

## LABOUR IDENTIFICATION CARDS AND THEIR USE FOR OCCUPATIONAL SAFETY AND HEALTH

### 1 Introduction

This discussion paper is part of the research programme ‘Supporting OSH Compliance’ that the European Agency for Safety and Health at Work (EU-OSHA) initiated in 2020 ([Improving compliance with OSH regulations | Safety and health at work EU-OSHA](#)). The main objective of this programme is to provide high-quality data to researchers and policymakers to better understand how to support occupational safety and health (OSH) compliance and to better inform policies. This discussion paper is an example of how initiatives carried out at a sectoral level (construction sector) can contribute to support OSH compliance.

Labour ID cards are an individual certification tool containing visible and usually also digitally stored data with the aim to attest that requirements are met by the employer and/or the worker (Briganti et al., 2015; Møller & Pilmark, 2023; Williams, 2022). These cards are intended to improve transparency, control working conditions and limit undeclared work. In addition, there is an interest in what labour ID cards may mean to the OSH area.

The construction sector is characterised by temporary workplaces where many stakeholders collaborate on planning, demolishing, constructing or renovating often complicated structures, involving multiple employers and professional groups. Workers in the construction sector have various types of employment; for example, many have temporary contracts, are self-employed or are posted workers. The construction sector is characterised as a high-risk sector with a high risk of accidents (Lingard, 2019; Nielsen, 2014). At the same time, it is an industry increasingly influenced by globalisation, where materials, clients, employers and labour move across borders. The dynamic nature of the industry and e.g. the free movement of labour within EU challenge the working conditions for workers. Several countries use labour ID card arrangements to assist in the detection of undeclared work and/or social fraud; some also use them to monitor working conditions.

Labour ID cards have been used in various forms in the construction sector for more than 15 years and in at least 16 European countries. Existing literature on labour ID cards shows that there is a significant difference between the various labour ID card arrangements. This applies to institutional anchoring, financing, the legal basis, who is covered, and the choice of technical solutions as well as their operation. In other words, there are many options for designing a labour ID solution that considers labour market specificities and other contextual needs. Despite the different national experiences with labour ID cards, research-based evaluation of labour ID cards has been limited. In particular, very little light has been shed on the potential benefits or challenges to OSH.

In this discussion paper, we investigate the existing literature on labour ID cards and their potential for improving OSH. In order to do this, we draw on existing studies from across the EU and supplement these insights with seven interviews with involved parties from different countries. The paper provides existing information and knowledge on the use of labour ID cards and on their role and effectiveness in supporting OSH in Europe with a focus on the construction sector. While the current scientific literature and data is quite limited and call for increased focus on investigating the OSH potential of labour ID cards, this paper addresses how involved parties can play a role in promoting labour ID cards for OSH and discusses the opportunities and challenges as well as barriers and drivers of labour ID cards for future use in and promotion of OSH in Europe. In particular, this discussion is focused on the potential for documenting training, education and working hours as well as in using labour ID cards in connection with new

applications and key technologies. The paper also discusses the indirect impact of labour ID cards on OSH, stemmed by counteracting undeclared work, social fraud and social dumping<sup>1</sup> as well as increasing transparency, for example, by determining employment relations and the employer responsibility.<sup>2</sup> The paper discusses experiences with and potentials for expanding the use of labour ID cards to other sectors, and, finally, challenges connected to the administration, handling, quality and sharing of data are highlighted, as well as the extent of implementation, implications for enforcement and actual effect on OSH.

## 2 Methods

This paper examines existing European literature that, either directly or indirectly, covers how labour ID cards are used in the construction sector. The literature review was conducted using four methods. First, a series of thematic searches were carried out in international research databases and search engines, including Web of Science and Google Scholar. Second, relevant literature containing expert-based practical knowledge that is not peer-reviewed was uncovered through online searches and by contacting relevant contacts at both national and EU level. Third, previous relevant research projects were reviewed. The final method is the so-called snowballing method, where bibliographies from relevant sources were systematically reviewed to identify new sources.

Semi-structured qualitative interviews were conducted with seven relevant stakeholder representatives: a union representative from the European Federation of Building and Woodworkers (EFBWW), an employers' association representative from the European Construction Industry Federation (FIEC), a team leader of a labour inspectorate social dumping unit and two labour inspectors (joint interview) from the Danish Working Environment Authority, a government official representing political interests from the Danish Ministry of Employment, and a researcher from Norway with in-depth knowledge of the Norwegian labour ID card scheme, the HMS card system. The interviews were conducted via Microsoft Teams, following a semi-structured interview guide, and automatically transcribed in Dictus AutoScribe. The interview guide focused on:

- the interviewees' experiences with labour ID cards,
- the effectiveness of labour ID cards,
- existing debates on labour ID cards,
- data availability,
- digitalisation, and
- further perspectives and opinions.

The aim of the interviews was to cover the perspectives on labour ID cards, including views on barriers and facilitators to the cards' success, as well as the interviewees' current outlook on the feasibility of implementing this scheme.

## 3 Main findings from the literature

Labour ID cards can serve many functions relevant to OSH. For example: they can be used to document OSH education, professional qualifications and work experience; they can be used to register working hours; and they can be used as an electronic key to control access to building sites. In the main, however, labour ID cards have been used to track and combat the occurrence of undeclared work, social fraud and/or social dumping through the identification of individual workers and clarification of their employment relationship (who is the responsible employer) (Eggen et al., 2023; Eldring et al., 2011; Williams, 2022).

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<sup>1</sup> There is an ongoing political and academic discussion concerning the exact definition of social dumping (Bernaciak, 2014; Grillis & Dyreborg, 2015), but, for explanatory purposes, the phenomenon of social dumping can basically be defined as: 'The practice whereby workers are given pay and / or working and living conditions which are sub-standard compared to those specified by law or collective agreements in the relevant labour market, or otherwise prevalent there' ([European Commission](#)).

