 85, 86, 90 and 94). The application must specify whether the applicant intends to carry out the activity in both health and safety or only in one of these areas, and in which one or more sectors of activity, including, if applicable, the high-risk activities involved. This authorisation is contingent upon the verification of the following requirements (Article 85):

- permanent availability of at least one senior safety expert and one safety expert to provide safety activities;
- availability of an occupational doctor to provide health activities;
- safety experts hold the legally required qualifications to exercise their respective professions;
- adequate and equipped facilities for carrying out the respective activity;
- equipment and tools for assessing occupational health and safety conditions and PPE to be used by the technical staff of the requesting entity;
- technical quality of procedures, especially for assessing health and safety conditions and planning activities;
- capacity to perform the core activities of the OSH service, described in Article 73-B of Law 102/2009, of 10 September, allowing the use of subcontracting of services only in the case of highly complex or infrequent tasks; and
- sufficient assurances about the technical security measures and the organisation of personal data processing.

ACT makes the decision on requests for the provision of external services regarding occupational safety, while the GDS (General Directorate of Health, Direção-Geral da Saúde). addresses matters related to occupational health (Article 93). This article also suggests that these bodies should communicate with one another monthly via electronic means, sharing the list of authorisations that have been issued.

The evolution of the number of work establishments per type of occupational safety services (Table 5) and of occupational health services adopted (Table 6) illustrates the prevalence of external services, from both the safety and health points of view.

Table 5: Number of work establishments per typology of organisation of safety services

Organisation of Occupational Safety Services	2015	2016	2017	2018	2019	2020	2021	2022	% in 2022
Internal	13,319	13,101	12,897	12,406	13,130	12,919	12,903	13,139	7.1%
Common	711	482	406	394	380	528	778	712	0.4%
External	173,550	176,915	178,779	179,289	169,124	168,566	168,598	171,468	92.2%
Designated Employer	543	504	461	512	512	450	486	504	0.3%
Designated Employee	182	174	143	165	109	92	79	101	0.1%
Total	188,305	191,176	192,686	192,766	183,255	182,555	182,844	185,924	100.0%

Source: GEP (Office for Strategy and Planning – Ministry of Labour, Solidarity, and Social Security) – *Relatório Único* (Annual Social Report)

Table 6: Number of work establishments per typology of organisation of health services

Organisation of OSH Services	2015	2016	2017	2018	2019	2020	2021	2022	% in 2022
Internal	9,210	9,469	8,780	8,591	7,925	8,321	7,722	8,081	4.1%
Common	800	556	390	373	373	552	806	702	0.4%
External	190,028	193,596	194,459	195,883	186,235	183,938	184,352	188,265	95.0%
National Health System (SNS)	1,457	1,229	1,074	1,128	1,031	977	1,030	1,089	0.5%
Total	201,495	204,850	204,703	205,975	195,564	193,788	193,910	198,137	100.0%

Source: GEP (Office for Strategy and Planning – Ministry of Labour, Solidarity, and Social Security) – *Relatório Único* (Annual Social Report)

In Portugal, since 2002, employers have been required to submit the Annual Report on the Activities of the Occupational Safety and Health Services. This report details the services' activities for management and control purposes, as mandated by Ordinance No 55/2010 of 21 January (GEP, 2024b). This report is part of the Annual Social Report, which corresponds to a specific annex, among the six annexes that comprise it (i.e. Annex D). According to these reports, the number of establishments with organised health and/or safety services increased in 2023 compared to 2022, with 190,550 of them providing both services (63.4% of the total establishments). Among the responses to the Annual Social Report, the percentage of workers covered by either an occupational safety service or a health service was, in 2023, 90.4%, while those covered by both services was 86.4%. Nonetheless, around 345,000 workers were employed by companies without any organisational services (GEP, 2024b).

Regarding the activities organised by these services, there was a reduction in the number of information, consultation and training actions conducted, although it was possible to reach more workers in the first two categories. Overall, there has been an increase in risk assessments, particularly concerning psychosocial risk factors. However, while these serve as performance indicators, they do not clarify how the assessments are conducted, nor do they specify the number and type of consequent intervention actions. Concerning work accidents, the overall count of incidents and fatalities has risen, even though the rates of incidence, frequency and severity have decreased (GEP, 2024b).

4.1.2 Results from the systematic review

The systematic revision regarding prevention services resulted in 15 articles. The analysis focused on contrasting traditional and innovative approaches on an international level, internal versus external services, and the main challenges faced within them. The description of different approaches to OSH prevention is not specific for Portugal but is based on general findings in the literature, as there was not identified literature on this that related to a Portuguese context. The interviews performed complements with this.

Traditional versus innovative approaches

Traditional prevention approaches in OSH have historically depended on conventional methods and regulations to reduce or eliminate risks, as indicated by Gilardi et al. (2021). These approaches typically entail responsive actions, such as the installation of safety equipment or the delivery of training initiatives following the incidence of workplace accidents. Nonetheless, evidence-based prevention practices are gaining momentum within industrial environments with the goal of effectively reducing occupational accidents, diseases and health hazards (Sánchez-Herrera & Donate, 2019). Companies are progressively directing their focus towards the utilisation of scientific knowledge and practical experience in the realm of OSH to enhance their preventive strategies and improve working conditions (Nold & Bochmann, 2010). This shift is characterised by the integration of both internal and external prevention services to adequately tackle occupational risks, particularly in response to the competitive pressures in the market and the legal obligations for compliance (Nold & Bochmann, 2010). The evaluation of prevention efforts is becoming increasingly prevalent, with a particular emphasis on assessing their effectiveness and benefits in terms of reducing personnel losses, insurance expenses and societal costs associated with occupational accidents (Sánchez-Herrera & Donate, 2019). Certain companies are putting in place more tailored preventive measures, with varying approaches depending on factors such as company size, available resources and risk perception levels (Weissbrodt et al., 2018).

Hence, in the scope of innovative approaches, there is a notable trend towards incorporating evidence-based practices into prevention strategies to mitigate accidents and enhance working conditions proactively (Gilardi et al., 2021). Companies are actively exploring new ways to integrate OSH prevention into their overarching strategies with the aim of reducing accidents and enhancing product quality (Nold & Bochmann, 2010). Among these innovative strategies, there is a growing utilisation of story-based approaches that blend technical evidence with storytelling techniques to effectively engage workers and managers, and they foster collective discussions geared towards injury prevention (Sánchez-Herrera & Donate, 2019). Another example is the concept of zero harm, as discussed by Nold and Bochmann (2010). This approach involves companies embracing evidence-based strategies for prevention, incorporating safety equipment and providing extensive training to mitigate the occurrence of occupational injuries effectively. In this approach, integrating novel technologies plays a crucial role, as it enhances risk evaluations and ensures a continuous enhancement in OSH methodologies (Nold & Bochmann, 2010).

Internal versus external prevention services

As previously mentioned, using internal services is a practice observed across sectors such as construction, manufacturing and services — especially in the case of large-sized companies — among others, serving as a highly efficient method to uphold high levels of safety compliance and prevent accidents in the workplace. MacLean and Dror (2021) outline that internal safety inspections address potential safety hazards within the working environment, fostering a proactive approach to maintaining workplace safety. These inspections are typically carried out by safety experts either as part of an

internal safety management system or as an extension of external enforcement mechanisms. Furthermore, inspectors conducting these evaluations focus on analysing the work environment to identify any hazards that could jeopardise the safety of workers, to foster safer workplaces and prevent occupational accidents. By emphasising regular assessments and effective risk management practices, internal safety inspections are instrumental in curbing workplace injuries and enhancing overall safety standards within organisations (MacLean & Dror, 2021).

Despite their numerous advantages, challenges persist in the realm of internal safety inspections. Issues such as the reliability of different inspectors and the potential influence of contextual biases on the judgement calls made during inspections can impact the overall effectiveness of these safety assessment procedures. Thus, efforts to address these challenges and further optimise the process of internal safety inspections are essential to ensuring continued improvements in workplace safety and accident prevention (MacLean & Dror, 2021).

Furthermore, the outcomes demonstrate how company sizes (i.e. small versus large-sized enterprises) and their resources influence their adherence to regulations regarding OSH. For instance, there are notable differences between small and large companies in terms of OSH practices. Small companies often encounter difficulties in executing comprehensive safety practices due to constraints on resources and expertise, as highlighted by Morillas et al. (2013). Conversely, large-sized enterprises typically possess more robust safety programmes and resources, enabling them to implement preventive measures effectively. Also, when it comes to risk assessment, as discussed by Sánchez-Herrera (2019), small companies may encounter challenges in conducting thorough risk assessments compared to their larger counterparts. In contrast, large-sized companies usually have designated safety officers and ample resources for risk assessment, enhancing their capacity to identify and mitigate workplace hazards effectively. Companies' collaboration with OSH providers, as explored by Morillas et al. (2013), also differs between small and large companies. Small companies tend to rely on external OSH providers for safety expertise and guidance due to their limited internal resources. On the other hand, large-sized enterprises often have well-established partnerships with internal and external OSH providers, leading to more strategic safety initiatives and preventive services.

In brief, conducting regular risk assessments is crucial in identifying and mitigating workplace hazards that could potentially result in accidents and health impacts (Sommer et al., 2024). By assessing risks consistently, organisations can proactively address potential issues and implement appropriate control measures to ensure a safe working environment for workers. In Case Study 4 (on page 39) related to this report it is explained more in detail, how risk assessment tools like OiRA (Online interactive Risk Assessment) are effectively used in SMEs in Portugal. Moreover, implementing comprehensive worker training programmes on safety protocols and procedures is essential for preventing workplace accidents and injuries. Research suggests that evidence-based approaches, such as evaluating research outcomes and developing best practice guidelines, can significantly enhance the effectiveness of OSH measures (Sommer et al., 2024). By basing prevention strategies on solid evidence and proven methodologies, organisations can ensure that their safety initiatives are grounded in sound principles and have a higher likelihood of success in minimising workplace risks and promoting a culture of safety.

