The impact of AI on working life

Pre-study for a forthcoming call for proposals by the Nordic Council of Ministers

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Abstract

Commissioned by the Nordic Council of Ministers, Vilna together with Public Partner has conducted a pre-study on AI in working life in the Nordic countries. The pre-study maps existing research, initiatives and regulation and provides recommendations for the design of a forthcoming Nordic call for proposals. The pre-study draws on a desk review, a review of 1,280 academic abstracts, and twelve expert interviews.

Main findings

- Initiatives for knowledge and policy development on AI in working life are underway internationally, in Europe and within the individual Nordic countries, but joint Nordic initiatives are few and limited in scope (chapter 2).
- Research on AI in working life is growing rapidly, but Nordic contributions account for just under ten percent of the material reviewed and Nordic research collaboration is almost entirely absent (chapter 3).
- Knowledge gaps in a Nordic context and in general are substantial and exceed the existing state of knowledge. The pre-study identifies seven thematic knowledge gaps spanning occupational health and safety, the labour market and labour law (chapter 4).

Recommendations

To identify which of the seven themes could form a valuable basis for the research call, Vilna has assessed the knowledge gaps against criteria including empirical orientation, Nordic added value, the ability to demonstrate both risks and opportunities, sustainability over time, coverage of all three working life domains, and potential to provide policy recommendations supporting the Nordic countries' work towards Vision 2030. Based on this assessment, Vilna recommends that the Nordic Council of Ministers bases a forthcoming call for proposals on one or more of the following themes:

- Theme 1: AI in Nordic workplaces: generating empirical knowledge about what happens when AI is introduced in Nordic workplaces, with particular attention to how the introduction process and the degree of worker involvement affect outcomes for the work environment, job tasks, wellbeing and co-determination.
- Theme 2: The Nordic model and AI: generating empirical knowledge about whether and how Nordic co-determination and collective bargaining institutions are activated in relation to AI, and what outcomes the distinctive features of the Nordic model produce for workers.
- Theme 3: AI, work and inequality in the Nordic countries: generating empirical knowledge about how the risks and opportunities of AI adoption are distributed between different groups of workers, with regard to gender, age, educational level, migrant background and firm size, drawing on the Nordic countries' unique register data infrastructure.

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1 Introduction

To inform decisions on a forthcoming call for proposals, the Committee of Senior Officials for Labour (EK-A), together with its committees for occupational health and safety, labour market, and labour law, commissioned a pre-study on AI in working life in the Nordic countries. Vilna, in cooperation with Public Partner, was contracted to carry out the pre-study in collaboration with the Secretariat of the Nordic Council of Ministers.

The pre-study has a twofold purpose:

- To map central aspects of existing research, initiatives, regulation and policy development on AI in working life in the Nordic countries, the EU and relevant international organisations (e.g. the OECD)
- To provide recommendations and proposed delimitations for the design of a forthcoming call, with the aim of ensuring Nordic added value from a occupational health and safety, labour market, and labour law perspective.

This report presents the main findings of the pre-study.

1.1 Data and analysis

The pre-study was conducted between February and April 2026 and draws on three sources of evidence, which together form the basis for an integrated analysis. A more detailed account of the data and analytical approach is provided in Annex 1.

- A desk review of open sources to identify initiatives in knowledge development and policy (including regulation) in the Nordic countries, the EU and relevant international organisations.
- A review of abstracts from academic articles and conference papers on AI in occupational health and safety, labour market, and labour law published between 2023 and 2026.
- Interviews with experts, primarily researchers, specialising in occupational health and safety, labour market, and labour law in relation to AI.[1]

[1] The following organisations were represented in the interviews: Aalto University (Finland); Bern University of Applied Sciences/Berner Fachhochschule (Switzerland); Fafo (Norway); New Nordic AI; Nordlandsforskning (Norway); OECD; Stockholm University/Institute for Futures Studies (Sweden); Swedish Work Environment Authority/Arbetsmiljöverket (Sweden); The National Research Centre for the Working Environment/Det Nationale Forskningscenter for Arbejdsmiljø (Denmark); University of Copenhagen (Denmark); University of Gothenburg (Sweden); University of Reykjavik (Iceland); Uppsala University (Sweden, 2 interviewees).

2 Initiatives for knowledge and policy development

This chapter provides a broad orientation on current initiatives in knowledge and policy development (including regulation) relating to the impact of AI on working life. The chapter draws primarily on the desk review and the expert interviews.

2.1 Nordic cooperation

Initiatives for knowledge and policy development on AI in working life are underway at multiple levels across the Nordic region, in Europe and internationally. At the Nordic level, Vision 2030 provides the point of departure for several joint initiatives.[2] NordForsk funds approximately twenty research projects on responsible AI in a Nordic-Baltic context[3] and New Nordics AI is being established as a centre to strengthen cooperation on AI adoption across the region.[4] A number of broader digitalisation initiatives are also relevant to working life, including NordForsk's programme on digitalisation in the public sector[5] and Nordregio's project on digital inclusion.[6] Nordic Welfare Centre carry out a project on an inclusive working life with the objective to create knowledge on inclusive work environments, including the use of AI and digitalisation.[7] Overall, however, joint Nordic initiatives specifically addressing AI and working life remain few.

2.2 Initiatives in the Nordic countries

Among the individual Nordic countries, the regulatory focus has primarily taken the form of national AI strategies rather than legislation. All Nordic governments have adopted strategies that address, to varying degrees, the implications of AI for working life, with Finland among the first countries in Europe to do so, in 2017. At the level of public authorities, bodies including the Swedish Work Environment Authority, the Norwegian Labour Inspection Authority and The National Research Centre for the Working Environment in Denmark have developed guidance materials and disseminate knowledge on AI in working life. Several research and knowledge environments are active across the countries, but collaboration between them across Nordic borders is limited. The social partners are also increasingly developing knowledge and positions in this area.

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[2] De nordiska statsministrarna Samarbetsministrarna (2019). Vision 2030.

[3] NordForsk (2026). Responsible use of Artificial Intelligence. (https://www.nordforsk.org/research-areas/responsible-use-artificial-intelligence) Retrieved 18 April 2026.

