BUSINESSEUROPE

POLICY ORIENTATION NOTE

Algorithmic management at work: Improving transparency to achieve more trust in AI

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13 December 2023

EXECUTIVE SUMMARY

The introduction of algorithmic management in the workplace will pose unprecedented possibilities as well as new challenges for both European employers and employees. Proportionate, meaningful and appropriate action to increase transparency will therefore need to be taken in order to achieve more trust in this new phenomenon. However, considering the existing regulations on or related to AI, the lack of consistent and robust data across different sectors, and the low uptake of algorithmic management in traditional workplaces, BusinessEurope poses in this note that any initiative at EU level will need to be assessed carefully and should not take the form of new European legislation. On the contrary, any potential initiative related to algorithmic managements should be aimed at helping companies to mitigate its risks and harness its potential as well as avoid creating legislative red tape. BusinessEurope therefore calls upon the Commission to leave the space needed for companies to develop responsible and ethical approaches to working with AI technologies and for workers to use these technologies to focus on upskilling. In this respect, the Commission should also take into account the actions that social partners take at European, national and company level to meet the challenges of introducing algorithmic management in the workplace. Finally, BusinessEurope underlines that the best way forward could be to open up a discussion with the inclusion of the social partners on a code of ethical principles that can be adapted over time, offering clear guidelines as uncertainty surrounding regulations hinders firms from adopting and utilising AI technologies.

INTRODUCTION

The introduction of Artificial Intelligence (AI) in the workplace has increased significantly in the last few years. According to Stanford University, private sector investments in AI in 2021 were nearly eight times greater than those in 2016[1]. With this substantial increase in AI investment, it is expected that the impact on the working world of the future will be significant. Automation and AI-based systems are transforming how human labour is designed and performed. There is first the better-known issues linked to the progress for advanced robotics, which can perform the high-risk or non-creative repetitive tasks and has significant positive potential, not only in terms of business productivity but also for health and safety at work (for example, because workers can be removed from hazardous environments and tasks, and their workload can be optimised). Secondly automation and AI are used by companies to streamline simple processes such as answering generic queries from employees and clients through chatbots, targeting online learning, and recruiting. Finally, there are the emerging wider labour market challenges and opportunities linked to the more recent availability of a host of publicly available, free generative AI tools such as ChatGPT, Dall-E. The risks depend very much on the use-case.

An important element of AI deployment in the workplace is that of algorithmic management, which can be understood as "*the use of artificial intelligence to automate managerial tasks that relate directly to the coordination of labour input within the workplace, including in the selection*

[1] Ius Laboris, "The future of employment in an AI-driven world", June 2023, p.4.

and recruitment procedure". Whilst the use of algorithmic management in the workplace is still very much in its early stages, it is expected to rapidly expand in the coming decade. In this context, new questions arise about how to ensure the right balance between harnessing the potential of algorithmic management in the workplace and mitigating its risks. This policy orientation note constitutes BusinessEurope's early intervention in this forming EU policy debate aiming to maximise the positive impact ofAI on our labour markets and minimise its adverse effects, focusing on algorithmic management.

On the one hand, algorithmic management poses unprecedented possibilities and promising benefits for both employers and employees. The deployment of these new technologies in the workplace can improve inclusiveness, increase job satisfaction, alleviate daily work burdens and reduce workers' workload. Employers will benefit from the increased productivity, streamlined decision-making processes, optimised work organisation and cost reduction[2]. On the other hand, potential challenges related to AI-powered management tools include loss of autonomy, work intensification and blurring of work-life balance for workers as well as pressure on occupational safety and health and social environment, and the increased need for new digital skills.

Positively, there are different ways to make the most of the benefits and address potential challenges. This includes ensuring that the use of technological improvements are targeted as part of an approach that draws on the role and experience of human managers to identify well the tasks that are best handled by workers and how to ensure the best possible complementarity with technology with a view to leading overall to productivity gains. In each company, the regular dialogue between technology and human resources functions will be crucial to that end. Providing access to new digital skills, transparency on the use of algorithmic management towards workers and employee involvement, where appropriate and in line with diverse industrial relations practices across Europe, will also play an important role in increasing trust and successfully managing change.