Main challenges to prevention

The research team has come across different publications discussing prevention services, which have revealed contrasting viewpoints on the subject. Some sources, including Sánchez-Herrera and Donate (2019), emphasise the challenges and obstacles (e.g. company size) that hinder the implementation of prevention services, highlighting the complexities involved. On the other hand, Martini et al. (2016) shed light on the proactive measures that could be taken to enhance the effectiveness of such services, presenting a contrasting view on the feasibility of prevention strategies. The discrepancy between the theoretical potential and the practical realities of prevention services is a central point of debate in the literature, as noted by Sánchez-Herrera and Donate (2019) and Weissbrodt et al. (2018). It underscores the need for a concerted effort to align theoretical concepts with practical applications, thereby bridging the gap that currently exists and improving the overall efficacy of OSH initiatives.

In addition to the systematisation of different OSH practices, the results obtained during the literature review phase also shed light on many other challenges within this field. Some of these regard persisting

challenges: for instance, Weissbrodt et al. (2018) and Sánchez-Herrera and Donate (2019) emphasise the need to mitigate the growth of less tangible risks (e.g. psychosocial risk factors and their impact on mental health), through the implementation of worker support programmes and conflict resolution training. However, other issues are contemporary, triggered by the most recent wave of technological transformation. On the one hand, the emergence of the gig economy has brought about a significant impact on OSH standards, particularly concerning independent contractors and temporary workers, which has required a reassessment of OSH policies and practices (Cunha & Barros, 2018). On the other hand, the use of technologies can be used to assist OSH risk prevention. For example, researchers such as Nold and Bochmann (2010) and Morillas et al. (2013) have highlighted the importance of technological transformation in the prevention and control of workplace risks (e.g. building information modelling technologies used in the construction industry, wearable technologies, Internet of Things, virtual reality). Hence, this phase has contributed towards the definition of the case studies developed during the qualitative fieldwork phase.

4.2 Interviews and focus group sessions

4.2.1 Participants

The subsequent table briefly portrays the 25 preventive service professionals participating in the project, organised according to their main demographic and professional characteristics. Except for a national healthcare doctor and an OSH research specialist, the following participants are all safety experts from both internal and external services.

Table 7: Sociodemographic characteristics of the participants in the individual interviews and focus groups for the topic 'The Role of Prevention Services'

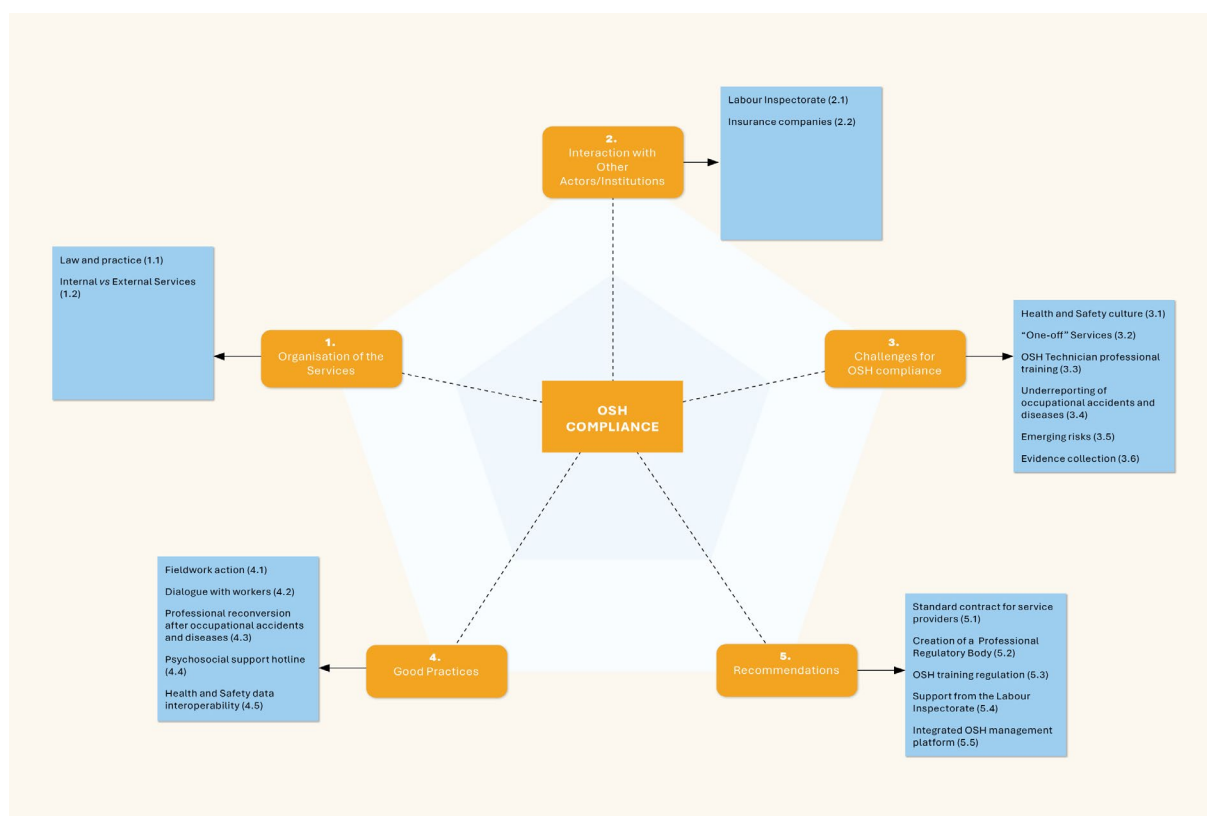
N	Gender	Length of service	Internal or external service	Individual Interview	Focus Group
1	Male	29	Internal Services	•	
2	Female	30	Internal Services	•	
3	Male	27	Internal Services	•	
4	Male	48	Internal Services	•	
5	Male	20	Internal and External Services	•	
6	Male	28	External Services	•	
7	Male	28	External Services	•	
8	Female	18	External Services	•	
9	Female	24	External Services	•	
10	Female	3	Internal Services	•	
11	Male	40	National Healthcare Doctor	•	
12	Female	18	External Services	•	
13	Female	9	Internal and External Services		•
14	Female	6	Internal and External Services		•
15	Female	5	Internal Services		•
16	Male	9	External Services		•
17	Female	5	Internal Services		•
18	Female	9	Internal Services		•
19	Female	5	Internal Services		•

N	Gender	Length of service	Internal or external service	Individual Interview	Focus Group
20	Female	2	External Services		•
21	Male	23	Internal Services		•
22	Female	6	OSH Research Specialist		•
23	Female	35	Internal Services		•
24	Female	13	Internal Services		•

4.2.2 Results and discussion of the fieldwork data collection

Following Braun and Clarke's (2020) guidelines, a thematic analysis of the interviews and focus group sessions with preventive services professionals (n=24) was developed. This analysis resulted in the thematic map presented in Figure 3.

Figure 3: Thematic map for the topic 'The Role of Prevention Services'



The analysis categories that resulted in the diagram stemmed from the project's objectives, but also from emerging topics: 'Organisation of the Services' provides an overview of the legal and practical perspective on how prevention services are organised in Portugal; 'Interaction with other actors/institutions' presents the interaction established between safety experts and other actors to carry out OSH activities; 'Challenges for OSH compliance' showcases the main obstacles described by OSH actors to compliance with OSH measures in the country; 'Good Practices' depicts innovative and traditional practices that have proven to be effective in complying with OSH requirements while addressing the challenges these actors face; and 'Policy pointers' synthesises the main suggestions

for improvement that these actors make to improve OSH compliance in Portugal. These results are further presented and discussed below, exemplifying the experience of OSH actors from different services and institutions through verbalisations, while considering a macro perspective of the Portuguese context.

Internal versus external prevention services

The prevalence of micro, small and medium-sized enterprises presents notable challenges in the effective implementation of OSH policies. These companies often face limitations regarding financial and human resources, which can lead to minimal or inadequate compliance with legal obligations (ILO, 2021). Furthermore, administrators and managers of micro-enterprises and SMEs may lack awareness of or underestimate the significance of OSH, perceiving it as a secondary concern. This creates significant hurdles in adhering to OSH regulations, highlighting the need for these companies to prioritise OSH as a strategic imperative to decrease the likelihood of workplace accidents and occupational illnesses.

'What I see is that, among those who hire external services, very few are truly concerned with safety. They are the ones who are only hiring services to comply with a legal obligation in order to avoid fines from the competent authorities.' (Safety expert, Female, 13 years of seniority)

Furthermore, the absence of internal OSH services in SMEs presents a significant challenge. Many of these organisations find it financially unfeasible to establish an internal team dedicated to OSH, leading them to rely on external services to meet their legal requirements. According to ESENER findings, Portugal ranks as the second highest user of external services among the countries included (EU-OSHA, 2025). This reliance on external services often results in notable deficiencies, as external services are typically not integrated into the company's day-to-day activities, hindering the ongoing and accurate assessment of risks.

Another phenomenon is that internal services often subcontract certain external services, especially for more specialised activities (e.g. noise, vibration, and chemical risk assessments, among others). While this is not inherently negative, it requires proper integration into the company's overall OSH strategy, which does not always happen, and this is the internal service's responsibility.

'In reality, they [internal services] end up doing a bit of an administrative organisation of the service, because when it comes to risk assessment, they subcontract it [to external services]; everything related to risk factor assessments, they subcontract it and leave the responsibility a bit on our side, while they act as mere organisers of what occupational safety is.' (Safety expert, Female, 24 years of seniority)

Furthermore, the involvement of safety experts in both service models is additionally constrained by the previously mentioned mercantilist perspective of OSH in the country. This perspective is centred on fulfilling legal obligations and evading sanctions, which is similar to other southern and eastern European countries, rather than advancing a proactive approach to creating a safer and healthier work environment (EU-OSHA, 2022). Because safety experts are not regarded as an essential part of the company's management strategy, their ability to influence organisational culture and proactive measures is similarly diminished.

Concerns arise regarding the control exerted by the external company. The *one-off service* model described by OSH practitioners throughout the individual interviews and focus groups potentiates a lack of coordination and discontinuity in implementing prevention measures and projects, especially when separate suppliers provide such services.