[4] Nordiska ministerrådet (2025). Nytt center för artificiell intelligens lanseras idag - ska främja användningen av AI i Norden och Baltikum. (https://www.norden.org/sv/news/nytt-center-artificiell-intelligens-lanseras-idag-ska-framja-anvandningen-av-ai-i-norden-och) Retrieved 18 April 2026.

[5] NordForsk (2024). Digitalisation of the Public Sector: Key Results and Impact of the Research and Innovation Initiative 2020–2024. Oslo: NordForsk.

[6] Nordregio (2023). Digital Inclusion in Action: Regional and local practices across the Nordic countries. Stockholm: Nordregio.

[7] Nordic Welfare Centre (2026). An inclusive working life – a future-oriented priority for the Nordic region. (https://nordicwelfare.org/en/projekt/an-inclusive-working-life/). Retrieved 5 May 2026.

2.3 Initiatives in Europe and the EU

Within the EU, a comprehensive regulatory framework is taking shape. The GDPR governs the processing of personal data in AI systems[8], the AI Act establishes binding requirements for high-risk AI systems, including with regard to risk management, transparency and human oversight[9], and the Platform Work Directive confers rights on platform workers in relation to automated decisions. [10] All three instruments are now in their implementation phase.

The EU has also developed a broader policy architecture to support the development and uptake of AI, including the Coordinated Plan on AI[11], the AI Continent Action Plan[12] and a Strategy for AI in Science[13], all of which point towards investment in infrastructure, skills and research capacity with implications for labour market transition. A High-Level Expert Group advises the Commission on AI strategy.[14] Several EU agencies contribute directly to knowledge development on AI and working life: EU-OSHA conducts studies and awareness campaigns on digitalisation and the work environment[15], ELA has produced guidance on algorithmic risk assessment in the field of labour[16], and EURES has published material on AI in working life. [17] Horizon Europe funds research on AI across a range of areas, including projects on algorithmic bias in recruitment in which Nordic research groups participate.[18]

2.4 International organisations

At the international level, the OECD and the ILO are among the organisations most actively developing knowledge and policy guidance on AI and working life. The OECD AI Principles, adopted in 2019 and updated in 2024, provide a global reference framework[19], and OECD.AI makes data and analyses on AI developments in member countries accessible.[20] The ILO analyses AI within the framework of its agenda on decent work and the future of work. [21] According to information provided by informant at the OECD, the

[8] Europaparlamentets och rådets förordning (EU) 2016/679 (dataskyddsförordningen, GDPR), artikel 22.
[9] EU (2026). AI Act. (https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai) Hämtad 2026-04-16.
[10] Europaparlamentets och rådets direktiv (EU) 2024/2831 av den 23 oktober 2024 om förbättrade arbetsvillkor för plattformsarbete (plattformsdirektivet).
[11] Europeiska kommissionen (2021). Coordinated Plan on Artificial Intelligence (2021 Review). COM(2021) 205 final.
[12] Europeiska kommissionen (2025). The AI Continent Action Plan. (https://digital-strategy.ec.europa.eu/en/library/ai-continent-action-plan). Retrieved 16 April 2026.
[13] EU kommissionen, A European Strategy for Artificial Intelligence in Science – Paving the way for the Resource for AI Science in Europe (RAISE), COM(2025) 724 final, 8 oktober 2025.
[14] EU kommissionen (2026). Högnivågruppen för artificiell intelligens. (https://digital-strategy.ec.europa.eu/sv/policies/expert-group-ai). Retrieved 16 April 2026.
[15] EU-OSHA (2026). Digitalisation of work. (https://osha.europa.eu/en/themes/digitalisation-work). Hämtad 2026-04-16.
[16] European Labour Authority (2024). Artificial Intelligence and Algorithms in Risk Assessment: Addressing Bias, Discrimination and other Legal and Ethical Issues – A Handbook. Luxembourg: European Labour Authority
[17] EURES (2026). AI skills for tomorrow: A guide to upskilling in the digital age. https://eures.europa.eu/ai-skills-tomorrow-guide-upskilling-digital-age-2024-01-04_en. Retrieved 16 April 2026.
[18] EU komissionen (2026). Horizon Europe. (https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en). Hämtad 2026-04-16.
[19] OECD (2026). OECD AI Principles overview. (https://oecd.ai/en/ai-principles) Retrieved 16 April 2026.
[20] OECD (2026). Policies, data and analysis for trustworthy artificial intelligence. (https://oecd.ai/en/) Retrieved 16 April 2026.
[21] ILO (2026). Artificial intelligence. (https://www.ilo.org/topics-and-sectors/artificial-intelligence#impact) Retrieved 16 April 2026.

Nordic countries do not participate in the OECD's comparative studies on AI and working life. The reason for this was unknown to our informant at the OECD.

3 The state of knowledge

This chapter presents an overview of the focus and findings of existing research on AI in working life, both in its entirety and with particular attention to the Nordic contribution. The description draws primarily on the review of abstracts from academic articles and conference papers and should be read as an indication of the state of knowledge rather than a comprehensive account.

3.1 Research on AI and working life

Over the period 2023 to March 2026, research on AI in occupational health and safety and the labour market is more extensive than research on labour law, as measured by the number of abstracts identified in the literature review conducted for this study (Table 1). Of a total of 1,280 articles and conference papers, 651 address occupational health and safety, 495 the labour market and 134 labour law. The rate of publication has increased substantially over the period, more than doubling from 2023 (224) to 2025 (586). Growth appears to be evenly distributed, occurring at a similar pace across all three areas.

Table 1: Distribution of articles and conference papers by area

Area	Articles	Conference papers	Total
Occupational health and safety	385	266	651
Labour market	323	172	495
Labour law	109	25	134
Total	817	463	1 280

The United States is the country appearing in the greatest number of affiliations across all three sub-areas and is consistently the most productive individual country. Italy, Germany, Spain and the United Kingdom consistently rank among the top five in the occupational health and safety and labour market files. Within labour law, Germany, the United Kingdom and Belgium are the most prominent after the United States.