<sup>2</sup> According to the EU Framework Directive on OSH, the employer is legally obligated 'to ensure the safety and health of workers in every aspect related to work and ... may not impose financial costs to the workers to achieve this aim' ([EU-OSHA, 2021](#)).

In this review of the literature, the primary focus is on labour ID cards as a tool to improve OSH; a tool that primarily functions by supporting and streamlining the monitoring of working conditions but can also support compliance and preventive efforts to improve OSH. We will highlight the areas where labour ID cards have functions that can promote a better working environment.

**Table 1. Overview of differences between national labour ID card schemes**

Country	Name	Start year	Purpose. Combat social dumping, undeclared work, and/or social fraud*	Purpose. Improve safety and working environment.	Purpose. Document education, experience, and/or competencies	Driven by	Financed by	Legal basis	Obligatory
<b>Austria</b>	BaulD card	2023	Yes	No	No	CO	A	Legal requirement	No
<b>Estonia</b>	Unified Worker Card	2023	Yes	No	No	AU	A	Legal requirement	Yes
<b>Greece</b>	Digital labour card	2022	Yes	No	No	AU	AU	Legal requirement	Yes
<b>Denmark</b>	Pilot project in the state	2021	Yes	Yes	Yes	IC/A	IC	The contract between IC and A	Partly
<b>Denmark</b>	Municipality of Copenhagen	2019	Yes	No	No	IC	IC	The municipality's policy on purchases	Partly
<b>Latvia</b>	Electronic working time system and worker's ID card	2015	Yes	No	No	CO	A	Legal requirement	Yes
<b>Belgium</b>	Constru-Badge	2014	Yes	No	No	LP	A	Agreement between LP	No
<b>Luxembourg</b>	Badge Social	2013	Yes	No	Yes	AU	A	Legal requirement	Yes
<b>Iceland</b>	Vinnu-staðaskirteini	2010	Yes	No	No	LP	A	Legal requirement + Agreement between LP	Yes
<b>Norway</b>	HMS-kort	2008	Yes	Yes	No	AU	S	Legal requirement	Yes
<b>Spain</b>	TPC	2007	No	Yes	Yes	LP	LP	Legal requirement + CO	No
<b>Sweden</b>	ID06	2007	Yes	No	No	LP	A	Legal requirement	Yes

Country	Name	Start year	Purpose. Combat social dumping, undeclared work, and/or social fraud*	Purpose. Improve safety and working environment.	Purpose. Document education, experience and/or competencies	Driven by	Financed by	Legal basis	Obligatory
France	Carte BTP	2006	Yes	No	No	A	A	Legal requirement + Agreement between LP	Yes
Italy	Tessera di riconoscimento	2006	Yes	No	No	LP/A	LP/A	Legal requirement + Regional CO	Yes
Lithuania	Employee ID	2003	Yes	No	No	A/C	A/C	Agreement between LP	No
Ireland	Safe Pass Card	2000	No	Yes	No	AU	A	Legal requirement	Yes
Great Britain	CSCS card	1995	No	Yes	Yes	P	B	Voluntary system, but standard in the sector	No
Finland	Valtti-kortti	2014	Yes	No	No	A	A	Legal requirement	Yes

Source: Own elaboration based on Møller and Pilmark (2023), Perretti et al. (2024) and Williams (2022)

Abbreviations: LP = labour market parties, A = employer, B = employee, C = customer, CO = collective agreement, AU = authority, P = private company, S = state, IC = individual contractor

\* This category is broad due to the schemes using different terms to describe what we in Denmark call social dumping. The terminology can be adapted to a national context or use an international umbrella term such as 'undeclared work', which includes various forms of illegal work that can undermine working conditions. Common to this purpose is that the schemes aim to ensure the possibility of monitoring formal working conditions.

### 3.1 The effectiveness of labour ID cards

Between 2012 and 2022, Eurostat data show a declining trend in construction sector accidents. The rate of non-fatal accidents in the construction sector that resulted in at least four calendar days of absence dropped from 3.457 per 100,000 workers to 2.961 — a decline of 14.35%. Despite this decline, the construction sector remains the sector with the highest incidence rate<sup>3</sup> in the EU, since comparable decline to the number of accidents was reported to other high-risk sectors such as agriculture and manufacturing over the same reference period. Similar to the decline in non-fatal accidents, there was a decline in fatal accidents of 8.61% (Eurostat, 2024). This improvement likely reflects a combination of factors, which can be enhanced regulation and preventive measures. Several tools — like labour ID cards, which have become more widespread in the EU in this period — may be contributing factors by ensuring compliance with safety standards and improving worker identification in high-risk zones.

In our literature review, we have not been able to identify literature that evaluates the statistical effect of introducing a labour ID card scheme on the improvement of OSH on construction sites. In the Great Britain, there was a significant reduction in the number of fatalities in the construction industry in the years following the introduction of the CSCS card in the mid-1990s. Although the British Health and Safety Executive (HSE)

<sup>3</sup> Incidence Rate is a standardised measure used to quantify the frequency of new work-related injuries, illnesses, or fatalities that occur within a specific group of workers over a defined period. It essentially shows how often these events happen relative to the total number of hours worked or the average number of employees.

suggested in a 2011 report<sup>4</sup> that the card may have contributed to this, it was impossible to isolate the effect from the broader efforts to reduce accidents and fatalities in the industry carried out during the same period (Briganti et al., 2015; DAMVAD, 2013; Pye et al., 2011). Ireland introduced the Safe Pass ID card scheme in 2000, which includes a mandatory one-day safety course. A report from the Irish Department of Enterprise, Trade and Employment (DETE) noted in 2006 that the accident rate had not decreased as a result of the scheme, although a majority of respondents in a survey of the Irish construction industry believed that the legislation had positively impacted safety and the number of workplace injuries (DAMVAD, 2013; DETE, 2006).