'External service ends up mostly being about monitoring. There is some initial work, but then if the contracts are annual, they go back just to check what was wrong the previous year, right? ... We can go this year and have the expectation of going back next year, but next year we are more expensive than the neighbouring company, and we do not go back. ... We did the initial work, left suggestions for improvement, and we will never get to verify them.' (Safety expert, Female, 35 years of seniority)

'Every time we have a new HR director, every time we have a new finance director, the relationship with the prevention service provider does not matter, the work they are doing does not matter, even if it has been 15, 20 years, okay? Because if a cheaper company comes along, that is where we go, and it does not matter the work that has been done, it does not matter the history of the workers or the problems in the company.' (Safety expert, Female, 24 years of seniority)

The failure of many companies to perceive OSH as a strategic area exacerbates their compliance challenges. Rather than perceiving OSH as an investment that can enhance productivity and reduce the costs associated with occupational accidents, illnesses and absenteeism (EU-OSHA, 2017), this is often viewed as a merely legal obligation to avoid sanctions. This results in a lack of strategic commitment, hindering the effective integration of OSH into management practices. Furthermore, the low prioritisation of funding for prevention measures leads companies to opt for low-cost solutions that do not meet their workers' prevention and protection needs. This stance reflects a reactive and mercantilist view of OSH, emphasising the fulfilment of regulatory requirements on a one-off basis rather than integrating safety into an ongoing strategic plan. Consequently, this approach undermines the development of a genuine safety culture (EU-OSHA, 2024a).

The companies' choice of OSH prevention services is frequently driven by cost considerations, primarily focusing on securing the cheapest option, often without consideration or knowledge regarding the quality, continuity and future impacts (including future costs) of such services (MTSSS, 2024). This approach carries significant inherent risks. With a possibility of reduction in the quality of the services provided by prioritising the lowest price, companies may inadvertently contract OSH services of inferior quality (e.g. focusing on minimal compliance) that fail to adequately address the preventive needs of their workforce. The prevention of risks in the workplace is a process that requires constant monitoring, updating and continuous improvement. Therefore, it is this is not achieved with the use of sporadic and disjointed contracts. This jeopardises the effectiveness of safety measures, resulting in superficial solutions that fail to address the underlying causes of the problems, as mentioned in the interviews with safety experts.

The issue of providing evidence of compliance with the law reflects a compliance mindset that is limited to the formal aspect of OSH. This approach focuses solely on meeting the documentation requirements for audits and inspections without genuinely prioritising the effectiveness of the implemented actions. The emphasis is on generating reports and documentation that appear to demonstrate compliance without necessarily ensuring that the implemented practices effectively reduce actual occupational risks, while considering the specific needs of the workers.

For these reasons, it is imperative to view the promotion of compliance with the law as a starting point rather than an ultimate objective. Organisations that adopt a more proactive approach to OSH by investing in the continuous promotion of OSH practices can expect to reap long-term benefits in the form of reduced accidents and increased productivity (Lari, 2024).

'But the evidence [evidence collection regarding OSH compliance] cannot just be on paper. ... That's the problem, if we only have written evidence of what we have done and not the implementation of these actions, [if the actions] have no effect on the ground, that's the real gap.' (Safety expert, Female, 30 years of seniority)

'Many companies here, they hire just [external/subcontracted services] to get the paperwork done.' (Safety expert, Male, nine years of seniority)

Initial and continuous training of safety experts

Safety experts' training was particularly highlighted among the challenges for OSH compliance. In line with what has been found in EU Member States, this study stressed the heterogeneity of OSH training programmes in Portugal and their access requirements, as well as the limited conditions in which OSH actors can develop their actions (e.g. the so-called one-off services) (EU-OSHA, 2024a). Specifically, regarding training, while some OSH courses offer robust and comprehensive training, with periods of fieldwork training, focused on a variety of risks (e.g. chemical, ergonomic, psychosocial, etc.), others are shorter, more superficial and may not have a mandatory period of direct contact with the field. In addition to the competencies mobilised when working within internal or external prevention services

— as the professionals working within internal services tend to be OSH generalists who have the flexibility to resort to the action of safety experts for more detailed knowledge or action — this variability will impact the competencies these professionals have to respond to situations with different complexity degrees.

The indicator commonly used to distinguish the access and practice criteria between the different types of safety experts in the safety domain — senior occupational safety experts and occupational safety experts — is the number of training hours, a minimum of 540 hours and 1,200 hours, respectively (Law No 42/2012, from 28 August⁴¹). The law also outlines a list of essential topics to be covered in both courses (safety experts and senior safety experts) and requires that these programmes include a 'practical training component in a real work context' (Article 14 of Law No 42/2012).

ACT is the body responsible for certifying these training entities (Article 11 of Law No 42/2012), as well as the safety experts themselves, and is also responsible for conducting regular audits to these entities. The activity may be prohibited if the training provider commits serious and repeated violations of the professional training requirements (Article 13 of Law No 42/2012). However, despite this regulation, there is significant variability in how this training is delivered. The training programmes available in the market differ in terms of the pedagogical strategies adopted. Some programmes are delivered mainly through distance learning, raising significant doubts about how they meet these requirements and how they actually value the practical component with direct contact with real work situations.

In addition to this initial training, continuous training is required, and failure to complete it may result in the suspension or revocation of the professional license (Law No 42/2012, from 28 August, Article 8). However, the absence of a professional registry for these safety experts, recording their training years and professional experience, further hinders the regulation of their practice.

'I think what is missing ... maybe is to limit access to this profession a bit. In practice, we deal a lot with people's lives, with the quality of life of workers, and I think that, to respond at the time to a shortage of human resources, access became too easy, often without much quality. So, I think there is a gap in terms of a clear definition of activities, beyond the ethics and deontology part.' (Safety expert, Female, 18 years of seniority)

'From the moment we have fully online training, people haven't been out in the field, they haven't experienced it, they don't even know how to take a noise measurement, and so this disparity in the organisation of training services and the accreditation of safety experts is questioned.' (Safety expert, Male, 28 years of seniority)

'Training people in this area without going through lab classes or equipment testing means that people end up not having a real perception of the problems.' (Safety expert, Male, 28 years of seniority)

There is a need to deepen the curricular content in the initial training of these professionals (e.g. to include chemical agents, such as carcinogens and mutagens, ionising radiation and psychosocial risks), but also to invest in their continuous training (MTSSS, 2024). Continuous training is especially important for updating knowledge on occupational risks, particularly in light of the rapid transformations affecting the world of work (e.g. emerging psychosocial risk factors, teleworking and new work arrangements):

'I think the biggest difficulty I have ... is with the assessment of occupational risks in the scope of psychosocial risks because I think it's an area that isn't being covered at all. ... I need at least risk-specific training.' (Safety expert, Female, five years of seniority)

Cooperation with other OSH stakeholders

A particularly sensitive issue is the coordination between safety technicians and the inspection bodies, including ACT, for securing compliance. Experiences vary, but the dominant perspective among the technicians is the need for inspection visits to focus more on concrete practices rather than on the documents produced about them. In general, they expect labour inspectors to provide more specific

⁴¹ See: <https://diariodarepublica.pt/dr/detalhe/lei/42-2012-174778>

guidance and suggested changes to the technicians, contributing to the improvement of the quality of services they provide to employers.

'And what I've never seen is, on behalf of the authorities, any support or even clarification for the implementation of any topic that isn't one of those obvious ones ... even when it comes to safety topics within other entities For example, pressure equipment for the transport of dangerous goods, we have entities, like the IMT, I.P. (Institute for Mobility and Transport) for the transport of dangerous goods, or the IPQ (Portuguese Institute for Quality), ... there you can already get technical support, you can interact with technicians on the other side, who tell you what might be wrong, how we should do it, and what we do to improve it.' (Safety expert, Male, 27 years of seniority)

'I've had situations [interaction with labour inspectors] much more focused on legislation, where they [labour inspectors] literally arrive at the construction site ... and don't even look at the context of the site. That's what shocks me a bit, they get there and come in with the sole purpose of checking documentation, and they ask for a load of paperwork, in terms of licenses, prior communications, medical records, fitness-for-work certificates, and they focus a lot on that.' (Safety expert, Female, four years of seniority)

'Having a strong technical department [at ACT] that can provide explanations to technicians who are less knowledgeable and also help them produce more in-depth technical reports, because the reports are always very, very legal [would be useful]. In civil protection, they're so vague that they just mention, "the company does not comply with article 200" but they don't specify what part or what needs to be corrected, nothing.' (Safety expert, Male, 27 years of seniority)

On the other hand, inspectors mention the attempt to have a more instructive (i.e. more informative and less punitive, also referred to as a facilitative inspection style) approach when possible, which has been associated to improvements in the working environment (EU-OSHA, 2021):

'The OSH services technicians, we see them as a bit of an ally, because often their employer sees OSH services as an unnecessary expense, an expense merely to fulfil what the law requires. Now, if a labour inspector goes to the company and the company doesn't have any OSH procedures, or they are minimised because there is a safety expert who has taken care of a whole series of things — I would say, take care of the physical integrity of the workers — but let us look at this from the practical point of view that companies see. It has prevented the Labour Inspectorate from intervening more coercively, because we have a safety technician who prevented this, and [so] safety technicians are seen in a different light.' (Labour inspector, Female, 28 years of experience)

Health and safety committees are available mainly in larger organisations and primarily fulfil a consultative function, such as giving their opinion on the risk assessment reports and providing OSH training. During reactive inspections, the labour inspector engages with the workers' OSH representatives, in those situations where such representatives are available.

'Innovative' and traditional practices used in OSH compliance

The interviews have brought to light certain practices OSH professionals consider 'innovative', even though most correspond to what is in law. Interestingly, most of these references come from those working within internal services in the context of large-size companies. This observation reinforces the widespread notion that this modality seems to contribute to higher quality OSH activities:

- Adopting an 'in-field' and participatory approach, which entails analysing work in the context it is developed in, involving workers in assessing workplace risks and interventions tailored to their needs and available resources.
- Implementing professional return-to-work plans. If a worker is unable to fulfil their occupational duties due to health reasons or as a consequence of an accident, these plans provide the opportunity for them to receive training and support to transition to a different role, thus preventing them from becoming excluded from the labour market.