The recurring themes for each area among the 1,280 articles and conference papers are presented below. The figures in parentheses indicate the number of abstracts containing keywords associated with each theme. A single abstract may be counted under more than one theme, as some studies address more than one area simultaneously. The figures should therefore be read as indicative estimates of relative frequency rather than precise measures.

3.1.1 Occupational health and safety

AI technology for physical safety in the workplace (185 abstracts)
How can computer vision, sensors and machine learning be used to detect risks, monitor the use of protective equipment and prevent accidents in hazardous work environments, particularly in construction, mining and manufacturing? Research indicates that AI-based systems can achieve high accuracy in real-time detection of risks and failures to use protective equipment, and that in several cases they perform on a par with or better than manual monitoring. At the same time, implementation barriers are highlighted, such as costs, data quality and resistance from workers and management, and studies of the long-term effects on accident trends are largely absent.

Monitoring, algorithmic management and ethics (173 abstracts)
How does AI-based monitoring and algorithmic management affect employees' privacy and autonomy, and what ethical boundaries should govern employers' use of such systems? Research indicates that AI-driven monitoring can increase productivity but simultaneously leads to increased stress, reduced autonomy and deteriorating trust between employees and employers. Transparency in how systems function and clear regulatory frameworks are identified as necessary preconditions for minimising negative effects, but studies show that such frameworks are often absent in practice.

Psychosocial health, stress and wellbeing (168 abstracts)
How do AI and digitalisation affect employees' mental health, stress levels and wellbeing, and does algorithmic management and constant connectivity contribute to increased workload and burnout? Research presents a mixed picture. On the one hand, AI can relieve routine tasks, thereby freeing up time and reducing cognitive load. On the other hand, several studies show that algorithmic management, performance monitoring and uncertainty about AI system decisions contribute to increased stress and a reduced sense of control. Effects vary considerably depending on how AI is introduced and the degree to which workers are involved in the process.

Ergonomics, physical load and physical health (73 abstracts)
How can AI systems identify and prevent ergonomic risks and physical strain, particularly in industrial environments where humans and robots work together? Research shows that AI-based systems, often combined with wearable sensors and computer vision, can identify strain movements and provide real-time warnings in ways that surpass traditional risk assessment methods. However, studies are predominantly technical in orientation and conducted in controlled environments, making it difficult to draw conclusions about effects in real-world work environments at scale.

Occupational health in healthcare (42 abstracts)
How does AI transform working conditions for clinical staff, and do decision support systems reduce or exacerbate workload and burnout in the healthcare sector? Research presents a divided picture. AI-based decision support systems can relieve clinical staff by handling documentation and routine assessments, but several studies show that the

systems also create new pressures in the form of increased demands for scrutiny, unclear accountability and poor integration into existing workflows. Questions about trust in system recommendations and how professional roles change when AI takes over parts of clinical assessment work are recurring themes.

Human-robot collaboration (17 abstracts)
How can AI-driven robots be designed to collaborate safely and effectively with humans in industrial environments, and what does the introduction of such systems mean for the nature of work and the distribution of tasks? Research focuses on technical solutions enabling robots to interpret and adapt to human movements and intentions in real time but also addresses questions about how workers experience the collaboration and what new safety risks arise when humans and machines work in close physical proximity.

3.1.2 Labour market

Skills transformation, reskilling and education (204 abstracts)
What skills are in demand as AI transforms the structure of the labour market, and how can education systems adapt to meet emerging skills gaps? Research shows that skills gaps are growing faster than education systems can adapt, and that demand for digital and social skills is increasing at the expense of routine competencies.

Generative AI and labour market effects (92 abstracts)
To what extent does generative AI replace or augment workers' performance in cognitive occupations and the service sector, and what does this mean for labour demand? Results remain uncertain and partly contradictory. Some studies find that generative AI increases productivity and frees up time, while others indicate that demand for skilled cognitive occupations is declining.

Employment effects of AI and automation (86 abstracts)
Which occupations and tasks are most exposed to automation, and to what extent does AI replace or complement human labour? Research consistently finds heterogeneous effects depending on country, sector and educational level, and challenges the notion that AI is either simply job-destroying or job-creating.

Distributional effects and inequality (43 abstracts)
Does AI reinforce or reduce existing inequalities in the labour market, and how is exposure to automation distributed across groups in terms of wage development and employment? Research indicates that the low-skilled and low-paid are most vulnerable, and that AI risks exacerbating existing divides in the absence of countervailing measures.

AI in public employment services (23 abstracts)
How is AI used for matching, profiling and decision support in public employment services, and what questions of transparency, fairness and accountability does this raise? Research shows that such systems often lack sufficient explainability and that affected jobseekers are rarely informed on in their design.

3.1.3 Labour law

Algorithmic management and regulation (44 abstracts)
How does employers' use of algorithms to manage, monitor and make decisions about employees challenge existing labour law regulation, and how does the regulatory framework need to be adapted? Research shows that existing frameworks are largely inadequate to address the consequences of algorithmic management, and that the regulatory gap between technological development and legal protection is widening.

Transparency, accountability and non-discrimination (28 abstracts)
How can legal requirements for transparency and explainability be upheld when AI systems make or support decisions with consequences for workers, and how can discrimination resulting from algorithmic decisions be prevented and remedied? Research shows that many AI systems are in practice opaque even to the employers using them, which complicates both accountability and legal challenge.

Collective bargaining and trade union responses to AI (24 abstracts)
How do trade unions and worker representatives in Europe seek to regulate employers' use of AI through collective bargaining and co-determination, and how do different labour market models address these questions? Research shows that collective bargaining is a central but insufficient instrument, and that countries with strong co-determination traditions have progressed further in regulating algorithmic management than those with weaker trade union presence.

EU regulation and the AI Act (16 abstracts)
How does the EU's AI Act and related legislation change the regulatory landscape for AI in working life, and what gaps remain in the legal framework? Research indicates that the AI Act strengthens worker protection in certain high-risk contexts, but that important questions regarding implementation, supervision and interaction with existing labour law remain to be clarified.

Automated decision-making and the GDPR (9 abstracts)
How do AI-based decisions in employment processes such as recruitment, performance assessment and dismissal relate to data protection law, and what protection do individual workers have against automated decisions? Research shows, among other things, that the GDPR's provisions on automated decision-making are difficult to apply in the employment context, and that protection in practice may be weaker than the legislation formally provides.