According to Eldring et al. (2011), Norwegian inspectors were more reserved in their assessment of whether the HMS card had a clear effect on safety and working conditions on Norwegian construction sites:

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‘It was repeatedly emphasised that the scheme is a very good tool, but that it does not in itself contribute to greater safety on construction sites. However, it has an indirect effect by providing better oversight and more effective inspections that can contribute to increased safety. Several also believed that the scheme has led to more workers and companies being correctly registered.’

(Eldring et al., 2011, p. 71)<sup>5</sup>

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In a survey of the Norwegian construction industry, between 32% and 46% of shop stewards and site managers agreed, fully or partially, that the scheme had contributed to better safety and working conditions in the industry (Eldring et al., 2011). Norway’s incidence rate of both non-fatal and fatal accidents is markedly below the EU average (Eurostat, 2024).

In Spain, where the ID card scheme, TPC,<sup>6</sup> was introduced in 2007 as a voluntary scheme framed through a collective agreement (based on legislation), the number of workplace accidents in the construction industry decreased by 66% between 2003 and 2013, an effect partly attributed to the labour ID card scheme (Briganti et al., 2015; Williams, 2022). However, the incidence rate of both non-fatal and fatal accidents in Spain remains above EU average (Eurostat, 2024).

Regarding the effectiveness of ID card schemes in documenting workers’ education, work experience and professional qualifications, the experiences are also mixed. In Spain, the introduction of the TPC — which had the primary purpose of providing documentation of workers’ OSH training and professional experience and qualifications — appears to have had an effect (Williams, 2022). In contrast, the HSE considers the effectiveness of the British CSCS card, which largely shares this purpose, more doubtful in the aforementioned report from 2011, which noted that only about 4% of cases require a formal, nationally recognised qualification to issue a card (Pye et al., 2011).

An important aspect of the question of the effectiveness of labour ID card schemes is the significance of sanctioning mechanisms for non-compliance with a given ID card scheme. The significance of such sanctioning mechanisms is generally underexplored in the identified literature — similar to the low level of empirical studies and measurements of the actual effects of labour ID card schemes. It is, however, touched upon in some studies (City of Copenhagen, 2020a, 2020b; DAMVAD, 2013). For example, DAMVAD (2013) suggests sanctioning mechanisms for non-compliance as a critical aspect that needs to be considered in developing a labour ID card model, in order to ensure the effectiveness of said model.

Regarding the primary function of labour ID cards, worker identification, there is some evidence suggesting that ID cards can be an effective tool to support this process. Eldring et al. (2011) describe how all the inspectors from the Norwegian Labour Inspection Authority interviewed regarding the Norwegian ID card,

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<sup>4</sup> See: [A commentary on routes to competence in the construction sector](#)

<sup>5</sup> Translated by the authors of this discussion paper.

<sup>6</sup> See: [Accreditation through TPC \(Construction Professional Card\)](#)

the HMS card, perceive it as an effective tool for identifying workers. Similarly, the Finnish police and labour inspectorate, according to Williams (2022), noted that the widespread use of ID cards among workers in the Finnish construction industry between 2008 and 2015 has improved the ability to identify workers. Examples from other countries seem to support this. Not often elaborated in the identified literature, but relevant to this, is the fact that labour ID cards (have the potential to) support not only worker identification but also — relatedly — clarification of employment relations. Labour ID cards usually include information concerning the employer of the cardholder, making it easier to identify the employer that, ultimately, has the responsibility for OSH.

While evidence on the direct impact of labour ID cards on OSH is limited, some of the above-mentioned examples indicate their potential to complement broader accident prevention strategies in the construction sector. The factsheet *Accident Prevention in the Construction Sector* developed by EU-OSHA (2001) outlines principles such as the need for comprehensive risk assessments, coordinated safety measures and ongoing monitoring, and it highlights the importance of integrating tools and strategies for effective accident prevention. Labour ID cards can contribute to these principles by serving as a practical tool to document training, verify worker qualifications and control access to high-risk areas at construction sites.

### 3.2 Relevant sectors

The reason that labour ID cards are popular in the construction industry is due to the unique characteristics of the construction industry. These include the high level of work accidents compared with other sectors, but also the facts that worksites are often temporary, there are long subcontracting supply chains and there is a high prevalence of undeclared work (Williams, 2022). In this way, the construction industry in itself constitutes a hard-to-reach scenario compared to most other sectors. However, the need and conditions for implementing and using labour ID cards vary considerably across the industry, for example, concerning project size, the complexity of the project, private or public ownership, different types of employment and so on. It seems that labour ID cards are a useful tool for improving clients' and/or main contractors' oversight with the presence and identities of subcontractors and their workers on construction sites.

Labour ID cards can also serve as a useful tool in other sectors besides construction. For example, Norway has an obligatory ID card scheme in not only the construction sector but also in the cleaning sector and for car care (Arbeids- og inkluderingsdepartementet, 2012, 2022).

### 3.3 The information associated with labour ID cards

The information visually displayed on the labour ID card varies in scope and types of information, but usually constitutes a smaller portion of the total information collected. Typically, this includes details such as the worker's name, a photo of the worker, the employer's name, the worker's job title/employment type, an individual identification/card number, the card's issue/expiry date and similar information. The information/data stored electronically also varies in type and scope, but generally represents the majority of the information collected. There is within the literature a lack of description of how such electronically stored information/data is or could be used more concretely by labour inspectors during inspections. However, several of the identified labour ID cards contain a QR code, allowing for on-the-spot access to such data (Perretti, 2024). According to Williams (2022), there is a trend towards increasing the use of labour ID cards to collect various types of information. An example of this is the Belgian ID card, *ConstruBadge*, which includes 28 different types of information per card. As mentioned above, labour ID cards are not exclusively used for worker identification, but increasingly serve several other workplace-related functions. In many places, the main function of labour ID cards is that they work as key cards, enabling workers to check in and out of construction sites, such as closed construction sites, to monitor and manage who is on site. Thus, labour ID cards can be used to record workers' working hours, and in some cases, they are also used to ensure that only specific workers — for example, those with the appropriate occupational safety training — have access to operate special machinery (Williams, 2022).