'... we had a chemical lab operator who mainly washed materials. We have a very large chemistry lab where, for many decades, we did not have machines to wash all the glassware, so the worker did this constantly, pouring liquids and so on. She has an occupational disease, and we had to reassign her [another job within the company]; now she is at the reception, basically clicking keys to answer the phone, hands-free. It was a reassignment. Was there a change in how washing and disposing are done? Yes, we now have washing machines, and the workers who now have that role no longer face most of the risks that the former worker was exposed to for decades.' (Safety expert, Female, 35 years of seniority)

- Designing integrated OSH management platforms, which facilitate real-time monitoring of a range of safety and health indicators, thereby enabling strategic decision-making and continuous monitoring of working conditions. This practice also permits the establishment of a liaison between safety technicians and health professionals for the promotion of efficient and collaborative communication between them and, consequently, leading to more effective monitoring of working conditions and worker health, integrating occupational safety with healthcare.

'Here, we have software that interconnects all our databases. ... I think it makes a big difference ... I think it makes a difference even in smaller companies. ... Everything here is very interconnected, which facilitates our work, which is often bureaucratic and allows us to have data and metrics.' (Safety expert, Female, five years of seniority)

'In my case, we have an app It's an app that's still in development that integrates all health and safety data; in other words, for each worker, we can enter the risk assessment corresponding to that worker, to their workstation, and always know if that worker is fit or not for that task. So, when I go to a workstation, I can know how many workers have worked there, how many are restricted, and what tasks are assigned to them. ... It needs to be developed by the technicians themselves, meaning we have to manually input all the data, the matrices, the measures we want, so that in a few years we have the entire history. Even the doctors conduct on-the-job exams within the app, so we later know what they did, and they know what we did.' (Safety expert, Female, five years of seniority)

'Besides meetings [meeting between health and safety experts], in my view, what is more important than meetings is bringing the occupational doctor to the workstation. So, we have this common practice, and now we are doing about 30 visits per month to the workstations, taking the doctor to understand the reality. One thing is what we communicate, then there is what the photo conveys, but another thing is what the worker says and alerts me about. More than that, having the doctor come and assess and speak with the worker right there on-site, yes, that is the key practice.' (Safety expert, Male, 23 years of seniority)

- Developing a 'psychosocial support telephone line' (e.g. in case of harassment), offering emotional and psychological assistance to workers, and creating conditions for the formal report of these events.

'We have an anonymous hotline workers can call and talk to someone who does not know who they are, only if they want to identify themselves.' (Safety expert, Female, five years of seniority)

'There is a psychological support line ... [for] whenever the employee feels the need, anonymously So, the objective is, first of all, to empower and guide the employee.' (Safety expert, Male, 23 years of seniority)

5 Brief presentation of the case studies

In this section, a summary of the seven case studies is presented, offering a brief description of the practice under analysis and its impacts regarding OSH compliance.

CS1	Inspective visits carried out in pairs	Labour Inspectorate
In Portugal, while each inspective process has just one inspector as a process holder, be it for reactive or proactive inspections, inspection visits are usually carried out by two inspectors at a time. Those pairs also rotate within the larger teams to which the inspectors are allocated. The teams are allocated to different economic activity sectors, rotating every four years to ensure that inspectors engage with all economic sectors, as the inspection follows a generalist model. This is a traditional practice in the country, described as an example of good practice by labour inspectors. The advantages are that: it acts as a safety and health measure for labour inspectors, providing a sense of protection in potentially violent situations; it functions as a legal safeguard by ensuring a second witness is present to verify the inspector's findings; it compensates for the generalist inspection approach by allowing one inspector with specialised training in a specific domain to complement the other; and it provides on-the-job training, as inspectors often have different academic backgrounds and levels of experience. Additionally, it helps maintain the complainant's anonymity during reactive inspections, as one inspector can gather evidence related to the complaint while the other collects general information, masking the true reason for the visit.		
CS2	Combined co-enforcement inspection practices between public authorities and private sector organisations	Labour Inspectorate
Labour inspectors often intervene in situations that require cooperation with other institutions. For instance, when dealing with undeclared work or migrant workers, their intervention involves coordinated efforts among different entities, carried out in a planned and real-time manner by the group. These groups can mobilise various institutions depending on the specific problem and intervention needed, which justifies its configuration following a variable geometry that accommodates different objectives: cooperation with private partners at the sectoral level; interinstitutional cooperation that responds in a multifaceted way to complex challenges that involve different areas of competence; and interministerial approaches to national-level problems that may require highly complex actions and involve intervention and decision-making by different areas of government. The most frequent approach is interinstitutional cooperation — under Operational Interinstitutional Groups (GIO) — a practice of cooperation between various public bodies and a good example of a combined strategic enforcement inspection used in Portugal. The GIO harnesses its potential to provide a unified and adaptive response by shaping the group's structure as per the specific circumstances under consideration, thereby addressing the complexity of the situation. This involves fostering collaborative partnerships with other organisations and actively involving stakeholders, contributing to the development of action plans tailored to specific situations while being adaptable to other scenarios.		

CS3	Enhancing OSH compliance through new technological tools	Labour Inspectorate
To strengthen the Labour Inspectorate's work in Portugal, an attempt has been made to modernise the resources through the development of new tools. ACT has developed digital simulators, a chatbot and a mobile app. The eight digital simulators have appeared to be effective in granting workers and companies access to specific information, having been subject to adjustments and corrections (e.g. changes in the Labour Code, technical issues) since their implementation. In addition, ACT recently launched a new online portal to simplify access to these services and request forms. When it comes to the impacts on the labour inspectors' work, the tools can facilitate the interaction of the tools' users with the labour inspectors when using ACT's information service (e.g. inspectors mention that workers often come to the service with the results of the simulators they used). Implementing these artefacts thus enables technology to be operated as a tool for promoting decent working conditions and allows labour inspectors to focus on situations that may require a deeper and more specialised analysis.		

CS4	OSH compliance in micro, small and medium-sized enterprises	Labour Inspectorate
To ensure that SMEs comply with OSH requirements, labour inspectors tend to adopt, when possible (considering the type of infraction and the company's history), a more instructive (i.e. more informative and less punitive) inspection style. They may also consider appropriate actions within the legal framework for penalties applied to companies. In addition, several instruments are made available in Portuguese by ACT for diagnosis, risk assessment and verification checklists, known as the Online interactive Risk Assessment, or OiRA, tools. These instruments are aimed at certain sectors of economic activity and allow workers and employers to access and use them in a simple way. To support their use, ACT has developed several promotion actions for these companies, which include moments of exemplification. While these instruments grant easier access to information about the legal requirements in terms of OSH that SMEs must comply with, and they have indeed been proven to be accessed and used, these companies still need support over time, to ensure their efficiency in the long term.		

CS5	Interface between external and internal OSH services	Prevention Services
The predominance of micro-enterprises and SMEs in Portugal significantly impacts the OSH prevention strategy adopted by most companies, with a significant prevalence of external services. While companies may establish their own OSH services, it has been common for them to seek health and safety services separately. Service companies often also specialise in either safety or health services. This creates further difficulties in articulating those two areas of intervention, resulting in a fragmented conception of the impacts of work on safety and health. To tackle these limitations, safety experts have initiated a series of activities designed to facilitate interaction between key stakeholders in OSH prevention, e.g. occupational doctors, nurses, occupational therapists and other relevant professionals. Among these strategies, a few have been highlighted: holding daily or weekly meetings of multi-professional teams to discuss the specific cases of workers; carrying out preventive visits and technical assessments in the 'field', that is, at the workplace, with the participation of an occupational doctor; engaging in active listening and		

CS5	Interface between external and internal OSH services	Prevention Services
dialogue with workers to identify and address their concerns regarding their working conditions; and using a digital platform to integrate and connect workers' and companies' health and safety information data. Most of these practices come from safety experts working within internal services in the context of large-size companies. This observation reinforces the widespread notion that this modality seems to contribute to higher-quality OSH activities.		
CS6	The National Association of Workers with Work-Related Disabilities and Injuries (ANDST)	Prevention Services
The ANDST guarantees the provision of legal, social and psychological support, as well as support for the social and professional reintegration of workers who are victims of accidents or occupational diseases, seeking to serve as a guardian entity for workers' rights. The association has received public support from the National Institute for Rehabilitation (Instituto Nacional para a Reabilitação – INR, I.P.) and the Social Security Institute since 2004. The association's intervention aims to respond to workers' concrete needs when interacting with different institutions (e.g. Labour Court, Social Security Institute), often associated with the lack of information, as well as from the economic and educational resources of workers. In addition, it also addresses the unequal relationship that often exists between the workers and the institutions with which they can claim the safeguarding of their rights regarding safety and health at work. The ANDST holds periodic information sessions with union leaders and worker representatives. The association has been recognised as pivotal in the fight against under-reporting of occupational accidents and occupational diseases after the occurrence of these critical events, in the support provided in intermediating the contact of workers with different institutions that intervene in the recognition and reassessment of professional incapacities, and in their professional reintegration. One of the main challenges in the country is that occupational accident management is handled by insurance companies, unlike other countries in the EU where usually it is a responsibility of the state through social insurance. The work developed by the ANDST instigates the reflection on the challenges posed by this current model, which ought to be reassessed, with the possibility of shifting it towards a social responsibility model that offers workers more protection.		
CS7	Designated employer/employee model training	Prevention Services
In Portugal, companies, establishments or groups of establishments with a maximum of nine workers and whose activity is not considered as high-risk may select someone to carry out OSH activities: i) the employers themselves, if they have adequate training and habitually stay in the establishments; or ii) one or more workers, designated by the employer, provided they have adequate training and have the necessary time and resources to do so. As companies do not adopt this modality very often, and especially as it may positively impact OSH compliance among micro companies, ACT made a strong investment to promote training for 'Designated Employers and Employees'. The concretisation of this training programme involved two public organisations, both supervised by the MTSSS: ACT, responsible for raising awareness and publicising the training actions among companies; and the IEFP, responsible for providing training actions, respecting the requirements established by ACT — 50 hours-long in total, taking place both online and in person, and focused on: basic concepts of safety and health at work;		

CS7	Designated employer/employee model training	Prevention Services
general risks and prevention; and basic elements of occupational risk prevention management and specific risks and prevention in the corresponding sector of activity. This initiative reflects a preventive and informative approach, namely because it: increases knowledge and promotes dialogue about OSH in micro companies; raises awareness and promotes skill development of both workers and employers in the domain of OSH; and allows companies to adopt this modality of organising OSH services, which is still scarce in Portugal, according to ACT's data. One of the challenges of this practice concerns evaluating the impact of the actions carried out, not only to ensure that legal requirements are met with fewer resources involved but also to determine to what extent they contributed to an effective improvement in OSH practices.		