An in-depth dialogue at EU level between policy-makers, social partners, technology solutions providers and companies is essential in the year ahead to identify and engage in well-designed and balanced policy frameworks at EU and national levels. BusinessEurope looks forward to contributing to this.

BACKGROUND

Definition and scope

As the EU pushes forward its ambition to become a global leader regarding digitalisation, the collection, processing and transfer of data related to the workplace becomes an increasingly more valuable and strategic economic resource. Whilst the use of data has primarily become integral to the business model of digital labour platforms, it should be noted that it is steadily becoming more important in traditional workplaces as well. Wherever digital technologies allow to collect and process data for the coordination of work, some form of algorithmic management

[2] 2023 Work Trend Index: Annual Report, "Will AI fix work?", 9 May 2023. See: WTI_Will_AI_Fix_Work_060723.pdf (ctfassets.net).

is likely to be deployed in a diversity of ways[3]. Against this background, the European Commission's Joint Research Centre (hereafter, JRC) argues that digitalisation does not only facilitate but also foster the growing use of algorithmic management in the workplace, by stating that "*without some degree of algorithmic control, it would simply be impossible to manage the enormous amount of information which is created by the digitisation of economic processes, and once digitisation has reached a certain level it will probably be economically advantageous to automate some management tasks for the coordination of labour input. As we are going through a digital transition and are fostering this, we will automatically have to foster algorithmic management*".

Nevertheless, it is important to underline that we are currently still in an early phase, and the adoption rates of algorithmic management in traditional workplaces, outside of digital labour platforms, remain relatively low and less systematic[4]. Currently, it is predominantly large companies that are embracing these technologies, often in experimental stages. This lack of implementation outside of digital labour platforms is important as it explains the huge gap in research and scientific evidence on algorithmic management in traditional workplaces[5].

Whilst the scientific research into algorithmic management is growing rapidly, there is no single clear definition of this term. According to the JRC, algorithmic management should be understood as "*the use of computer-programmed procedures for the coordination of labour input in an organisation*"[6], whilst the OECD defines algorithmic management as "*using AI to either support or automate management decisions – such as deciding who should receive a bonus, training or promotion – or other managerial tasks such as monitoring workers*"[7]. Notwithstanding the European Commission's significant focus on algorithmic management in the proposal for a directive on improving the working conditions in platform work, they do not provide a clear definition on what this term entails[8]. It should be noted that both the Council and the European Parliament's respective positions on this file aim to rectify this oversight to some degree by introducing definitions on "automated monitoring systems" and "automated decision-making systems"[9] (see infra). **For the purpose of this policy note, when we discuss algorithmic management, we will refer to "*the use of artificial intelligence to automate***

[3] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.

[4] Whilst this note takes a broad look at this phenomenon in European companies, it will aim to exclude digital labour platforms as their algorithmic management practices are already being widely covered by the upcoming directive on improving working conditions in platform work.

[5] The JRC underlines that whilst algorithmic management is increasingly used in warehouses, retail, hospitality and manufacturing, it remains most common in platform work.

[6] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.

[7] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

[8] European Commission, Proposal for a Directive of the European Parliament and of the Council on improving working conditions in platform work, 9 December 2021.

[9] European Parliament, Committee on Employment and Social Affairs, Report on the proposal for a directive of the European Parliament and of the Council on improving working conditions in platform work, A9-0301/2022, 21 December 2022 (see articles 2, paragraph 5b and 5c; Council, Proposal for a Directive on improving working conditions in platform work, General approach, 7 June 2023 (see articles 2, paragraph 6a and 6b).

***managerial tasks that relate directly to the coordination of labour input within the workplace, including in the selection and recruitment procedure*".**

The JRC identifies five main functions of management, i.e. planning, staffing, commanding, coordinating and controlling, with **three main levels of automation:**

- No automation – with fully human management;
- Assistance – using algorithms to assist human managers in their decisions;
- Partial-conditional automation – using algorithms to make some decisions, with human managers retaining certain key functions and intervening when necessary;
- Full automation – a fourth purely theoretical category is added by the JRC for analytical purposes as it is clear that it has no real application.