Platform work and the gig economy (8 abstracts)
How do platform companies use AI to manage and control platform workers, and what is the legal status of such workers and their prospects for collective organisation? Research shows that algorithmic management on platforms is particularly far-reaching and difficult to regulate, and that the precarious legal status of platform workers impedes collective organisation.

3.2 Nordic research

Articles with at least one Nordic affiliation account for just under ten percent of the total material (98 of 1,280 documents). Finland is the Nordic country contributing the greatest number of articles and conference papers across all three sub-areas. Nordic co-authorship, where researchers from institutions in two or more Nordic countries collaborate, occurs only in isolated cases in the material.

3.2.1 Occupational health and safety

Nordic research in the occupational health and safety area is broad but concentrates around three focal points. The first is ergonomics and musculoskeletal disorders, where research groups develop and test AI-based systems for identifying and preventing strain injuries, using sensors and movement pattern analysis. The second is psychosocial health and wellbeing, with studies on how AI-driven technology affects stress, work engagement and wellbeing, including research on emotional AI for monitoring employees' emotional states. The third is AI technology for physical safety, with contributions on computer vision for monitoring the use of protective equipment on construction sites. There are also studies on AI in the maritime work environment and on predicting sickness absence risk using machine learning.

3.2.2 Labour market

Nordic research in the labour market area is thematically dispersed and is not dominated by any single theme. Some studies address AI and skills supply, examining what AI competencies the labour market demands and how educational institutions respond. Another group of studies concerns AI in public employment services, focusing on questions of trust, transparency and fairness in algorithm-based decisions. Several studies examine how generative AI affects demand for freelance services and cognitive occupations. A number of articles with Nordic affiliations do not, however, study Nordic labour markets but draw on data from other countries.

3.2.3 Labour law

The Nordic contribution to labour law research is limited and thematically fragmented. Some contributions concern trade union responses to algorithmic management and the role of collective bargaining in regulating AI, as well as how AI literacy can be developed in workplaces. One study, for example, addresses theoretical questions about AI, autonomy and discretion rather than legal questions in a strict sense.

3.3 Grey literature

The desk review and expert interviews have also identified a body of grey literature on the impact of AI on working life, produced by international organisations such as the OECD and the EU, public authorities in the Nordic countries, and the social partners. This literature has not been systematically identified in the same manner as the abstracts in the literature review.

Both the research and the grey literature indicate that AI primarily appears to transform tasks rather than replace jobs, and that skills requirements, the work environment and risks of inequality are central concerns. At the same time, certain differences between the research and the grey literature are apparent. The grey literature is more empirical, more closely tied to the present, and focuses on concrete effects at the workplace level, such as productivity, algorithmic management and generative AI. It thereby presents a more detailed and, in some respects, more positive picture of the short-term effects of AI.

4 Knowledge gaps

This chapter describes the knowledge gaps regarding the impact of AI on working life indicated by the pre-study. The findings draw on the analysis of abstracts as well as the expert interviews and the reports identified in the desk review.

4.1 Seven thematic knowledge gaps

The pre-study indicates overall that knowledge gaps regarding the impact of AI on working life are substantial. The overall impression is that the knowledge gaps exceed the existing state of knowledge. Seven knowledge gaps of particular relevance to the Nordic countries are identified. It is important to underline that the gaps do not solely concern risks. They relate equally to the absence of knowledge about the conditions under which AI contributes to improved working conditions and expanded opportunities for workers. The italicised questions in sections 4.1–4.7 are examples of research questions within each of the knowledge gaps identified by the pre-study.

4.2 Actual outcomes in the workplace

A consistent finding is that a large proportion of existing research draws on expectations and theoretical reasoning rather than empirical studies of what is happening in workplaces where AI is already in use. Case studies of actual implementations are rare and tend to come from large companies in a limited number of sectors. This theme encompasses several underlying questions that partly overlap but each point to specific knowledge needs: what happens when AI is implemented, how ambitions relate to practice, and what the effects look like over the longer term.

What is happening in workplaces where AI has been introduced? Most research analyses what is expected to happen with AI, not what is happening. Empirical studies of AI implementation in real work environments are rare and tend to come from large organisations. There is a particular absence of knowledge about the conditions under which AI implementation leads to good outcomes for both workers and organisations.

What is the gap between principled ambitions for responsible AI and how systems function in practice? Studies indicate that transparency, explainability and involvement of those affected are often worse in practice than policy documents and guidelines suggest.

This gap is documented even in sectors with several years of experience of AI implementation, suggesting it cannot be explained solely by the novelty of the technology. Greater knowledge of what works in practice could provide concrete guidance on how responsible AI implementation can be realised rather than merely declared.

What are the long-term consequences of AI-mediated work for psychosocial health, competence and professional identity? Longitudinal studies are largely absent, which means that the accumulated effects of working under algorithmic management over time are largely unknown. To enable longitudinal studies, frameworks need to be established, and data collection carried out that makes such analyses possible.

4.3 The Nordic model and AI

The Nordic labour market model is expected in theory to offer good preconditions for the responsible introduction of AI in working life. The pre-study indicates, however, that these institutions do not appear to be activated to a sufficient degree in relation to AI. If research were to show that the Nordic model delivers better outcomes, this would be an important contribution to the European debate on responsible AI adoption.

How are co-determination and collective bargaining institutions activated in relation to AI? Research and expert interviews indicate that AI is rarely on the agenda in local negotiations, despite the institutional preconditions being in place. There are isolated examples of collective agreement clauses on algorithmic management that may be seen as promising practices worth learning from, but they appear to be exceptions rather than the rule.

How are decisions about AI use made in Nordic organisations? The question of who decides on AI adoption and the extent to which employee representatives are involved in procurement and implementation processes, rather than being informed after the fact, is among the least explored in the material. Greater knowledge of how early involvement occurs, and whether it makes a difference to outcomes, could provide concrete arguments for strengthened co-determination in practice.