6 Discussion and policy pointers

Following an inductive approach focused on the 'activity point of view' (Daniellou & Rabardel, 2005), the experience of labour inspectors and different OSH actors takes centre stage in the project herein described and, consequently, in the social debate regarding the conditions in which their activity is carried out. The following policy pointers reflect this perspective, stemming from the interviews and focus groups, as well as previously identified policy gaps. Nevertheless, it is essential to regard these policy pointers as an interconnected set of considerations and possible proposals, rather than as isolated suggestions with limited individual value.

The challenges and opportunities identified in the study reflect a multifaceted landscape in Portugal's occupational safety and health (OSH) framework. These insights, stemming largely from the experiences of labour inspectors and OSH actors, highlight critical areas for development. While invaluable, it is essential to acknowledge that the interviewees, as key stakeholders, bring inherent subjective elements to their perspectives. Their professional backgrounds, varying levels of information access, and diverse training experiences likely shape their interpretations of existing gaps and desired improvements.

Some general more structural findings are related to the discussion on advantages/disadvantages of internal and external OSH services, discussion of the private liability system for work accidents and the lack of data on OSH.

Policy pointers:

Based on the findings in the report and the perspectives of the interviewed labour inspectors and OSH experts at ACT and the other OSH actors interviewed, some cross cutting policy pointers has been put forward:

- Develop OSH indicators, beyond the number of work accidents and occupational diseases that involve the interoperability of workers' safety and health data (e.g. include the type and frequency of measures applied after a work accident or occupational disease — return-to-work plans with job adaptation or professional retraining — in the Annual Social Report) and ensure their regular updating within a defined timeframe.
- Consider the model of internal/external OSH services in the light of the current practices. As well as consider further evaluation for alternative models of prevention services, like the designated employer/worker model. In an enterprise participating in this model, the employer or a designated worker receives a specific OSH training and thus compensates the obligation of contracting an external prevention service. One of the challenges of this practice regards concerns the impact evaluation of the actions carried out, and to what extent the actions contributed to an effective improvement in OSH practices, that is, ensuring that this initiative

is not only used as a way of reducing investment in hiring external OSH services without effectively improving working conditions.

- Consider the existing framework of private liability for workplace accidents and debate the possibility of moving towards a social responsibility model that offers workers more protection. The current system of private insurance companies often leaves workers in a vulnerable position after an incident and therefore they need NGOs like ANDST to claim their compensation rights, as discussed in Case Study 6 (above in chapter 5).

Further there are findings related more specifically to the practices for instance, the consistent emphasis on the fragmentation of OSH legislation (6.1.a) and the desire for enhanced training and awareness (6.1.b) points to a collective recognition of systemic inefficiencies and a need for clearer operational guidelines. Similarly, calls for better integrated data systems (6.1.d, 6.1.e) and the formal integration of experienced-based knowledge into intervention protocols (6.1.f) underscore a perceived disjuncture between practical realities and formal procedures. The discussion also reveals concerns about the quality and accountability of prevention services (6.2.b, 6.2.d), suggesting a broader dissatisfaction with the efficacy of current OSH models. While a desire for more resources (e.g., more OSH promotion experts, 6.1.c) is indeed present and understandable from the perspective of practitioners, the broader narrative weaves together themes of legislative reform, systemic integration, professional development, and accountability. Therefore, these policy pointers represent a rich qualitative tapestry of perceived needs, informed by the unique positions and experiences of those interviewed.

6.1 Policy pointers regarding labour inspection

a) Revising current OSH guidelines and standards to support and improve OSH practices

It is recommended to conduct a comprehensive review of all regulations and compile the existing legislation related to OSH, both general and sector-specific, in one structural framework (MTSSS, 2024). The labour inspectors acknowledged the need for this analysis and update of specific OSH regimes applicable to particular sectors, in order to harmonise and revise these documents in line with current and cross-cutting concerns in OSH matters.

'We have a lot of legislation, many regulations, very scattered. This complicates things for everyone; I believe it complicates not only for the employer, who needs to know what to do and what their obligations are, but also for the workers, who need to know their rights, their obligations, and the risks. All this information is spread across numerous regulations and legislation concerning occupational health and safety.' (Labour inspector, Female, 13 years of seniority)

Despite the numerous OSH regulations in Portugal, some areas lack clarity and are often overly broad. For instance, contrary to the existing procedures and technical norms regarding the evaluation of noise⁴² and vibrations,⁴³ the norms for evaluating thermal environment or psychosocial risks are uncertain. While the Portuguese Health Ministry has invested in the creation of guides for the assessment of psychosocial risks,⁴⁴ there is currently no monitoring to ensure that these recommendations are being followed.

As a result of the gaps in the current legislation, OSH professionals are compelled to rely on international regulations or standards, which are often available only in other languages and may not be fully adapted to the complexities of their specific situations. Therefore a comprehensive review, update and enhancement of Portuguese legislation could be helpful.

⁴² See, for instance: <https://diariodarepublica.pt/dr/detalhe/decreto-lei/182-2006-539986>

⁴³ See, for instance: <https://diariodarepublica.pt/dr/detalhe/decreto-lei/46-2006-694051>

⁴⁴ See, for instance, a guide that was made available in 2022 with guidelines for the Assessment of psychosocial risk in the work context: <https://www.backoffice.dgs.pt/upload/DGSv9/ficheiros/i030186.pdf>

b) Ensuring greater investment in training, enhancing labour inspectors' skills and knowledge, and raising awareness among different court actors to improve OSH compliance

There is a need to invest in labour inspectors' continuous training, focusing on enhancing skills and knowledge to improve OSH compliance and their capacity to intervene in new work scenarios arising from the twin transition (ILO, 2022). According to our interviews with Portuguese experts, there is still a need for training concerning the constant updates on legal changes regarding labour law, as well as training that focuses on how inspectors should act in critical situations (i.e. harassment and violence towards them) and in cases of new forms of work. It is necessary to ensure that inspectors are properly equipped to handle new work arrangements, and new working methods and equipment so that these phenomena can be addressed appropriately by them. In addition to this, many inspectors mention the difficulties experienced in interacting with the courts and the Public Prosecutor's Office. The area of labour relations appears to be clearer, as the evidence collected by inspectors can more easily be analysed and discussed with the courts and magistrates. On the other hand, OSH matters are challenging to analyse and interpret in court, as they require a deep understanding of legal norms, as well as a sensitivity to the issues of the working world and the dynamics of the relationship between workers and employers.

Also, many inspectors mention feeling like 'defendants' in situations when they are merely acting in compliance with the law, and seeing their work not valued appropriately by the courts. This reality ultimately can reinforce non-compliance and negligence behaviours among employers. In this sense, it would be pertinent to open a frank dialogue between the Ministry of Labour and the Ministry of Justice to jointly define concrete and appropriate training offers for judges in the OSH domain.

c) Increasing the number of OSH promotion experts at ACT

This is a widely agreed-upon topic among inspectors, safety experts and even employers, who consistently call for more promotion activities at a national level. This need is particularly important given the prevalence of micro-enterprises and SMEs in Portugal, as they generally have fewer internal resources and less knowledge to develop and comply with OSH standards.

Promotion is complementary to inspection, which precedes and strongly impacts it. In other words, the greater the investment in promotion, the more effective the inspection activity will be; therefore, promotion should not be viewed as secondary to inspection. Thus, the rationale is to import the principle that we want to instil in companies (the greater the investment in prevention and promotion, the lower the costs associated with incidents, accidents and infractions) into the activity of ACT itself.

d) Integrating into a single system the two internal systems currently in use by ACT

Even though this integration has been planned, it has not yet been practically implemented. A constructive and participatory approach is recommended for the development, utilisation and execution of this integrated system, thus bridging the technical and contextual aspects of work (Barcellini et al., 2014). Such an approach could contribute to overcoming the shortcomings of both systems, which inspectors have identified from their daily use while reflecting their needs. According to one labour inspector, a system that streamlines bureaucratic procedures could lead to an increase in the overall number of processes evaluated, thereby utilising available human resources more effectively:

'[It is recommended] to build another computer system [as] there is a duplication of tasks that translate into an immense bureaucratic burden, and that distracts us. That is, while I am repeating and uploading information to the computer system, I could be analysing other processes, dispatching other processes and doing much more useful work.' (Labour inspector, Female, 23 years of seniority)

e) Designing an integrated information system for data interoperability between ACT and other public bodies

The information regarding workers' health and safety is scattered across entities from two different ministries: the MTSSS and the Ministry of Health. The interoperability between the data collected by ACT and different public bodies (e.g. with Social Security, GEP and GDS, etc.) could lead to the production of more complete information databases, which can be used to improve decision-making

towards improved OSH, while empowering workers throughout the process (e.g. through the access to more information, and feedback/monitoring regarding any complaints and their evolution in the system). This necessity was highlighted during the interviews with the labour inspectors, with one labour inspector mentioning how data interoperability could lead to targeting workers in risky situations (e.g. for developing occupational diseases):

'ACT has also invested a lot in digital transformation and also through technology, through access to information. [If] we have data, if we have information, if we have data intersection, if we have the technology, [it] also allows us to direct [the information]. ... With data interoperability, it will be possible to do this. Direct and send information to a worker about what concerns him/her, because this information is related to the activity he/she carries out, the risks to which he/she is exposed, the accidents that have occurred with workers who are in the same situation as him/her.' (Labour inspector, Female, 23 years of seniority)

f) Integrating labour inspectors' experienced-based knowledge into the development of intervention protocols

One example is implementing 'pilot studies' or communities of practice, as found in the systematic reviews (e.g. Gilardi et al., 2021; Weissbrodt, 2018), with small teams of inspectors from different local centres, followed by collective discussions. This enables the definition of action protocols informed by their field experiences (e.g. knowledge regarding new forms of work for the determination of how or when to intervene, as well as how to identify these workers) and applicable on a broader scale of analysis.