Due to the nature of the different management functions, the variety of algorithmic management forms can be as wide as that of human management practices. This is particularly true for those functions of management which are difficult to automate, most notably planning and strategy[10]. For those other functions which are much easier to automate, including coordination (e.g. through task allocation) and control (e.g. through monitoring of workers), independent execution without the need for any human intervention (i.e. full automation) is theoretically possible. However, the OECD points out that the most likely scenario is that managers receive AI-powered recommendations which they can (but do not have to) implement in their own decision making. In this regard, managers are usually able to review and overrule algorithmic evaluations of workers or automatic shift assignments through critical evaluation[11]

It is however also crucial to underline that full automation in algorithmic management is rare and unlikely to be developed due to the limitations set out by existing pieces of legislation. Most notably, the European General Data Protection Regulation (hereafter, GDPR[12]) effectively prohibits algorithmic management that entails fully automatic decision making (see infra, p.5). This is broadly justified as AI systems can provide a good base of fact for improved human resources management but are not as well placed as human managers to consider the work done by workers from a human performance perspective, taking into account soft skills and inter-personal relationships.

STATE-OF-PLAY

Regulation

Considering the rapid rise of AI in the workplace, there are some avenues that policy makers across the globe are already considering, including:

- the adaptation of workplace legislation to the use of AI;
- the encouragement of using robust auditing and certification tools;

[10] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.
[11] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.
[12] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (GDPR).

- the use of a human in control approach;
- the development of mechanisms to explain in understandable ways the logic behind AI-powered decisions[13].

In the European Union, the most notable examples of new policies related to AI are the GDPR, the AI Act[14] and the Platform Work Directive[15]. The GDPR sets out specific and targeted rules for organisations to appropriately protect personal data of persons, including algorithmic management systems that are built on or process workers' personal data in the workplace. In this regard, we note that article 35 GDPR requires organisations to perform data protection impact assessments, in particular for new technologies and when the data processing is likely to result in a high risk to the rights and freedoms of natural persons. Additionally, article 9, paragraph 2 GDPR requires transparency about which personal data are processed by AI systems and limits the ability to process sensitive personal data such as data revealing ethnic origin, political opinions or religious beliefs. Moreover, article 88 GDPR is specifically targeted at data protection in the employment context, giving member states the ability to enact more specific rules to protect employees' personal data and which leaves room for collective bargaining. Finally, article 15, paragraph 1(h) GDPR provides individuals with a right to meaningful human input on important decisions that affect them, which enables them to opt-out of fully automated decision-making in the workplace.

Germany is one of the few European countries that used article 88 GDPR to develop data protection rules specifically applicable in the workplace, via section 26 of the Federal Data Protection Act (BDSG). However, an independent interdisciplinary council on employee data protection concluded in January 2022 that, even with the additional regulation, the German legislative framework still does not effectively ensure legal certainty for employee data protection. For instance, the legal framework would need to include standard examples of the (in)admissibility of consent, and the council strongly recommends that the use of AI in the context of employment be regulated by law[16].

Additionally, and importantly, article 22 GDPR gives individuals the right "*not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her […]".* Article 7 GDPR prohibits any element of inappropriate pressure or influence which could affect whether data subjects give their consent, as well as linking consent to the performance of a contract. The European Data Protection Board and the jurisprudence in different countries have indicated that it can be extremely difficult to obtain this type of legal consent in employment relationships as it can be strictly necessary to the fulfilment of the contractual obligations of employment and can therefore not be freely given[17]. Additionally,

[13] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

[14] European Commission, Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on Artificial Intelligence, April 2021.

[15] European Commission, Proposal for a Directive of the European Parliament and of the Council on improving working conditions in platform work, 9 December 2021.

[16] Independent interdisciplinary council on employee data protection, Report January 2022. See: Report of the independent interdisciplinary Council on Employee Data Protection - Denkfabrik Digitale Arbeitsgesellschaft (denkfabrik-bmas.de)

[17] European Data Protection Board, Guidelines 05/2020 on consent under Regulation 2016/679, 2020, p. 9, see edpb_guidelines_202005_consent_en.pdf (europa.eu)

some experts question whether workers with limited knowledge and understanding of AI systems can truly give informed consent. As previously indicated, article 22 therefore *de facto* and effectively prohibits algorithmic management that entails fully automatic decision-making in employment relationships.