Does the Nordic model produce different outcomes for workers than research from other institutional contexts suggests? The Nordic countries are to a limited extent represented in international comparative studies, which means it is not possible to assess whether the distinctive features of the Nordic model result in different outcomes when AI is introduced. If the Nordic model delivers better outcomes, that is an important argument for strengthening it. If it does not, that is equally important to know.

4.4 Distributional effects and vulnerable groups

International studies indicate that exposure to the risks and opportunities of AI is not evenly distributed. In a Nordic context, these questions are largely unexplored, and it is unclear whether the protective functions of Nordic institutions make any difference.

What are the gender-specific patterns in AI adoption and risk exposure? Gender and AI is one of the most underexplored themes in the material. International research indicates that intensive digital monitoring may disproportionately affect workers in low-autonomy jobs, where women are overrepresented, for example in the healthcare sector. It is possible that Nordic equality structures partly counteract such patterns, but the evidence base is insufficient to assess this.

What are the consequences of AI for older workers, migrants and the low-skilled? International research indicates that these groups face a greater risk of being negatively affected by AI-driven displacement. Nordic data are absent and it is unclear whether Nordic institutional safeguards make a practical difference.

D*o younger workers risk miss out on skills development when AI takes over tasks?* The picture appears mixed. There are indications that AI support may provide a short-term levelling effect for some, but research also points in the opposite direction: as AI takes over entry-level tasks, demand for junior competencies may decline, potentially raising barriers to labour market entry. For workers with disabilities, AI-based tools may lower barriers and enable tasks that were previously inaccessible, but this too is insufficiently explored.

4.5 Regulation and accountability

The EU's AI Act and the Platform Work Directive represent a potentially significant change to the regulatory landscape for AI in working life. If the Nordic model and EU regulation prove to be mutually reinforcing, this could provide a valuable Nordic contribution to the European implementation process.

How are the EU's AI Act and the Platform Work Directive being implemented at workplace level in the Nordic countries? The Nordic countries are at different stages of implementation. How the frameworks interact with existing collective bargaining structures and co-determination rules has not been systematically examined. How EU regulation and the institutions of the Nordic model relate to each other remains a question that has not yet received a clear answer in research or case law.

Who bears responsibility when AI systems produce harmful outcomes in the workplace? Employers may lack the technical capacity to assess the AI systems they procure, and decisions are often made above the level at which local employee representatives operate. Whether existing liability doctrines are adequate to address these situations is largely unexplored. Clearer accountability could give employers stronger incentives to ensure the quality of the systems they introduce.

How do the GDPR's data protection rules relate to the actual collection and use of workers' data in AI systems? The GDPR's provisions on automated decision-making may be difficult to apply fully in an employment relationship characterised by structural power asymmetries. Research and expert assessments indicate that protection in practice may in some cases be weaker than the legislation formally prescribes.

4.6 Sectors and organisational types

Research is dominated by studies of large organisations in a limited number of sectors, which means that knowledge of the effects of AI for most Nordic workers is limited. Greater knowledge of underrepresented sectors and organisational types would provide a more comprehensive basis for policy development.

How are SMEs affected by AI? SMEs account for most of the employment in all Nordic countries but are almost entirely absent from the research. Nordic data are absent. SMEs may have specific advantages, shorter decision-making chains and closer relationships, that could facilitate a more inclusive AI introduction.

What might the effects of AI be in knowledge-intensive occupations and the public sector? Despite the apparent rapid increase in AI adoption in these sectors, research remains limited. In sectors with high workloads, such as healthcare and social services, AI could potentially contribute to reduced burden and improved working conditions, but this has not been empirically established in Nordic contexts.

4.7 The boundary between safety and control

AI systems are increasingly being introduced to improve workplace safety but may have dual functions that raise questions about boundaries and psychosocial effects. The positive safety potential and the possible negative consequences for autonomy and wellbeing coexist, and the state of knowledge is insufficient to weigh them against each other.

Where is the line between AI systems for safety monitoring and systems for performance monitoring? AI-based systems designed to prevent accidents can in principle also be used to monitor and evaluate performance. Clearer boundaries, legal as well as organisational, could enable safety benefits to be realised without the psychosocial costs arising.

How might continuous AI-driven monitoring affect autonomy and wellbeing even when systems are designed for safety purposes? Research indicates that the experience of being monitored can have negative psychosocial effects regardless of the stated purpose. Knowledge of how safety systems can be designed to minimise these consequences is absent, a potentially important question for both research and practice.

4.8 Tools & AI literacy

Knowledge about the impact of AI on working life needs to be translated into practical tools and competencies to become effective. Greater AI literacy and better tools increase the preconditions for workers and their representatives to take an active role in shaping how AI is used, a prerequisite for the institutions distinctive of the Nordic model to function in an AI-driven working environment.

What validated tools exist for assessing AI-related risks in the work environment? International tools exist but are rarely adapted to Nordic conditions, Nordic legislation or Nordic workplace culture. Nordic occupational health and safety authorities have to date produced limited guidance specifically focused on AI. Jointly developed Nordic tools could fill this gap cost-effectively.

How can AI literacy be built among the social partners? Research on how such competence can be developed in practice is very limited. This applies in particular to knowledge of how to evaluate and negotiate AI systems at the procurement stage, before they are implemented in the workplace.

5 Recommendations for the call for proposals

This chapter sets out Vilna's recommendations and proposed delimitations for a forthcoming call for proposals. The chapter draws on an integrated analysis of the material underlying the pre-study.

5.1 Criteria for assessment

As set out in the preceding chapter, the pre-study identifies knowledge gaps across seven themes, each encompassing more specific underlying research questions. To assess which of these themes could be addressed through a call for proposals by the Nordic Council of Ministers, Vilna has identified a set of criteria. The criteria follow from the brief given to Vilna by the Nordic Council of Ministers during the planning phase of the assignment. Vilna considers that a forthcoming call should support research that meets the following criteria.

- Is empirically oriented and builds on or develops data on the impact of AI on working life in the Nordic countries.
- Generates Nordic added value by producing better results through research collaboration between the Nordic countries than any individual country could achieve alone.
- Can demonstrate both the risks and opportunities of AI in working life.
- Has the potential to produce results that are sustainable over time, notwithstanding the rapid pace of AI development.
- Incorporates aspects of the impact of AI on occupational health and safety, the labour market and labour law.
- Can provide concrete policy recommendations that support the Nordic countries' work towards Vision 2030.