Automated systems, artificial intelligence and collaborative robots are recent technological innovations transforming how work is organised and how workers perform their tasks. In a context marked by these changes, particularly with the increasing use of platform-based work, new challenges arise for labour inspectors, as they do not always have up-to-date action protocols. As mentioned in a focus group, the actions carried out to target unknown work realities require pilot studies to make sure they are more effective (e.g. being able to target specific meeting points or working hours of these groups of workers):

'The first action [targeted at platform-based work] was carried out simultaneously in Porto and Lisbon, and there was no preparation, no briefing, ... not even the preoccupation of thinking ... about what time they [the platform workers] would actually be working. Because they mostly operate during lunch and dinner Mainly at night, right? So, a pilot study or trial would have immediately identified this.' (Labour inspector, Female, 15 years of seniority)

More studies of this kind are recommended to enable the creation of action protocols that highlight critical aspects that should be considered, following an inductive approach that guides decision-making. In addition, this practice could enable a technical and social construction of the issues under analysis, in which the 'rules of the game' can be clearly shared and negotiated among those who are involved (Garrigou et al., 1995).

g) Follow the practice of carrying out inspective visits in pairs, described as a 'good practice', while formally acknowledging the role of the inspector who does not hold the status of 'process holder'

This practice is recommended and can be applied in other European countries: i) in the case of reports of violence against labour inspectors; ii) if there is a need to promote training within teams of labour inspectors; and iii) within countries following a generalist approach (e.g. Switzerland (Weissbrodt, 2018) and Greece (Konstantinou et al., 2020)). Nevertheless, formal recognition is essential to provide visibility to the time inspectors dedicate to the visits and their positive outcomes.

'I believe most inspectors feel that working in pairs is beneficial. ... The only issue is that we work in pairs, but this work isn't quantified. When I accompany a colleague who has a case [as a process holder], there are days when we go out and I work on three or four cases with him/her, which is quite a lot; but I work on three or four cases, and my colleague doesn't work on any of his/her assigned cases. The work my colleague did with me — looking at the issue and

discussing it with me — doesn't count. It's not valued. It's not quantified.' (Labour inspector, Male, five years of seniority)

Although this is a dominant practice in Portugal, it is not comparable with other Member States due to the lack of literature regarding this specific work organisation option. However, the labour inspectors who participated in this study mentioned throughout the interviews that this is a good practice, even in spite of the time and workload demands this option entails. Therefore, this recommendation results from having listened to the point of view of the inspectors themselves about the model of organisation of their own work, which is consistent with the principles stated in the OSH Framework Directive 89/391/CEE.

h) Assessing the impact of the inspection activity and the efficiency of the inspective practices based on observed indicators

The creation of indicators that allow for the continuous assessment of inspection practices is necessary. For instance, the report of the number of visits done to the same location either: i) to ensure that the determined measures were effectively implemented; or ii) to gather evidence over extended periods, especially in cases involving complaints of 'moral harassment'. '... The definition of accurate indicators, and of which indicators. We should start here, from scratch, structuring this very well, so that we can have numbers. If we do not have numbers, we cannot have action plans or strategies.' (OSH promotion expert at ACT, Female, 30 years of seniority).

6.2 Policy pointers regarding prevention services

a) Propose the mandatory requirement for OSH service providers to follow a 'standard contract'

Following the findings of this report, the authors would suggest that OSH service providers follow a 'standard contract' (imposing minimum contractual terms, or explicitly outlining which services are not covered) to be established by the MTSSS. In this contract, it must be clearly indicated which clauses of Article 73º.-B of Law 102/2009 (Main activities of occupational health and safety services) are included in the service provided. The hiring of external services on a *one-off service* basis, in which only part of the employer's obligations is outsourced (for example, contracting only risk assessments, but not the monitoring of the implementation of measures), is one of the key factors contributing to the low quality of the services provided (i.e. fragmented services without a continued presence in the field and, consequently, leading to the discontinuity in implementing prevention measures and projects — especially when separate suppliers provide such services). Sometimes, the employer is unaware of which clauses remain uncovered.

b) Ensuring the evaluation of the quality of OSH services, and not just the monitoring of conditions that allow companies to adopt a particular modality of OSH services

Hiring OSH services to compile evidence regarding assessment records, service provision reports and basic intervention activities does not guarantee legal compliance or efficacy in preventing occupational accidents and diseases. To ensure the quality of the services provided, the companies that provide such services should have their activities regulated through continuous certification processes, which does not currently happen:

'We have various practices ['preventive indicators'] ..., for example, one that we have is preventive safety measures, which are small audits, ... to check conditions and unsafe behaviour. So we have monthly objectives for each manager, for each director, or even for ourselves, to fulfil and that is, we consider it one of the preventive indicators, because we're making sure that people go there before anything even happens and check, "ok, this isn't quite right, this has to be resolved", which is then linked to our action plan, anything that could not be resolved on the spot will be resolved later. Once certified, OSH service providers are not subject to any time-bound obligation for certification renewal, and there is also no mandatory requirement for ongoing inspections once they are certified. While inspections may occur, the lack of a binding framework for re-certification reduces their accountability.' (Safety expert, Female, five years of seniority)

ACT is the body responsible for authorising the provision of OSH services, in compliance with its Organic Law (Regulatory Decree No 47/2012, from 31 July,⁴⁵ Article h) Manage the authorisation process for occupational safety and health services). Once authorised to provide services, these companies are subsequently audited by ACT in a process that involves not only the company but also the verification of the work carried out for a sample of three to five clients of the service provider.

However, once certified by ACT, OSH service providers are not subject to any time-bound obligation for certification renewal, meaning there is no legally fixed regularity for these audits. Although they may be audited by ACT, there are no mandatory requirements for ongoing verification after certification. The lack of a binding framework for re-certification may contribute to a reduction in the quality standards of the services provided.

Establishing a clear process for regular certification renewal would ensure that OSH service providers maintain high standards and adapt to evolving safety regulations. However, as previously noted, to ensure its effectiveness, this proposal should not be viewed in isolation from the other suggested improvements.

c) Creating integrated data management platforms for the articulation between different safety experts

Integrated data management platforms allow for a clearer articulation between the several actors involved in OSH prevention, while also positively impacting the labour inspection activity through data storage and transparency. That is, this recommendation proposes the development of a system similar to the platform used in the National Health System (Serviço Nacional de Saúde – SNS) for the management of health data⁴⁶, that are managed by a public body, but in a blockchain logic.

This recommendation stems from the need for more informed OSH practices, while also addressing the shortcomings associated with the use of one-off external OSH services, in which health data and safety data end up being collected and addressed separately by different entities. As mentioned by a safety expert, due to the one-off services, seeking individual medical aptitude certificates is a common practice in the country, even though this certification process is often not transparent or does not always reflect the workers' real working conditions:

'And consequently, what we can see today is that, for example, occupational health consultations are sold as a one-off service. ... Therefore, this leads to us having companies or entities that practice this: a form of selling the medical aptitude certificate, and this is not a service that everyone should have. [For example] If we think ahead, in terms of the inspections, ... the medical aptitude certificate alone doesn't tell us anything, does it? I mean, the medical aptitude certificate says that the worker is capable, but under what conditions was the worker assessed? How was this assessment made? What was taken into consideration for that assessment? What conditions are behind it? Everyone can see that there are medical aptitude certificates that really don't say anything, that we don't even know who made those consultations, just as there are risk assessments that we often look at and say nothing about a particular worker's job and the risks they are really exposed to.' (Safety expert, Female, 24 years of seniority)

For this reason, platforms using such technology have the potential to enhance efficiency, ensure regulatory compliance, and foster accountability in OSH practices by facilitating the access to and transmission of information between different actors (e.g. the company, OSH service providers, ACT, insurance companies, SNS, etc.).

⁴⁵ See: https://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=1774&tabela=leis&ficha=1&pagina=1

⁴⁶ In Portugal, a platform known as SNS24, available online and via phone app, enables the sharing of information between the individual user, health professionals and health service providers. More information is available at: <https://www.sns24.gov.pt/>

d) Regulating OSH training by establishing more stringent criteria from a technical-scientific standpoint

There is a need to improve the oversight of OSH training by implementing more rigorous standards based on technical and scientific principles. Such standards, which also address the need for practical in-field training, will result in more prepared OSH services and capacitated professionals. This recommendation stems from the reports of safety experts regarding the challenges they face when hiring safety experts:

'Nowadays, hiring an occupational safety expert is a challenge. It's not a challenge in the sense that they do not exist in the market, but it is a challenge to put them working in the field and actually get them to do real occupational safety and health work At the moment, they have online training, with basic training that has nothing to do with this area, and then we have to have people analyse chemicals, or analyse certain occupational diseases, and associate them to the risks of the workplace ... and this is increasingly complicated.' (Safety expert, Female, 24 years of seniority)

In addition, such regulations should also mandate ongoing training to address the evolving nature of work, including new work arrangements, occupational risks and their implications for workers' health.

'I don't condemn the [OSH] model, I condemn the services' [concrete] practices, you see? And I think these service provider companies have not evolved much since the 90s or so, when the requirements for organising services were implemented. Companies and their safety experts do not specialise in various areas, they are very generalist ... the inspection practices too, I think these are also very general. A work which is a little, let's say, superficial, right? Having the papers organised, having the evidence [of what is done] organised, but then not getting to the bottom of the matter.' (Safety expert, Female, 30 years of seniority)

e) Creation of a professional regulatory body for safety experts to foster OSH good practices and regulate the profession

Similar to existing structures in other professional fields, it is recommended that an autonomous regulatory body⁴⁷ be established for safety experts to represent and self-regulate their profession. This body could enhance OSH practices by developing a code of ethics and professional deontology while also serving as a regulatory entity and protecting the interests (i.e. conditions for accessing the profession and their labour and employment conditions).