### 3.4 New developments: Digitalisation and AI

Technological development in the construction sector is rapid, and new technologies are continuously implemented. Labour ID cards are part of this digital development of the industry and are yet another step in the direction of increased monitoring of workers via technology, which — similar to other digital tools — can on one hand improve OSH and on the other hand have unintended ethical consequences (Ajslev & Nimb, 2022). For instance, labour ID cards developed in an app-based platform format could allow for both sensor- and location-based tracking as well as digital ID support. It is however highly important to thoroughly evaluate the ethical implications of adding different features to the labour ID card solution.

The municipality of Copenhagen has a labour ID card scheme that integrates with a business intelligence system in which they can pair the data from the ID cards with the municipality's data. This approach gives the municipality an opportunity to assess where there is the greatest risk of breaches of the social clause<sup>7</sup> (Møller & Pilmark, 2023).

The increasing digitalisation of certifications, educational qualifications and OSH data may increase the feasibility of implementing labour ID cards for OSH purposes, and make digital formats such as check-in applications more prudent than actual physical cards. In addition, the existing literature does not specifically discuss questions concerning options for collecting and systematising data from labour card systems for more elaborate OSH purposes, such as accident registration and analysis or OSH observations.

### 3.5 Data limitations and legislative needs and solutions

The General Data Protection Regulation (GDPR) sets the framework for data protection. Williams (2022) proposes three main types of concerns regarding labour ID cards and GDPR compliance:

1. Labour and tax inspectors lack sufficient knowledge on proper data protection implementation, leading to confusion about permissible data exchanges.
2. There is a shortage of both human resources (data protection officers) and technical resources (secure devices, encryption systems).
3. National legislation is needed to regulate access, use and transfer of personal data by labour and social security authorities.

Member States can learn from each other's practices to improve data protection implementation. For example, Belgium uses general and sector-specific data protection rules for labour ID cards, which has supported the development of an advanced database infrastructure to combat undeclared work. This shows that data protection does not hinder labour ID card implementation (Williams, 2022).

To ensure GDPR compliance, organisations should consider processing and transferring data based on 'legitimate interest' (GDPR Article 6), and clearly state during data collection that the data may be used for checks on undeclared work or labour law infringements, including this clarification in registration forms and declarations (Williams, 2022).

The construction sector largely depends on mobile workers, which has historically invoked difficulties in protecting workers' rights (Nørregaard, 1943). This was addressed in 2021 by EU sectoral social partners, the EFBWW, ETUC, EFFAT, ETF, EPSU, UNI Europa and IndustriALL.<sup>8</sup> They sent a letter and report to key EU officials advocating for digital tools to enforce mobile workers' rights. They requested the European Commission to confirm and expedite the launch of the European Social Security Pass (ESSPASS) and suggested it include a European Social Security Number (ESSN) to improve the portability of benefits and rights (ETF, 2021; Williams, 2022).

The letter also proposed a European Personal Labour Card (EPLC) for all EU workers, which would integrate with existing systems like ESSPASS, ESSN and the European Health Insurance Card (EHIC).

<sup>7</sup> Social clauses in public procurement procedures refer to social and labour standards that contractors have to fulfil in order to tender for public contracts (Eurofound, 2011) <https://www.eurofound.europa.eu/en/european-industrial-relations-dictionary/social-clauses>.

<sup>8</sup> [EFBWW: European Federation of Building and Woodworkers](#), [ETUC: European Trade Union Confederation](#), [EFFAT: European Federation of Food, Agriculture and Tourism Trade Unions](#), [ETF: European Transport Workers' Federation](#), [EPSU: European Federation of Public Service Unions](#), [UNI Europa](#), [IndustriALL](#).

The EPLC would contain essential information such as the ESSN, employer details, workplace, contractual relationships, social security coverage, insurance, certificates and tax information. This proposal was aimed at enhancing compliance with social regulations and workers' rights without replacing existing national labour ID cards, involving sectoral, national and European social partners in EPLC's design and management (ETF, 2021; Williams, 2022).

## 4 Insights from stakeholder interviews

### 4.1 Implementation

Overall, the interviewees highlighted that labour ID cards are increasingly recognised as tools to enhance transparency, reduce fraud and manage subcontractors on construction sites. Across Europe, these cards primarily serve to verify worker identity, identify employers, track social security contributions and combat undeclared work. While some countries, like Spain, include OSH-related skills, these cards generally do not grant site access based on OSH qualifications. One of the interviewees explained that Great Britain remains an exception in this regard.

The interviewees particularly mentioned a joint initiative between the FIEC and the EFBWW that is mapping labour ID card functions across different countries to assess their effectiveness and explore cross-border interoperability (Perretti et al., 2024). While the initiative does not focus directly on OSH aspects, it aims to improve working conditions, which could lead to indirect OSH benefits. The ultimate goal of the project, as one interviewee described, is cross-border interoperability of labour ID cards and ensuring compliance with GDPR and other regulatory frameworks.

The interviewees noted that efforts to integrate ID card systems face challenges due to diverse national regulations and reliance on local collective agreements. Rather than creating a unified European card, stakeholders aim to connect existing ID systems through compatible legal and technological frameworks. One interviewee pointed out that some countries, such as Italy, have successfully implemented regional initiatives that were successful in engaging smaller companies.