- Does not compete with other joint initiatives among the Nordic countries.

Vilna has assessed the extent to which each knowledge gap identified in the pre-study (sections 4.1–4.7) potentially encompasses research questions and deliverables that respond to the above criteria. Vilna has assessed whether there is a strong, partial or weak match against each criterion. Annex 2 contains a written assessment matrix, setting out Vilna's assessment of how the seven thematic knowledge gaps match the criteria. The overall assessment is summarised in Table 2: green = strong match, beige = partial match and purple = weak match.

Table 2: Summary assessment of how the thematic knowledge gaps meet the criteria

Gaps	Is a Nordic knowledge gap	Empirically oriented	Can generate Nordic added value	Can demonstrate risks & opportunities	Sustainable over time	Covers all three domains	Vision 2030	Does not compete with existing initiatives
4.1: Actual outcomes in the workplace	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Partial
4.2: The Nordic model and AI	Strong	Strong	Strong	Strong	Strong	Strong	Strong	Partial
4.3: Distributional effects and vulnerable groups	Strong	Strong	Strong	Strong	Strong	Partial	Strong	Strong
4.4: Regulation & accountability	Strong	Partial	Strong	Strong	Strong	Partial	Strong	Strong
4.5: Sectors and organisational types	Partial	Strong	Partial	Partial	Partial	Partial	Partial	Strong
4.6: The boundary between safety and control	Strong	Partial	Partial	Strong	Strong	Strong	Partial	Partial
4.7: Tools & AI literacy	Partial	Weak	Strong	Partial	Partial	Partial	Partial	Partial

Three themes show the strongest match across all criteria. Vilna therefore recommends that the Nordic Council of Ministers bases the call for proposals on one or more of these themes:

- Actual outcomes in the workplace (4.1)
- The Nordic model and AI (4.2)
- Distributional effects and vulnerable groups (4.3)

The following section elaborates on the substance of the three themes and what could be studied within their respective frameworks.

5.2 Theme 1: AI in Nordic workplaces

The overarching knowledge interest of a call for proposals based on this theme is to generate empirical knowledge about what actually happens in Nordic workplaces when AI is introduced, with particular attention to how the process of introduction, and the degree to which workers and their representatives are involved, affects outcomes for the work environment, job tasks, wellbeing and co-determination. The theme focuses on process and practical, concrete experiences at workplace level, and may focus on a sector of particular Nordic relevance such as the public sector and welfare services, healthcare and social care, the maritime and marine industries, the forest and paper industry, or construction, all sectors where AI adoption is advancing and where Nordic institutional frameworks are well developed. Given that SMEs account for the majority of employment across all Nordic countries, and that existing research is heavily skewed towards large organisations, the theme is particularly well suited to studies that include small and medium-sized enterprises. Such studies could shed light on whether and how co-determination institutions reach into smaller workplaces, and under what conditions SMEs are able to introduce AI in ways that benefit both workers and the organisation.

The theme responds to a fundamental gap in the existing literature: most research analyses expectations and attitudes rather than observed effects in real working environments. A Nordic call for proposals within this theme would be the first systematic effort to document and compare actual AI implementation processes and their consequences within the framework of the Nordic labour market models. The theme is not limited to any specific type of AI system. Relevant applications may include algorithmic management tools, AI-based decision support systems, generative AI used in daily work tasks, automated monitoring systems, and robotics or co-working systems in industrial environments, as well as combinations thereof. What matters is not the specific technology but the process by which it is introduced and the consequences it produces at workplace level.

Research within this theme could provide the first systematic empirical evidence of what responsible AI adoption can look like in practice in Nordic workplaces, identify the conditions under which it produces good outcomes for both workers and organisations, and give social partners and policymakers a concrete basis for strengthening co-determination in relation to AI. Table 3 contains examples of research questions that the pre-study indicates may be relevant to address within the framework of the theme from each respective perspective. The questions in the table are intended to illustrate the potential scope of each theme in relation to the three domains and build on the questions identified in the preceding chapter on knowledge gaps. They are indicative rather than prescriptive and need not all be included in the call.

Table 3: Research questions of relevance in Theme 1: AI in Nordic workplaces

Occupational health and safety	Labour market	Labour law
• How does AI affect workers' psychosocial health, autonomy and wellbeing in Nordic workplaces, and under what conditions are the effects positive or negative? • How do workers across Nordic sectors and occupational groups experience the introduction of AI, and what factors, including the institutional characteristics of the Nordic labour market, determine whether the change leads to improved or deteriorated working conditions? • To what extent does AI contribute to reducing physical and psychosocial strain in Nordic working life, and under what organisational and regulatory preconditions does this occur?	• How does AI transform the content of job tasks and skills requirements in Nordic workplaces, and do the patterns differ across sectors, occupational groups and organisational types? • Under what conditions does AI adoption in Nordic workplaces lead to productivity gains that also benefit workers, and when does it instead result in increased work intensity without a corresponding return? • How does AI affect opportunities for learning and skills development at work in the Nordic countries, and do certain groups risk missing out on the competencies traditionally built through performing job tasks?	• To what extent and in what ways are workers and their representatives involved when Nordic organisations introduce AI, and does the degree of involvement make a difference to outcomes? • How do existing collective agreements and co-determination institutions function in practice when AI is introduced in Nordic workplaces, and where do tensions or gaps arise in the legal and contractual framework of protection? • How does Nordic organisations' actual handling of workers' data in AI systems compare with the rights prescribed by data protection legislation?

5.3 Theme 2: The Nordic model and AI

The overarching knowledge interest of a call for proposals based on this theme is to generate empirical knowledge about whether and how Nordic institutions for co-determination and collective bargaining are activated in relation to AI, and what outcomes the distinctive features of the Nordic model produce for workers when AI is introduced in the workplace. The theme responds to a paradox identified in the pre-study: the institutional preconditions for responsible AI introduction exist across the Nordic countries, yet research and expert interviews indicate that these institutions are not activated to the degree the model would lead one to expect. This theme focuses on the Nordic tripartite model and its institutional framework in the context of the introduction of AI. A joint Nordic research effort within this theme is uniquely positioned to shed light on this paradox, by comparing countries that share broadly similar institutional frameworks but differ in the strength and form of co-determination, it can isolate what aspects of the Nordic model make a difference, and under what conditions. Research within the theme should be able to adopt both an employer and a worker perspective.