'There is a gap in terms of a clear definition of activities, as well as regarding [the profession's] ethics and deontology. That is, I think there is a lack of very specific regulation and, for example, in my case, I think we also have a bit of a lack of a body that helps better frame this profession. ... I think that all sectors are relevant, and I think that a professional council should cover all safety experts, regardless of the sector of activity in which they are integrated [internal or external]. [The recommendation would be] to regulate the profession: its access, and [the creation of] a council. Without a doubt, I think this would have a significant impact on our practice.' (Safety expert, Female, 18 years of seniority)

In short, overcoming these challenges requires a coordinated approach between government bodies, regulators and the private sector, including greater encouragement of training and integration of OSH services and a change in organisational culture. This includes targeted support for micro-enterprises and SMEs through financial incentive programmes and technical assistance so that micro and small companies can implement OSH policies more effectively. In addition, the integration of external OSH services, encouraging companies to opt for global service providers that offer a complete and coordinated OSH solution, rather than hiring different suppliers for each aspect, could improve the

⁴⁷ Professional regulatory bodies are public bodies created to represent and self-regulate, in an autonomous way, professions whose exercise requires technical independence. In addition to monitoring the practices undertaken by OSH professionals, this body would also be responsible for monitoring and safeguarding the working and employment conditions of these professionals.

continuity and effectiveness of safety practices, as well as awareness-raising programmes to promote the strategic importance of OSH, focusing on primary prevention.

7 References

- ACT - Autoridade para as Condições do Trabalho. (2019). *Referencial da atividade inspetiva*. ACT: Direção de Serviços de Apoio à Atividade Inspetiva.
- ACT - Autoridade para as Condições do Trabalho. (2023a). *Atividade de inspeção do trabalho: Relatório 2022*. https://portal.act.gov.pt/Planeamentoegestao/Relatorio_AI_2022.pdf
- ACT - Autoridade para as Condições do Trabalho. (2023b). *Relatório de atividades de 2022*. <https://portal.act.gov.pt/Planeamentoegestao/RA%20ACT%202022.pdf>
- Barcellini, F., Van Belleghem, L., & Daniellou, F. (2014). Design projects as opportunities for the development of activities. In P. Falzon (Ed.), *Constructive ergonomics* (pp. 150-163). Taylor and Francis.
- Baškarada, S. (2014). Qualitative case study guidelines. *The Qualitative Report*, 19(40), 1-18. <https://doi.org/10.46743/2160-3715/2014.1008>
- Bonanno, A. (2020). At the labor inspection counters. *Nouvelle revue du travail*, 17. <https://doi.org/10.4000/nrt.7176>
- Braun, V., & Clarke, V. (2020). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, 18(3), 328-352. <https://doi.org/10.1080/14780887.2020.1769238>
- Cruz, I. (2019). *Análise da atividade dos inspetores do trabalho: Dos riscos profissionais ao seu impacto na saúde* [Master's thesis, Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto]. https://sigarra.up.pt/fpceup/pt/teses.tese?P_ALUNO_ID=104012&p_processo=17790
- Cunha, L., & Barros, C. (2018). The evaluation of psychosocial risks: An emerging issue? And its prevention... A postponed issue? *Journal of Spatial and Organizational Dynamics*, 6(1), 19-28. <https://www.jsod-cieo.net/journal/index.php/jsod/article/view/116>
- Cunha, L., Pereira, C., Santos, M., & Lacomblez, M. (2019). Self-management process after a work accident: A gender analysis. In S. Bagnara, R. Tartaglia, S. Albolino, T. Alexander, & Y. Fujita (Eds), *Proceedings of the 20th Congress of the International Ergonomics Association (IEA 2018). IEA 2018. Advances in Intelligent Systems and Computing, Vol. 826* (p. 287-293). Springer. https://doi.org/10.1007/978-3-319-96065-4_32
- Dahl, Ø., Rundmo, T., & Olsen, E. (2022). The impact of business leaders' formal health and safety training on the establishment of robust occupational safety and health management systems: Three studies based on data from labour inspections. *International Journal of Environmental Research and Public Health*, 19(3), 1269. <https://doi.org/10.3390/ijerph19031269>
- Daniellou, F., & Rabardel, P. (2005). Activity-oriented approaches to ergonomics: Some traditions and communities. *Theoretical Issues in Ergonomics Science*, 6(5), 353-357. <https://doi.org/10.1080/14639220500078351>
- EU-OSHA – European Agency for Safety and Health at Work, *An international comparison of the cost of work-related accidents and illnesses*, 2017. Available at: https://osha.europa.eu/sites/default/files/2021-11/international_comparison_of_costs_work_related_accidents.pdf
- EU-OSHA – European Agency for Safety and Health at Work, *Improving compliance with occupational safety and health regulations: an overarching review*, 2021. Available at: https://osha.europa.eu/sites/default/files/Improving_compliance_OSH_regulations_lit%20review.pdf

- EU-OSHA – European Agency for Safety & Health at Work, *Third European Survey of Enterprises on New and Emerging Risks (ESENER 2019): Overview Report. How European workplaces manage safety and health*, 2022. Publications Office of the European Union. Available at: <https://osha.europa.eu/sites/default/files/esener-2019-overview-report.pdf>
- EU-OSHA – European Agency for Safety and Health at Work, *Occupational safety and health preventive services: The professionals' perspective*, 2024a. https://osha.europa.eu/sites/default/files/documents/OSH-preventive-services-and-professionals_EN.pdf
- EU-OSHA – European Agency for Safety and Health at Work, *OSH Barometer*, 2024b. Available at: <https://visualisation.osha.europa.eu/osh-barometer/osh-infrastructure/enforcement-capacity/inspector-activities/labour-inspectors>
- EU-OSHA – European Agency for Safety & Health at Work, *First findings of the Fourth European Survey of Enterprises on New and Emerging Risks (ESENER 2024)*, 2025. Available at: https://osha.europa.eu/sites/default/files/documents/ESENER-first-findings-2024_EN.pdf
- Garrigou, A., Daniellou, F., Carballeda, G., & Ruaud, S. (1995). Activity analysis in participatory design and analysis of participatory design activity. *International Journal of Industrial Ergonomics*, 15(5), 311-327. [https://doi.org/10.1016/0169-8141\(94\)00079-i](https://doi.org/10.1016/0169-8141(94)00079-i)
- Garshol, B. F., Knardahl, S., Emberland, J. S., Skare, O., & Johannessen, H. A. (2022). Effects of the Labour Inspectorate Authority's regulatory tools on psychosocial and biomechanical work factors in Norwegian home care services: A cluster randomised controlled trial. *Occupational and Environmental Medicine*, 79(12), 807-815. <https://doi.org/10.1136/oemed-2022-108470>
- GEP - Gabinete de Estratégia e Planeamento. (2023a). *Boletim Estatístico*. Ministério do Trabalho, Solidariedade e Segurança Social. <https://www.gep.mtsss.gov.pt/documents/10182/10925/befev2023.pdf/78503bde-d8ca-4dec-9811-3770a10a4b15>
- GEP - Gabinete de Estratégia e Planeamento. (2023b). *Quadros de Pessoal*. Ministério do Trabalho, Solidariedade e Segurança Social. <https://www.gep.mtsss.gov.pt/documents/10182/10928/qp2022pub.pdf/9907641c-9c42-4a19-a14d-8decc807a207>
- GEP - Gabinete de Estratégia e Planeamento. (2024a). *Acidentes de trabalho 2022: Síntese*. Ministério do Trabalho, Solidariedade e Segurança Social. <https://www.gep.mtsss.gov.pt/documents/10182/26338/at2022sint.pdf/2d7fb1d9-6714-443e-a51b-6f2281fef0dd>
- GEP - Gabinete de Estratégia e Planeamento. (2024b). *Segurança e Saúde .2023*. Ministério do Trabalho, Solidariedade e Segurança Social. <https://www.gep.mtsss.gov.pt/documents/10182/28586/sst2023sint.pdf/920a4da5-9cce-4c78-b035-a48bc8543638>
- Gilardi, L., Marino, M., Fubini, L., Bena, A., Ferro, E., Santoro, S., Tosco, E., & Pasqualini, O. (2021). The community of practice: A method for cooperative learning of occupational health and safety inspectors. *European Journal of Investigation in Health, Psychology and Education*, 11(4), 1254-1268. <https://doi.org/10.3390/ejihpe11040091>
- Håkansta, C. (2022). Ambulating, digital and isolated: The case of Swedish labour inspectors. *New Technology, Work and Employment*, 37(1), 24-40. <https://doi.org/10.1111/ntwe.12211>
- Hartlapp, M. (2014). Enforcing social Europe through Labour Inspectorates: Changes in capacity and cooperation across Europe. *West European Politics*, 37(4), 805-824. <https://doi.org/10.1080/01402382.2014.919772>
- ILO - International Labour Organisation. (2021). *Extending social security to workers in micro and small enterprises: Lessons from international experience: ILO brief*. ILO Social Protection Department and ILO Enterprises Department. <https://www.social-protection.org/gimi/Media.action?id=16986>