The interviewees mentioned that pilot projects have explored data-sharing possibilities between countries. While originally designed for tracking working hours and training, labour ID cards have expanded in their role, adding value for both employers and workers. However, implementation remains uneven due to varying levels of digitalisation and government support.

### 4.2 Opportunities highlighted in interviews

The interviewees emphasised that labour ID cards present a significant opportunity to improve transparency in the construction sector, which is one of the indirect potentials for improving OSH. One of the interviewees explained that they facilitate quicker worker identification, ensuring that only authorised personnel are present on-site. This is particularly beneficial for labour inspectors, as it allows for efficient verification of employment status, social security contributions and OSH certifications. In addition to this, other interviewees highlighted the fact that one of the potentials of labour ID cards resides in the fact that they enable quicker clarification of a given worker's employment relations. Currently, labour inspectors targeting undeclared work and social dumping report that — in the absence of labour ID cards — a substantial part of the time spent during inspections is spent identifying workers' employers. However, by including such information, labour ID cards have the potential to decrease the time spent on such activity during inspections, freeing it for other more relevant use.

According to the interviewees, a unified ESSN has been proposed as a potential long-term solution to streamline worker and employer identification across borders. Some interviewees suggested this could be closer to reality than ever, with recent technological developments such as blockchain technology to enhance data security, ensure controlled access and comply with GDPR regulations.

The interviewees stated that trade unions view labour ID cards as valuable tools in the fight against social fraud and social dumping. By promoting transparency, they provide workers with greater oversight of their employment conditions and OSH competences. According to the interviewees, there is a shared interest among employers and workers in the sort of transparency and professionalisation that the cards might

induce. There are, nonetheless, worries about administrative burdens among some employers. One interviewee described how the increased transparency could act as a ‘leveller’, benefiting workers and employers by professionalising the sector while mitigating administrative burdens.

One interviewee, referring to the labour ID card scheme in Norway — and confirming previous assessments — explained that while the system was not directly linked to OSH improvements, it did seem to produce some indirect effects. It was mentioned that requirements employers face in order to obtain the card for workers, such as ensuring proper registration, were thought to produce derivative effects among employers. These employers signal properness and professionalisation. Also, the HMS cards decreased time spent by labour inspectors on worker identification, resulting in more effective labour inspections; and the presence of HMS cards was used by clients as an indicator of ‘seriousness’ in their selection of contractors.

According to the interviewees, labour ID cards have been successfully used on large construction sites to manage subcontractors, ensuring compliance with safety standards and preventing unauthorised site access. One interviewee cited examples of government-led and non-profit models from countries like Norway and Sweden as potential blueprints for future implementation.

Experiences from Norway suggest that it is possible to expand an existing labour ID card scheme from construction to other relevant sectors. The HMS card scheme was extended to the cleaning industry in 2012 and the car care industry in 2022. Actors within those industries link the introduction of the scheme to decreased levels of undeclared work and social dumping within the industries.

#### 4.3 The interviewees’ perspectives on challenges of the labour ID card

Despite their potential benefits, the interviewees identified several challenges that hinder the widespread adoption and effectiveness of labour ID cards. One major issue described by the interviewees is the inconsistency in data verification. While ID cards could theoretically support OSH compliance enforcement by tracking specific OSH certifications (e.g. welding), this is challenging without a robust verification system. Therefore, inspectors often request physical certificates, as labour ID cards lack a dependable validation mechanism. Another fact pointed out by one of the interviewees is that although electronic ID cards afford the possibility of storing a wide range of information that might be relevant for monitoring and control purposes, the introduction of more information also results in more potential sources of error, especially barring the existence of a reliable verification system.

The interviewees noted that smaller companies and self-employed workers face barriers to adopting labour ID card systems due to costs and administrative burdens. In some regions, concerns over training data transparency limit enthusiasm for interoperability. One interviewee expressed scepticism regarding contractor-managed labour ID card schemes, arguing that such systems are prone to inaccuracies and lack quality control.

According to the interviewees, pilot projects have yielded mixed results. One interviewee explained that in some cases, the requirements for the labour ID card schemes were not fully met, reducing their effectiveness. Labour inspectors expressed uncertainty about whether the benefits of ID cards outweigh the costs and complexities, particularly in smaller construction sites where verifying worker information is more difficult due to the absence of administrative managers. The existing evaluations corroborate this uncertainty, with the Danish evaluations showing compliance rates between 64% and 84% (Møller & Pilmark, 2023) and the Norwegian evaluation, which covers a more thorough industry implementation, around 75% after more than 10 years of implementation in construction (Eggen et al., 2023).

The interviewees highlighted ethical concerns surrounding data collection and usage as an ongoing issue. Some interviewees emphasised the need to ensure that data collection remains proportionate to the intended benefits and does not lead to undue surveillance. One interviewee mentioned that future solutions may involve app-based systems or QR-enabled physical cards, but balancing efficiency with GDPR and worker privacy remains a critical consideration.

Furthermore, one interviewee noted that previous attempts to establish national ID card systems have faced political and logistical challenges. However, most interviewees pointed out that renewed interest from policymakers and labour market organisations signals a growing willingness to address these obstacles and explore practical implementation strategies. Ongoing working group discussions, described by one of the interviewees, highlight the importance of finding a balanced approach that accounts for control benefits, ethical concerns and practical feasibility.

## 5 Discussion

The discussion combines insights from the literature and the interviews with key stakeholders to explore the opportunities and drawbacks of labour ID card schemes in an OSH context in the construction sector. Hereby, the discussion aims to provide a nuanced understanding of the opportunities and challenges associated with these schemes. Finally, the discussion draws out the most important questions to answer in order to engage with labour ID cards as a means for improving OSH in construction and potentially in an even broader scope.