Research within this theme can provide empirical answers to what outcomes the Nordic model produces for workers when AI is introduced, identify what prevents co-determination institutions from being activated, and give social partners and policymakers concrete guidance on how the model can be strengthened in relation to AI.

Table 4: Research questions of relevance in Theme 2: The Nordic model and AI

Occupational health and safety	Labour market	Labour law
• How does the degree of worker involvement in the AI introduction process affect outcomes for psychosocial health, wellbeing and working conditions, and are there measurable differences between Nordic workplaces with active co-determination and those without? • How are questions of monitoring, privacy and autonomy addressed in Nordic collective agreements and local agreements on AI, and what protection do these provide in practice? • What role do safety representatives and local trade union representatives play in relation to AI systems in the workplace, and how can this role be strengthened?	• To what extent are workers and their representatives involved in decisions about AI adoption in Nordic organisations, and at what level of the organisation are these decisions made? • Are there measurable differences in labour market outcomes (employment, wages, skills development) between Nordic workplaces with active co-determination on AI and those without? • How do the conditions for AI adoption compare between SMEs and large organisations, and to what extent do co-determination institutions reach into smaller companies?	• To what extent are Nordic co-determination and collective bargaining institutions activated in relation to AI, and what explains any shortfalls in activation? • How does the EU's AI Act and the Platform Work Directive relate to existing collective bargaining structures in the Nordic countries? Does EU regulation strengthen or undermine co-determination institutions? • Which forms of regulation (legislation, collective agreements or internal policies) prove in practice to be most effective in safeguarding workers' rights when AI is introduced in Nordic workplaces?

5.4 Theme 3: AI, work and (in)equality in the Nordic countries

The overarching knowledge interest of a call for proposals based on this theme is to generate empirical knowledge about how the risks and opportunities of AI adoption are distributed between different groups of workers in the Nordic countries, regarding gender, age, educational level, migrant background and firm size. The theme responds to a central gap in the international evidence base: the Nordic countries are absent from the comparative studies that exist, which means it is currently not possible to assess whether the protective institutions of the Nordic labour market models reduce inequalities in AI exposure. A joint Nordic research effort within this theme is particularly well positioned to generate new knowledge, as the compatible register data of the Nordic countries enable longitudinal analyses with a statistical power and comparative depth that no individual country can achieve alone.

Research within this theme can produce systematic Nordic data on how the effects of AI adoption are distributed between different groups, provide a basis for policy measures targeting the groups most at risk of negative impacts, and contribute Nordic comparative data to international knowledge processes within the OECD and the EU where such data are currently absent.

Table 5: Research questions of relevance in Theme 3: AI, work and (in)equality in the Nordic countries

Occupational health and safety	Labour market	Labour law
• How is exposure to AI-related psychosocial risks, such as algorithmic management, intensified work pace and reduced autonomy, distributed between different groups of workers in the Nordic countries? • To what extent can AI contribute to reducing work-related ill health for groups with particularly demanding or physically strenuous tasks, and for which groups are the positive effects most evident? • How does AI affect working conditions for workers in low-autonomy jobs, and are there measurable differences in health outcomes between groups with different levels of exposure?	• How are the effects of AI adoption on employment, wages and skills development distributed across gender, age, educational level and migrant background in the Nordic countries? • Do younger and less experienced workers risk missing out on skills development when AI takes over tasks that traditionally build occupational expertise? Or is there a levelling effect that benefits this group? • How are SMEs and their employees affected by AI adoption compared with workers in large organisations, and which groups of workers are most vulnerable in SME environments?	• Are the Nordic labour law and collective bargaining protection systems designed in a way that captures and protects the groups most at risk of being negatively affected by AI adoption? • How does the protection afforded by data protection legislation apply to workers in vulnerable positions, such as platform workers, fixed-term employees and the low-skilled, and is the protection in practice equally strong for these groups as for others? • Which regulatory measures, in legislation or collective agreements, prove most effective in preventing AI from reinforcing existing inequalities in the labour market?

Annex 1: Further details on the methodology

Desk review of open sources

A desk review of open sources was conducted with the aim of identifying initiatives in knowledge development and policy, including regulation, in the Nordic countries, the EU and relevant international organisations. The review drew on targeted internet searches and visits to the websites of relevant organisations. It also encompassed a search for grey literature carried out by the Mid Sweden University Library, as well as leads gathered through Vilna's professional network in the working life field.

A review of abstracts

To obtain an overview of the current state of knowledge and knowledge gaps regarding the impact of AI on working life in the Nordic countries and comparable countries, a review of abstracts from academic articles and conference papers published between 2023 and 2026 was conducted.

The abstracts were identified by Mid Sweden University Library[22] through searches in Scopus. The search covers publications from institutions in the Nordic countries, the EU, EEA countries outside the EU (Switzerland and Liechtenstein), as well as the United States, Canada, Australia, New Zealand and the United Kingdom.

The selection of countries reflects an ambition to capture labour markets comparable to the Nordic ones and builds on search parameters previously used by the library in equivalent studies. The search was divided across the three thematic areas of the pre-study, occupational health and safety, the labour market and labour law, and was based on search terms selected to capture abstracts concerning AI within each respective area. The search was conducted on 12 March 2026.

To identify categories of research, in terms of orientation and findings, and knowledge gaps, parts of the analytical work were supported by Claude (Anthropic), a large language model, used to systematise and process the textual material from the literature review.

Interviews

The interviews served two purposes: to gather expert assessments of the current state of knowledge, ongoing initiatives and regulatory developments, and to identify knowledge gaps and research priorities as perceived by active researchers and practitioners. The knowledge gathered has been integrated throughout the report and has informed the analysis of knowledge gaps and the formulation of project proposals. Interviewees were

[22] The collaboration with Mid Sweden University Library was made possible through the Swedish Work Environment Authority.

selected to ensure coverage of all three thematic domains as well as relevant disciplinary perspectives. All interviews were conducted digitally.