- ILO - International Labour Organisation. (2022). *Strengthening labour inspection systems for increased compliance with labour law through development cooperation. Policy brief*. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_dialogue/@lab_admin/documents/publication/wcms_838476.pdf
- Konstantinou, E., Grendova, K., Maragaki, E., Klimešová, M., Ošmerová, L., & Evanthia, S. (2020). Health and safety inspections in workplaces: A review among three European countries. *Materia Sociomedica*, 32(3), 235-242. <https://pmc.ncbi.nlm.nih.gov/articles/PMC7780825/>
- Lacomblez, M., & Leitão, A. R. (2018). O regresso ao trabalho após um acidente de trabalho : apresentação do dossier. *Laboreal*, 14(1). <https://journals.openedition.org/laboreal/pdf/549>
- Lari, M. (2024). A longitudinal study on the impact of occupational health and safety practices on employee productivity. *Safety Science*, 170, 106374. <https://doi.org/10.1016/j.ssci.2023.106374>
- Loyens, K., & Paraciani, R. (2023). Who is the (“ideal”) victim of labor exploitation? Two qualitative vignette studies on labor inspectors’ discretion. *Sociological Quarterly*, 64(1), 27-45. <https://doi.org/10.1080/00380253.2021.1974321>
- MacLean, C. L., & Dror, I. E. (2021). The effect of contextual information on professional judgment: Reliability and biasability of expert workplace safety inspectors. *Journal of Safety Research*, 77, 13-22. <https://doi.org/10.1016/j.jsr.2021.01.002>
- Martini, A., Bonafede, M., Buresti, G., Bertazzi, P. A., Di Leone, G., Isolani, L., Corso, L., & Iavicoli, S. (2016). National survey on workplace safety and prevention services: Regional differences. *Medicina del Lavoro*, 107(5), 389-398. <https://mattioli1885journals.com/index.php/lamedicinadellavoro/article/view/5400>
- MTSSS - Ministério do Trabalho, Solidariedade e Segurança Social. (2024). *Livro Verde do Futuro da Segurança e Saúde no Trabalho*. Versão de trabalho para consulta pública (novembro de 2024). https://www.dgert.gov.pt/wp-content/uploads/2024/11/LivroVerde-SST_17.06.2024.pdf
- Morillas, R. M., Rubio-Romero, J. C., & Fuertes, A. (2013). A comparative analysis of occupational health and safety risk prevention practices in Sweden and Spain. *Journal of Safety Research*, 47, 57-65. <https://doi.org/10.1016/j.jsr.2013.08.005>
- Nold, A., & Bochmann, F. (2010). Examples of evidence-based approaches in accident prevention. *Safety Science*, 48(8), 1044-1049. <https://doi.org/10.1016/j.ssci.2010.02.009>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *Systematic Reviews*, 10, 89. <https://doi.org/10.1186/s13643-021-01626-4>
- Paraciani, R., & Rizza, R. (2020). Ispettori del lavoro e street-level bureaucracy. Gestire le irregolarità lavorative tra spinte isomorfe e spazi discrezionali [Labor inspectors and street-level bureaucracy. Managing work irregularities between isomorphic pressures and discretionary spaces]. *Polis*, 35(3), 597-619. <https://doi.org/10.1424/98634>
- Rajasekaran, A. S., Azees, M., & Al-Turjman, F. (2022). A comprehensive survey on blockchain technology. *Sustainable Energy Technologies and Assessments*, 52(Part A), 102039. <https://doi.org/10.1016/j.seta.2022.102039>
- Rodrigues, V. (2018). Os sinistrados no trabalho e o direito à reparação: percursos pós-sinistro de contacto com as instituições. *Laboreal*, 14(1). <https://doi.org/10.4000/laboreal.552>
- Sánchez-Herrera, I. S., & Donate, M. J. (2019). Occupational safety and health (OSH) and business strategy: The role of the OSH professional in Spain. *Safety Science*, 120, 206-225. <https://doi.org/10.1016/j.ssci.2019.06.037>

- SLIC - Senior Labour Inspectors' Committee. (2020). *Opinion on future EU OSH enforcement priorities contributing to a renewed EU OSH Strategy*. European Commission, Employment, Social Affairs & Inclusion.
https://www.preencionintegral.com/sites/default/files/noticia/512323/field_adjuntos/slicopinion-futureeuoshenforcementpriorities-adopted.pdf
- Sommer, S., Lunau, T., Wahrendorf, M., Beck, D., La Rocca, G., & Rigó, M. (2024). Der Zusammenhang zwischen betrieblicher Arbeitsschutzorganisation und Gefährdungsbeurteilung: Ergebnisse auf Basis der ESENER-Befragung [Relationship between occupational health and safety organization and risk assessment: Results based on the ESENER survey]. *Zentralblatt für Arbeitsmedizin, Arbeitsschutz und Ergonomie*, 74, 193-201. <https://doi.org/10.1007/s40664-024-00535-2>
- Valverde, C., Cunha, L., & Correia, F. (2006). O vivido de um inspetor do trabalho em Portugal – João Fraga de Oliveira. *Laboreal*, 2(1), 18-23. <https://doi.org/10.4000/laboreal.13592>
- Verra, S. E., Benzerga, A., Jiao, B., & Ruggeri, K. (2019). Health promotion at work: A comparison of policy and practice across Europe. *Safety and Health at Work*, 10(1), 21-29. <https://doi.org/10.1016/j.shaw.2018.07.003>
- Weissbrodt, R. (2018). Informer ou prescrire ? Les inspecteurs du travail et le contrôle des risques psychosociaux [Informing or enforcing? Labour inspectors and the regulation of psychosocial risks]. *PISTES*, 20(2). <https://doi.org/10.4000/pistes.5823>
- Weissbrodt, R., Arial, M., Graf, M., Iff, S., & Giauque, D. (2018). Preventing psychosocial risks at work: An evaluation study of labour inspectorate interventions. *Safety Science*, 110(Part A), 355-362. <https://doi.org/10.1016/j.ssci.2018.08.024>
- Xu, J., Lu, W., Wu, L., Lou, J., & Li, X. (2022). Balancing privacy and occupational safety and health in construction: A blockchain-enabled P-OSH deployment framework. *Safety Science*, 154, 105860. <https://doi.org/10.1016/j.ssci.2022.105860>

8 Annexes

Annex 1: List of specific legislation by sector of activity

Civil Construction	Decree-Law No 273/2003 transposition from Directive 92/57/EEC, transposition from Directive 92/57/EEC	
		Establishes general planning, organisation and coordination rules to promote safety, hygiene and health at work on construction sites
	Ordinance No 101/1996	
		Regulates the minimum health and safety requirements in the workplaces of temporary or mobile construction sites
	Decree No 46427/1965	
		Approves the regulations for provisional social facilities for staff employed on building sites
Industry	Decree No 41821/58	
		Approves safety regulations for construction work
	Ordinance No 53/71 amended to Ordinance No 702/80	
		Approves the general regulations on safety and hygiene at work in industrial establishments
Extractive industry	Law No 113/99 repealing Article 12 of Decree-Law 324/95	
		Regarding the protection of the safety and health of workers in the open-cast and underground drilling extractive industries
	Ordinance No 198/96	
		Regulates minimum health and safety requirements in workplaces in surface and underground extractive industries
	Ordinance No 197/96	
		Regulates the minimum health and safety requirements for workplaces and workstations in the extractive industries by drilling provided in Decree-Law No 324/95
	Decree-Law No 324/95	
		Establishes the minimum health and safety requirements to be applied in the extractive industries through surface or underground drilling

Fishing and Maritime Labour	Decree-Law No 162/90	Establishes the general regulations on safety and health for work taking place in mines
	Law No 146/2015 transposition from Directives 1999/63/EC, 2009/13/EC, 2012/35/EU and 2013/54/EU. It also originated the second amendment to Decree-Laws 274/95 and 260/2009 and the fourth amendment to Law 102/2009	
		Regulates the activity of seafarers on board ships flying the Portuguese flag, as well as the responsibilities of the Portuguese state, as a flag or port state, to comply with the mandatory provisions of the Maritime Labour Convention, 2006, of the International Labour Organisation
	Law No 3/2014 (Proceeding with the second amendment to Law No 102/2009, which approves the legal framework for the promotion of safety and health at work, and the second amendment to Decree-Law No 116/97, transposition from Council Directive 93/103/EC)	
		Regarding the minimum safety and health requirements for work on board fishing vessels
	Ordinance No 356/98	
		Regulates the minimum health and safety requirements for work on board fishing vessels
	Decree-Law No 116/97 transposition from Directive 93/103/EC	
		Regarding the minimum safety and health requirements for work on board fishing vessels

Annex 2: List of specific legislation by risk type

Legal framework	Content
Decree-Law No 182/2006 transposition from Directive 2003/10/CE	Physical agents (noise)
Decree-Law No 46/2006 transposition from Directive 2002/44/CE	Physical agents (vibration)
Law No 64/2017 transposition from Directive 2013/35/UE	Physical agents (electromagnetic fields)
Decree-Law No 35/2020 transposition from Directive 2017/2398, Directive 2019/130 and Directive 2019/983	Chemical agents (carcinogenic agents)
Decree-Law No 24/2012 transposition from Directive 2019/1831/EU	Chemical agents (exposure limits)
Decree-Law No 84/97 transposition from Directive 90/679/CEE, Directive 93/88/CEE and Directive 95/30/CE	Biological hazards
Decree-Law No 111-C/2017 transposition from Directive 2014/34/UE	Explosive atmospheres
Decree-Law No 330/93 transposition from Directive 90/269/CEE	Manual handling of loads
Law No 25/2010 transposition from Directive 2006/25/CE	Optical radiation from artificial sources
Decree-Law No 266/2007, transposing Directive 2003/18/CE, which amended Directive 83/477/CEE	Chemical agents (asbestos)
Decree-Law No 108/2018 transposition from Directive 2013/59/EURATOM	Physical agents (radiological protection)
Decree-Law No 121/2013, transposing Directive 2010/32/UE	Physical agents (perforating medical devices)
Decree-Law No 103/2008 transposition from Directive 2006/42/CE, amending Directive 95/16/CE	Machinery and its accessories
Decree-Law No 50/2005, transposing Directive 2001/45/CE	Work equipment
Decree-Law No 348/93, transposing Directive 89/656/CEE	Personal protective equipment

The European Agency for Safety and Health at Work (EU-OSHA)

contributes to making Europe a safer, healthier and more productive place to work. The Agency researches, develops, and distributes reliable, balanced, and impartial safety and health information and organises pan-European awareness raising campaigns. Set up by the European Union in 1994 and based in Bilbao, Spain, the Agency brings together representatives from the European Commission, Member State governments, employers' and workers' organisations, as well as leading experts in each of the EU Member States and beyond.

European Agency for Safety and Health at Work

Santiago de Compostela 12, 5th floor
48003 Bilbao, Spain
E-mail: information@osha.europa.eu

<https://osha.europa.eu>