Whilst the AI Act takes a general approach to regulating AI, the proposal also includes specific provisions for certain high-risk applications in the workplace. The proposed Act follows a risk-based regulatory approach that differentiates between uses of AI that generate: i) minimal risk; ii) low risk; iii) high risk; and iv) unacceptable risk. This risk-based approach helps to avoid regulating uses of AI that pose little risk and it allows for some flexibility. Annex III of the AI Act classifies certain AI systems used for recruitment, decisions about promotion, dismissal and task assignment, and monitoring of persons in work-related contractual relationships as "high risk". Due to this classification, these AI systems would be subject to legal requirements relating to risk management (article 9), data quality and data governance (article 10), documentation and recording-keeping (articles 11-12), transparency and provision of information to users (article 13), human oversight (article 14), robustness, accuracy, and security (article 15). By requiring human oversight, the AI Act therefore *de facto* prevents the adoption of fully automated decision-making tools in the workplace.

Moreover, the Platform Work Directive aims to directly address the impact of algorithmic management on working conditions, albeit for the narrow scope of working conditions of platform workers[18]. The Platform Work Directive introduces specific obligations on digital labour platforms regarding the transparency on and use of automated monitoring and decision-making systems (article 6), the human monitoring of automated systems (article 7), the human review of significant decisions (article 8), and the information and consultation rights of platform workers (article 9).

There are already some concerns with regards to certain provisions in the Platform Work Directive. Whilst article 6 requires digital labour platforms to provide information on automated monitoring and decision-making systems "using clear and plain language", research shows that it is sometimes difficult to assess, even for experts, why an algorithmic management system made a certain decision.

We furthermore note that the European business community has already been ringing an alarm about the fact that regulatory compliance costs in the EU keep mounting and make the investment environment less favourable compared to our global competitors. In order to decrease the administrative and financial burden on digital labour platforms, the Platform Work Directive should therefore aim to develop more synergies concerning the obligations on transparency and automated monitoring and decision-making systems already set out in the Platform to Business regulation and the upcoming AI Act. In particular, the proposed overly periodic impact assessments (article 7), providing reasons for decisions in writing within a very short period of time (article 8), the need for additional trained staff to ensure human oversight of these systems (article 7(3)) and the establishment of special experts for consultation and information of workers and their representatives (article 9), will place excessive additional burdens on digital labour platforms.

[18] European Commission, Proposal for a Directive of the European Parliament and of the Council on improving working conditions in platform work, 9 December 2021 (Chapter III).

As mentioned above, however, algorithmic management remains rare in traditional workplaces. Examples of algorithmic management practices in traditional workplaces, albeit less pervasive and developed, can be found in sectors such as logistics, including transportation, storage and delivery services, retail, manufacturing, hospitality and financial services. It should be noted that certain public sectors, including healthcare and law enforcement, are introducing digital technologies into the workplace with the primary goal of monitoring workers for occupational safety and health reasons. Depending on sectoral characteristics, the implementation of algorithmic management is developing at different paces across the economy [19].

The survey of literature that does exist, reveals that in most cases even when applied to a particular work context, these algorithms are limited to assisting management decisions rather than automate human decision making[20]. As the use of algorithmic management in traditional workplaces is marginal, it is therefore deduced that the impacts are not as severe as in the context of digital labour platforms. The OECD identifies the following three elements of algorithmic management as being most widely used in the context of traditional workplaces:

- the data about the workers and/or the work process feeds into the algorithms;
- the processing and elaboration of such data is done through this algorithm;
- and the coordination and control on workers is exerted through the management decisions made or supported thanks to the previous two elements.