In addition to the expert interview, targeted interviews were carried out with representatives of the three sub-committees of EK-A: the Working Environment Committee, the Labour Law Committee, and the Labour Market Committee. These interviews formed part of a deliberate stakeholder analysis aimed at ensuring that the study's outputs would serve as a useful basis for the steering group's decision recommendation to EK-A, and at clarifying how the forthcoming call for proposals is intended to be designed and used. Vilna also consulted a representative from New Nordics AI.

Annex 2: Assessment matrix

Table6: Assessment of how the knowledge gaps correspond to the selected criteria for the call for proposals (Green = strong match, Beige = partial match, Purple = weak match)

Gaps	Is a Nordic knowledge gap	Empirically oriented	Can generate Nordic added value	Can demonstrate risks & opportunities	Sustainable over time	Covers all three domains	Policy recommendations / Vision 2030	Does not compete with existing initiatives
4.1: Actual outcomes in the workplace	Directly identified as the pressing gap; almost entirely absent from international literature	Requires primary data from real Nordic workplaces; case studies and observational studies are the natural methods	The question of how co-determination traditions affect outcomes can only be answered through comparative studies across Nordic borders	Encompasses both the risks of poor implementation and the opportunities when AI is introduced responsibly	Questions about how new technology is introduced and what it means for workers are relevant regardless of how AI develops	Encompasses psychosocial work environment, changing job tasks and skills needs, and the reach of collective agreements	Can provide concrete guidance on the conditions under which AI implementation produces good outcomes; a basis for authorities, social partners and joint Nordic EU contributions	NordForsk Responsible AI covers AI broadly; focus on what actually happens at workplace level is distinct
4.2: The Nordic model and AI	A fundamentally Nordic question that cannot be studied using non-Nordic data	Requires empirical studies of negotiations, procurement decisions and actual outcomes in Nordic organisations	The variation between Nordic countries' co-determination models is itself the analytical resource, only possible in a joint Nordic design	Illuminates both the risk that the Nordic model is not activated and the opportunity that it could serve as a point of reference	Questions about how institutions adapt to new technology are relevant well beyond individual AI applications	Encompasses co-determination and collective bargaining (labour law), working conditions (occupational safety and health, OSH) and labour market outcomes	Can provide concrete knowledge about how co-determination can be strengthened in relation to AI, a central contribution to Vision 2030	Partial overlap with NordForsk Responsible AI but focus on the actual functioning of co-determination is distinct
4.3: Distributional effects and vulnerable groups	Nordic distributional data entirely absent; identified as a central gap in the international material	Well suited to register-based longitudinal studies, a method where Nordic countries have unique preconditions	Harmonised data collection across all five countries provides statistical power and comparability no individual country can achieve	Captures both the risk that AI reinforces inequalities and the possibility that levelling effects exist for certain groups	Register-based infrastructure is technology-independent and can be updated as new data become available	Strong on labour market and OSH via sickness absence and health outcomes; weaker on the labour law dimension	Can produce Nordic comparative data absent from OECD studies and provide a basis for measures targeting vulnerable groups, directly relevant to Vision 2030 equality goals	No existing joint Nordic initiative with a comparable focus

4.4: Regulation & accountability	How the AI Act and the Platform Work Directive are applied in a Nordic working life context is largely unexplored	Combines legal analysis with empirical studies of collective bargaining negotiations; less data-intensive than register-based studies	Comparative analysis of how five countries with similar but different labour market models implement EU regulation is only possible jointly	Illuminates both the risk that regulation is insufficient and the opportunity that EU regulation and the Nordic model could reinforce each other	Questions about how institutions adapt to new regulation are structural and applicable to future technological developments	Covers labour law (primary), psychosocial risks of algorithmic management (OSH) and the effects of regulation on AI adoption (labour market)	Can give Nordic governments guidance on implementing the AI Act in a way that strengthens the Nordic model, an important contribution to EU implementation work	No existing joint Nordic initiative on the implementation of the AI Act in a working life context
4.5: Sectors and organisational types	Identified gap but less specifically Nordic than others; the SME issue is generally under-researched internationally	Suited to register-based studies and surveys on AI adoption across sectors and firm sizes	Nordic register data are useful but national studies could partially address the question without a joint Nordic design	Encompasses both barriers to SME adoption and the opportunity that AI may strengthen small firms' competitiveness	Sector-specific findings may become outdated quickly as AI adoption evolves	Primarily a labour market focus; OSH and labour law dimensions are less prominent	Can provide a basis for targeted support to SMEs, policy-relevant but less distinctly Nordic than other themes	No directly competing initiative but OECD work on AI and the labour market is adjacent
4.6: The boundary between safety and control	Identified gap; dual-function systems are under-researched in a Nordic context	Requires empirical workplace studies and a technically demanding combination of technical and psychosocial analysis	A Nordic comparison adds analytical value, but national studies could also partly address the question	The theme is defined by the tension between the safety benefits and the psychosocial costs of monitoring	Questions about monitoring, autonomy and wellbeing are relevant regardless of specific technology	Bridges OSH (safety and wellbeing), labour law (permissible monitoring) and labour market (working conditions)	Can give OSH authorities guidance on boundary-drawing, policy-relevant but less directly tied to Vision 2030 priorities	EU-OSHA is active in digitalisation and monitoring; some risk of overlap should be noted
4.7: Tools & AI literacy	Identified gap but the theme is more applied than research-oriented	Tool development and competence-building are not primarily research activities; better suited to a knowledge dissemination or development initiative	Jointly developed Nordic tools adapted to Nordic legislation and workplace culture offer clear added value that individual countries could not achieve alone	Better tools and greater AI literacy enable both risk mitigation and more active exploitation of AI's opportunities	Specific tools risk becoming outdated; principles for assessing and negotiating AI systems are more durable	Tools can in principle span all three domains but tend in practice to be domain-specific	Can strengthen the social partners' capacity to exercise meaningful co-determination, a practical contribution to Vision 2030 but with indirect rather than direct policy relevance	Some overlap with national authorities' guidance work; less with existing joint Nordic initiatives