### 5.1 Potential of labour ID cards

In the main, both the literature and the interviews reflect the fact that the primary purpose of the majority of labour ID card schemes has been, up until now, to support the detection of undeclared work, social dumping and/or social fraud through individual worker identification. Only a minority of the identified schemes has had the improvement of OSH as one of their central purposes.

This also means that there is limited knowledge available regarding the specific mechanisms and effects of labour ID card schemes in relation to OSH. Regarding the efficiency of labour ID card schemes in aiding the detection of undeclared work, there is reason to believe that such schemes can support and improve inspections (Briganti et al., 2015; Møller & Pilmark, 2023; Williams, 2022). In continuation of this, there is also reason to believe that labour ID card schemes, while aiming at the detection of undeclared work, will produce indirect effects in relation to the improvement of OSH. Barring restrictive definitions (De Wispelaere & Gillis, 2021), the phenomenon of undeclared work is a multidimensional one, related not only to the absence of correct registration of workers and payment of taxes and social contributions, but also (sometimes) to precarious and unsafe working conditions of various sorts. According to De Wispelaere and Gillis, '(serious) infringements of rules and regulations in the field of OSH are a strong indicator (i.e., 'red flag') for undeclared work, and *vice versa*' (De Wispelaere & Gillis, 2021, p. 5). As such, although labour ID cards are generally developed and implemented with the aim of supporting the detection and restriction of undeclared work, **indirect effects in relation to the improvement of OSH must be expected** as a likely 'by-product' of this process.

In particular, if implemented in a mandatory and comprehensive manner — such as the Norwegian example — it seems substantial benefits could be made in the battle against undeclared work and irregular working conditions. The Norwegian example is comprehensive in the sense that identification is registered in national registers accessible by the authorities, while private providers that ensure data is registered in the appropriate registers handle the ID cards, software systems, applications and data. Contractors in this system have to ensure that workers on their sites are registered and that data are accessible to the authorities. Interestingly, and as mentioned previously, evaluation of the Norwegian labour ID card scheme indicates that such schemes, while not affecting OSH directly, can have positive indirect effects on OSH through, for example, improvement of labour inspection practices (such as improved oversight) or improved registration of companies/employers and workers (Eggen et al., 2023; Eldring et al., 2011). For instance, although the Norwegian labour inspectors were reluctant to link the introduction of the labour ID card scheme and improvements in relation to OSH directly, they did instead suggest there was an indirect link in the sense that: 1) the requirements of the scheme led to an improved registration of workers by companies, which simplified and reduced the inspectors' work of identifying individual workers, resulting in improved oversight and a more effective use of time and resources during inspections – possibly resulting in improved enforcement of OSH conditions; 2) the employer responsible for OSH in a particular situation

became easier to identify (Eggen et al., 2023); and, thus, 3) the scheme's requirements in relation to registration of workers and employers induced a certain sense among companies of a need for 'keeping things in order', resulting in a higher degree of tidiness/propriety, possibly affecting conditions positively in relation to OSH (Eggen et al., 2023; Eldring et al., 2011).

Although the main potentials of current labour ID card schemes are tied to the reduction of undeclared work and similar irregularities, the literature as well as our interviewees highlight certain potentials that labour ID card schemes could contain in relation to OSH. First, as shown in Table 1, a minority of labour ID card schemes has the documentation of workers' OSH education, professional qualifications and/or working experiences as one of their central purposes, often alongside the purpose of improving safety and working conditions. Such a function could possibly offer a quick and reliable way of verifying individual workers' level of training and experience, for example, in relation to particular work tasks that require certain OSH certificates, thereby ensuring safe work procedures or improving inspection thereof (e.g. Spain). Second, on closed construction sites, labour ID cards could function as an electronic key, controlling access to and from the site, making sure that only authorised personnel (e.g. employees who have completed a mandatory OSH course or training scheme) enter the site. Relatedly, the labour ID cards could also function as an electronic key for certain specialised machines and equipment that only workers with a certain level of education/qualifications are allowed to operate (Sweden). Third — also related to closed construction sites and the electronic key function — labour ID card schemes could register individual workers' working hours (e.g. Sweden). This information could be used in order to make sure that statutory rules on working time are being complied with. Fourth, participation in a certain level of OSH education and training, such as a one-day safety awareness training programme, could be made a requirement for the issuance of a labour ID card (e.g. Ireland). Fifth, labour ID card schemes could be used, for example, by clients and main contractors, as a tool for monitoring and management of subcontracting chains, **increasing transparency in relation to the OSH responsibilities of the individual subcontractors**. Examples of all of the above functions/potentials exist within the aforementioned labour ID card schemes, but the actual development, implementation and scope of such OSH-related functions/potentials vary significantly across cases.

Another possibility of labour ID cards that we have not seen explored in any of the existing labour ID card schemes, but that has been suggested, is the possibility of linking the labour ID cards to OSH-relevant company-level certifications and not just the OSH certifications of individual workers. That is, as a prerequisite for issuing labour ID cards for a given employer's workers, there could be a requirement for the documentation of certain OSH certifications obtained by the employer, for example, a certification regarding systematic OSH work.

Some studies in the literature suggest that there may be very large OSH-related benefits to implementing labour ID card schemes within construction. For instance, Williams (2022), quoting Briganti et al. (2015), links a 66% reduction in accidents within the Spanish construction industry during a 10-year period between 2003 and 2013 to the introduction of a labour ID card scheme, TPC, within the industry. We have not been able to recover any statistical data/analysis or theoretical conceptualisation of mechanisms that could substantiate such a claim in a credible manner. Achieving a 66% reduction in accidents within the construction industry during a 10-year timespan is a remarkable achievement, and it seems more likely to us that the introduction of a labour ID card scheme forms, at best, one variable of a broader set of changes or mechanisms behind such a profound reduction. This more modest expectation of the impact of labour ID cards on OSH is in accordance with the HSE's aforementioned assessment of the CSCS card, as only partially responsible for the significant reduction in fatalities within the British construction industry in the years following the introduction of the card, as part of a broader, organised sectoral push for the improvement of safety conditions within the industry (DAMVAD, 2013; Pye et al., 2011).