Algorithmic management tends to be widely used in the context of digital labour platforms since their inception, which might be why algorithmic management is most advanced and far-reaching in this context. Taking this into consideration, it is important to underline from the outset that the use of algorithmic management in digital labour platforms cannot be viewed as a blueprint or model for any future initiative on algorithmic management in traditional workplaces. Algorithmic management in a broader context is highly likely to differ from what has been observed in digital labour platforms, due to the intrinsic nature of algorithmic management to platform work and the consequential interaction of algorithmic management practices with pre-existing organisational structures and features. It is therefore crucial to emphasise that the Platform Work Directive should be considered as a *lex specialis* on algorithmic management, not *lex generalis*. We already note that this distinction will be of primary importance when discussing the definitions of what constitutes "automated decision-making systems" and "automated monitoring systems" in traditional workplaces. As it stands, we strongly underline that the definitions used in the Platform Work Directive are too broad, create legal uncertainty and do not reflect the reality of algorithmic management in traditional workplaces[21].

As the implementation of algorithmic management will steadily increase in traditional workplaces, it will be important for empirical research to advance, to help establish how algorithmic management affects working conditions beyond digital labour platforms, considering the specificity of traditional workplaces and jobs. There are already certain

[19] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.
[20] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.
[21] As the political debate on the final text of the Platform Work Directive is still ongoing at the time of writing this note, we underline that the Council's General Approach already offers a more accurate and proportionate definitions of "automated monitoring" (article 2(6a)) and "automated decision-making systems" (article 2(6b)) as compared to the European Parliament's report.

opportunities and challenges related to the impact of algorithmic management on working conditions that have been identified, and will be discussed hereunder.

Lastly, it would be remiss not to highlight the existing EU social legislation, in particular the Information and Consultation Directive (2002/14 /EC), which already provides a solid regulatory framework to meet the challenges of introducing algorithmic management in the workplace[22]. In this regard, we note that article 4, paragraph 1 (c) of the Information and Consultation Directive covers information and consultation on decisions likely to lead to substantial changes in work organisation or in contractual relations. Nevertheless, the practical arrangements for exercising this information and consultation are left up to the Member States, in line with national legislation and practice. As no differentiation is made between "substantial changes" that are based on technological improvements or otherwise, the Information and Consultation Directive already adequately responds to the need for employee involvement when introducing algorithmic management tools in the workplace. Also, existing legislation on safety and health at work already provides a framework to adequately safeguard against such risks arising from use of algorithmic management at the workplace and non-discrimination legislation safeguards against risks of bias in use of algorithmic management, for example in recruitment.

Social dialogue

The European social partners have long been aware of the growing importance of digitalisation and AI in the workplace. In our 2020 European Social Partners Autonomous Framework Agreement on Digitalisation (hereafter, AFA Digitalisation)[23], we identified "artificial intelligence and guaranteeing the human in control principle" as 1 of the 4 key pillars of the agreement. The AFA Digitalisation identified the following three key principles, which should be met throughout the automated system's entire life cycle and must be respected in the deployment in the world of work:

- it should be lawful, fair, transparent, safe, and secure, complying with all applicable laws and regulations as well as fundamental rights and non-discrimination rules;
- it should follow agreed ethical standards, ensuring adherence to EU Fundamental/human rights, equality and other ethical principles and;
- it should be robust and sustainable, both from a technical and social perspective since, even with good intentions, AI systems can cause unintentional harm[24].

The AFA Digitalisation, identifies the following measures that should be considered in the deployment of AI systems:

- it should follow the human in control principle;
- it should be safe, i.e. it should prevent harm. A risk assessment, including opportunities to improve safety and prevent harm such as for human physical integrity, psychological safety, confirmation bias or cognitive fatigue should be undertaken;

[22] Directive 2002/14/EC of the European Parliament and of the Council of 11 March 2002 establishing a general framework for informing and consulting employees in the European Community.
[23] European Social Partners Framework Agreement on Digitalisation.
[24] These three key principles are in line with the five OECD principles for responsible stewardship of trustworthy AI, see OECD (2019), "Recommendation of the Council on Artificial Intelligence", https://legalinstruments.oecd.org/en/instruments/OECDLEGAL-0449.

- it should follow the principles of fairness, i.e. ensuring that workers and groups are free from unfair bias and discrimination;
- it needs to be transparent and explicable with effective oversight. The degree to which explicability is needed is dependent on the context, severity and consequences. Checks will need to be made to prevent erroneous AI output.

The importance of the "human in control principle"[25] in the design and implementation stage of algorithmic management systems has become the centre of recent political debates. However, it is important to note that this human in control principle cannot impede companies from using these technologies as evidenced by the prescriptive provisions as foreseen in the Platform Work Directive. We need to furthermore underline that the degree to which transparency is needed is dependent on the context, severity and consequences of the AI deployment. Transparency and explainability do not necessarily require an overview of the full decision-making process, but can be achieved with either human-interpretable information about the main or determinant factors in an outcome, or information about what would happen in a counterfactual[26].

NATIONAL EXAMPLES

The European labour market is already well equipped to meet the challenges of introducing AI in the workplace. Where gaps still exist, work is being undertaken to bridge them – as emphasised by the many joint or separate initiatives on AI that employers' organisations and trade unions at the national level are starting to undertake. Companies are also devising innovative uses for AI, which benefit both employers and workers, as well as committing to responsible use of AI.

Austria

The Austrian project on "AI Assistance Systems in the Workplace: Digital assistance systems in the workplace screened for risks and potential" aims to support the responsible application of artificial intelligence (AI) in everyday work is a prerequisite for exploiting the potential of new technologies. With this participatory research approach to technology development, workers are also significantly involved in order to work out risks and potentials. The focus is on ethical considerations, such as questions about data protection, or aspects of equal opportunities, such as possibilities for inclusion through assistance systems. The project results are summarised as concrete recommendations and published in an online handbook. Another handout contains concrete recommendations for the involvement of workers in digitalisation projects in companies.

Belgium

[25] It should be noted that whilst the AFA Digitalisation only refers to the "human in control" principle, many different notations exist to describe the same principle, including "human oversight" (European Commission), "human in command" (JRC) and "human in the loop" (OECD).

[26] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

The National Labour Council continued its work to modernise the contractual framework for structural teleworking. It will begin its reflections on the impact of artificial intelligence and algorithms on work in 2023.

Denmark
The Danish industrial technology company Topsoe is building their own generative AI model (on chat GPT-4) but tailored to their needs and in a closed data loop. Topsoe is utilizing social dialogue for input in order to best tailor their model to their employees' needs. This minimizes the risk that employees will find the model useless or a threat to their job security on the one hand as well as ensure productivity gains from AI on the other hand.

Germany
The German AI startup Aleph Alpha's mission is to provide businesses and governments with the most advanced generative AI technology to gain a decisive advantage in the growing AI economy. Aleph Alpha develops large AI language models (LLMs). The basic technology is similar to that of ChatGPT developer OpenAI. However, the young company from Heidelberg has specialised in use cases for public administration and industry. Aleph Alpha is considered the European competition of ChatGPT – upholding ethical AI practices and responsible AI standards.

Siemens and Microsoft present the "Siemens Industrial Copilot", an assistant with generative AI to increase productivity and collaboration between man and machine. The two companies will work together to develop additional copilots for the manufacturing, infrastructure, transport, and healthcare industries. Leading automotive supplier Schaeffler AG is one of the first users of the Siemens Industrial Copilot.

Hungary
Within the framework of artificial intelligence (AI) and guaranteeing the human control principle, it can be stated that several information and educational programs on the role of artificial intelligence and its use in the labour market or even in HR have been implemented this year. It is crucial to set up a principle according to which the deployment of AI systems should follow human control principle: for this, guarantees must be surrounded by legal requirements, but besides this, improving awareness is also justified and necessary through further information and guidelines. All circumstances leading to an increase in the application level of AI should be assessed to determine whether it is sufficiently safe or not, so a risk assessment should be carried out.

In Hungary, the level of supervision and transparency in this area is not yet sufficiently high ; an increase in the level of regulation is justified, for which a much more mature practice is necessary for the use of artificial intelligence. In this area, ILO regulatory practice can guide the improvement of Hungarian legislation.

Malta
On "Artificial Intelligence and the Human in Control Principle", more awareness and transparency on the use or application of AI systems at the workplace is needed. AI contributes to higher economic performance of enterprises and over time this will be increasingly incorporated to improve operational efficiency. Nonetheless, the human in control principle needs to be taken more into consideration to ensure the physical as well as the digital wellbeing of workers.