The potential for technological advancement was another relevant theme in the interviews. The stakeholders noted that evolving labour ID card systems into app-based platforms could enhance flexibility, enabling real-time updates on training and qualifications while also reducing reliance on physical cards. In this regard, the party representatives described perspectives in connecting an ESSN with workplace and OSH data and using that for increased identification and clarity in the future. This could also in the future be part of a process towards standardising OSH training for construction workers, OSH professionals,

managers and coordinators in the field — thus heightening the levels of OSH knowledge and training across the EU.

Overall, the interviewees agreed that while not being the central benefit of labour ID cards, the systems could have a positive effect on OSH in the construction sector. Another potential is the **expansion to other sectors**. As described, Norway is perhaps the most profound example of this, where cleaning and car care sectors have over recent years been included in the HMS programme. While there are challenges tied to implementation and early compliance, the general experience of the authorities is positive (Eggen et al., 2023). In following this, our Norwegian contact explained that there are actually discussions of including even further industries such as cargo transport in the programme.

## 5.2 Challenges and questions relevant to labour ID cards

Despite the promising potential, labour ID card schemes also face several challenges regarding the improvement of OSH. On a fundamental level, the schemes are faced with the same challenge to OSH as is the case with the detection of undeclared work: labour ID card schemes are designed to support the detection of 'rule breakers', usually people who deliberately break the law, and often based on a very cynical disposition. Designing control systems that can (effectively support efforts to) pre-empt or limit such attempts at cheating will frequently require comprehensive and mandatory solutions, similar to the aforementioned Norwegian labour ID card scheme. However, developing, implementing and operating such a scheme — as well as integrating it within existing practices, for example, labour inspection practices — requires investing substantial economic resources, time and effort (Eldring et al., 2011). As the existing level of knowledge regarding the OSH-related effects of labour ID card schemes is rather limited, it will often be difficult to ascertain whether the produced effects of such a scheme will justify the level of resources invested in developing, implementing and operating it. This point was also raised by the interviewees at the Labour Inspectorate.

Similar to the case in Denmark, more locally implemented solutions are in place in other European construction organisations already where cards function for access and registration of working hours at the client's or contractor's discretion. Such systems may partially assist in worker identification. However, the lack of interoperability with national or even EU-level registers means that the information accessible for labour inspectors and enforcement in such systems seems fundamentally uncertain. This point was raised by the interviewed labour inspectors but is also due to the aforementioned fact that labour ID cards are a way to detect people and organisations deliberately seeking to fraud or cheat the established legislation. For such an audience, cheating with local cards or solutions will usually be easier with locally implemented solutions, depending on the level of engagement from the client and/or contractor.

Another central challenge for labour ID card schemes concerning OSH is the question of interoperability and data reliability. Labour ID card schemes often develop from more locally based voluntary solutions to universal, mandatory systems, designed and developed for national labour market specificities (Briganti et al., 2015; Williams, 2022). This poses a set of challenges concerning the interoperability of OSH-relevant data between countries, for example, related to the relevance and validity of data. For instance, although labour ID card schemes have shown potential as a way to document workers' OSH education, professional qualifications and working experience *within a country*, documenting workers' education, qualifications and experiences *across countries* could prove much more challenging, such as the task of comparing similar forms of OSH education and certificates between countries with different legislative and regulatory frameworks. Compounding this challenge are questions of data validity and data security concerning sharing OSH-relevant data between countries. Recently, however, the FIEC and the EFBWW have collaborated to produce a mapping of existing national labour ID card schemes and a feasibility study of their interoperability, identifying possible regulatory gaps in the EU framework (Perretti et al., 2024).

Again, the Norwegian example seems to provide a best case scenario for how to obtain a good level of functionality as previously discussed. In addition, new technological solutions with mobile applications and digital identifications may improve the potential and certainty of ID systems for the benefit of both fraud reduction and OSH alignment and improvement. This perspective from the workers' organisation aligns with the perspectives presented by Eldring et al. (2011) and Eggen et al. (2023), showing that Norwegian

labour inspectors perceived labour ID cards as an effective tool for identifying workers, and Williams (2022) showed similar results in a Finnish setting.

A particular challenge raised by the interviewees is the question of hard-to-reach scenarios within the construction industry such as small firms and self-employed workers who operate outside formal regulatory frameworks. Among the national labour ID card schemes identified, many are of limited scope, often regulated through collective agreements or limited to construction sites of a certain size. The interviewed labour inspectors pointed out that undeclared work/social dumping, although present across the entire construction sector, is sometimes particularly widespread in parts of the industry that are more difficult to regulate and inspect, such as minor renovations of homes in residential areas. For labour ID card schemes to effectively support the detection of undeclared work/social dumping in such settings, the design, implementation and operation of a labour ID card scheme must take into account considerations of the scope and feasibility of such conditions.

The implementation of a shared European labour ID card faces significant barriers due to diverse national regulations, inconsistent OSH standards and reliance on local collective agreements. Data security issues, as emphasised by GDPR-related discussions in the literature and interviews, reinforce these concerns. The ethical concerns regarding labour ID cards mostly revolve around data security, however, ethical questions regarding surveillance of workers also arise with the increased implementation of labour ID cards (Ajslev et al., 2024; Ball, 2021).

### 5.3 Barriers and drivers

The implementation of labour ID cards in the European construction sector holds some potential for improving OSH. These cards offer a means of verifying workers' employment status and relationship, qualifications, training and certifications, ensuring that only skilled personnel perform high-risk tasks. By providing transparency around employment status, they also play a critical role in combating undeclared work and addressing social dumping, fostering a fairer and safer working environment.

Support for labour ID cards is further driven by regulatory frameworks at the EU level that emphasise safety and compliance. **Technological advancements**, such as app-based software platforms and geographic location and biometric systems, **make these cards increasingly practical and efficient to use**. One highly interesting initiative in this regard is the EU Digital Identity Wallet, which is currently under pilot testing and could prove an effective technology for citizen and business identification across the EU.<sup>9</sup> Collaborative efforts among unions, employers and government bodies also create a strong foundation for adoption by building trust and encouraging alignment among stakeholders. Such collaborative efforts have been driving the development of many of the identified labour ID card schemes, for example, through the development of paritarian organisations and initiatives.

However, barriers remain. The **cost of implementing and maintaining** such systems can be prohibitive for smaller companies, and variations in national laws across EU Member States complicate the development of a standardised approach (Perretti et al., 2024). Additionally, resistance to change, whether due to perceived intrusiveness or operational disruption, can slow progress. While the Norwegian case shows that labour inspectors see the labour ID system as a way of improving inspection and lowering social fraud, evaluations also show that three years into implementation, 20% of inspected workers were still missing the labour ID card with smaller firms and self-employed posing the main issue (Eldring et al., 2011). Privacy concerns, especially around the collection and storage of personal data, also pose challenges, as do technical issues like ensuring compatibility between different systems across borders. Finally, as this paper addresses, more knowledge specifying the direct and indirect effects of labour ID card schemes on OSH outcomes is needed.

Overcoming these obstacles will require coordinated policymaking, financial support for smaller enterprises and effective stakeholder engagement. By addressing these challenges, the construction sector can unlock the potential of labour ID cards to support compliance towards creating a safer and healthier industry.

<sup>9</sup> See: <https://digital-strategy.ec.europa.eu/en/policies/eudi-wallet-implementation>

## 5.4 Balancing opportunities and drawbacks

The contrast between the opportunities and challenges of labour ID card schemes underlines the importance of considerate design, implementation and operation of such schemes. While labour ID cards can, potentially, serve as an effective tool for improving compliance and worker as well as employer identification, their effects on OSH-related issues are less certain.

Regardless of the purpose, their success depends on addressing key challenges, such as data compatibility, data reliability, data security, availability to authorities and their relevance to hard-to-reach scenarios such as smaller firms/construction sites. Systematically **expanding the knowledge of the OSH-related effects and mechanisms of labour ID card schemes** through research, and incorporating such knowledge alongside **stakeholder feedback** into their future development, implementation and operation, seems crucial for their optimisation. In that regard, the recommendation proposed by Williams (2022) of **building means for evaluating a scheme's effectiveness** into the very design of such schemes should include indicators concerning not only undeclared work but also OSH.

In conclusion, labour ID cards present a potential solution to certain OSH issues in the construction sector — in particular, the documentation of employees' OSH education, professional qualifications and certifications, but also in regard to giving access to machines, work areas and so on. As a tool for improving OSH conditions in a broader sense, the utility of the cards is less certain based on existing knowledge and experiences. It appears likely that comprehensive labour ID card schemes, such as the Norwegian model, could produce substantial effects on a broader set of OSH conditions, directly and indirectly. However, the likelihood of such effects is uncertain and should be considered regarding the investments required in developing, implementing and operating such schemes.

To secure their benefits, policymakers must **balance the technical, ethical and practical dimensions** of labour ID card schemes, ensuring that they are not only effective in achieving their goals, but also equitable — by addressing privacy concerns, avoiding unintended exclusion of vulnerable workers, and distributing the benefits and responsibilities fairly among stakeholders.

### Some key takeaways:

- Until now, labour ID cards' main objective is to reduce fraud, prevent social dumping and improve identification; their impact on OSH could be considered as secondary.
- The existing (research-based) knowledge of the OSH-related effects and mechanisms of labour ID card schemes is limited.
- Labour ID cards can positively influence OSH in the construction sector as they may improve compliance with OSH regulations, for example, by increasing transparency about workers, employers and employment relations.
- Technological advancements in terms of app-based platforms and digital integration with machinery and software as well as location and biometric tracking provide opportunities to enhance flexibility and usability while reducing reliance of physical cards.
- High implementation costs in terms of developing systems, data security concerns and data compatibility present barriers to widespread use across the EU.
- Stakeholder (e.g. social partners, labour inspectors, researchers) feedback is essential to create effective labour ID card schemes that minimise unintended consequences.
- Policymakers must balance the benefits of technological advancements with effectively addressing the ethical, technical and practical challenges associated with their implementation.
- Labour ID card schemes are predominantly used within the construction sector, but they could possibly be successfully extended to other sectors facing similar challenges.

Moreover, the following questions still need to be addressed:

- How does such a scheme benefit small firms and self-employed workers who often fall outside regulatory frameworks?
- How can diverse national regulations and inconsistent OSH standards be reconciled to support a shared European social or labour ID card?
- How can labour ID cards comply with GDPR and address ethical concerns regarding worker surveillance?

- How can labour ID card schemes avoid unintentionally excluding vulnerable groups such as migrant workers or workers in precarious employment?
- In what other sectors can labour ID cards provide an apt opportunity to support serious businesses?

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*Authors: Jeppe Zielinski Nguyen Ajslev, Asta Kjærgaard, Anders Pilmark – Danish National Research Centre for the Working Environment (NFA)*

*Project management: Ioannis Anyfantis, Lorenzo Munar, European Agency for Safety and Health at Work (EU-OSHA)*

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