The Netherlands
The Dutch Artificial Intelligence Coalition (NL-AIC) – established in 2019, partly at the initiative of VNO-NCW – helped launch the "MIT regulation" last year. This enables SMEs to develop or innovate products, production processes, or services in the field of artificial intelligence. NL-AIC also expanded the ELSA labs. The aim of these is to ensure that companies, public authorities, knowledge institutions, civil-society organisations, and individuals jointly develop responsible applications of human-centred AI. A network of more than twenty ELSA labs is now active. VNO-NCW and MKB-Nederland are actively contributing to NLC-AIC through human resources for "human-centred artificial intelligence".

Poland
In March 20022, a draft amendment to the Trade Unions Act has been introduced in the Polish parliament, containing the obligation of employers to provide the company trade union organization with information about the parameters, rules and instructions on which algorithms or artificial intelligence systems are based, which may affect, among others, working conditions, access to and retention of employment. The project was prepared by the opposition Left coalition but was formally supported by all trade unions. The employers' side, which suggests that a joint approach of the Polish social partners as part of the implementation of the European agreement will be difficult

The Adecco Group & Microsoft
The Adecco Group and Microsoft have signed a Memorandum of Understanding to co-develop and launch a GenAI powered career-platform to support workers maintain their skills currency and employability throughout their career journey. The Memorandum of Understanding has four areas of focus: responsible and ethical use of GenAI by organisations; inclusive use of GenAI at work; organisation adoption of GenAI; joint go-to-market solutions. The platform will deliver customised career advice and services in coaching, micro-learning and upskilling, preparing people for emerging job opportunities and ensuring continued employability.

OPPORTUNITIES OF ALGORITHMIC MANAGEMENT

Optimised organisation of work

The most notable opportunity of introducing algorithmic management in the workplace is its potential to optimise the organisation of work, which can contribute to productivity gains benefiting companies and workers. Algorithmic management systems have the capacity to break down large amounts of data and information, which allows these systems to easily identify patterns and produce key learnings. Such outcomes will be helpful to better match job profiles with prospective candidates, to optimise the allocation of tasks both inside and outside of the company, and to generally improve companies´ performance.

As it stands, the most widespread function across sectors regarding algorithmic management is to use it in the recruitment process. Algorithmic management systems have the potential to screen prospective employees respecting diversity criteria, and overall support the management

of recruitment processes[27]. Whilst these systems can certainly help improve the recruitment process for companies, it should also be underlined that they provide the possibility to offer job seekers and workers feedback for AI-informed decisions in a more systematic and cost-beneficial way. Additionally, the use of AI in recruitment processes also improves the recruitment experience for jobseekers, by speeding up the process, streamlining information, more appropriate job offers to candidates, allowing recruiters to spend more personal time with candidates (as the AI handles repetitive tasks), and provide better feedback.

By using algorithmic management systems, work can furthermore be organised more efficiently through the better-targeted allocation of tasks internally on the one hand and the subcontracting and out-sourcing of certain tasks to other firms or to self-employed people on the other hand[28]. The fast and continuous collection and elaboration of data regarding the demand for goods or services enabled by algorithmic management allows companies to ensure that tasks are allocated taking into account the targets of the company as well as the needs and preferences of the workers.

Improved inclusiveness

When used in a transparent and ethical way, algorithmic management can substantially improve data protection and data governance, by helping organisations automatically anonymise data and classify sensitive data in real-time, thereby ensuring compliance to existing privacy rules and regulations. The OECD underlines in this regard that the use of algorithmic management in recruitment can provide objective and consistent recommendations that can help increase diversity in the workplace and lead to selecting better performing candidates overall[29].

Whilst fear of bias or discrimination is often at the basis of arguments against the introduction of algorithmic management in the workplace, it is important to note that algorithmic management systems may actually reduce bias and strengthen fairness in the workplace. A crucial element regarding algorithmic management's impact on fairness depends on the way the system is designed and implemented[30]. For example, since algorithmic management can promote more objective performance evaluations, it could bring better opportunities for recognition and promotions for workers who have traditionally suffered from bias in the labour market, including disadvantaged workers (e.g. workers with disabilities, ethnic minorities, or non-native speakers). However, if algorithmic management systems replicates existing biases the effect will be the opposite, leading to perpetuated and systematic discrimination.

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[27] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.

[28] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.

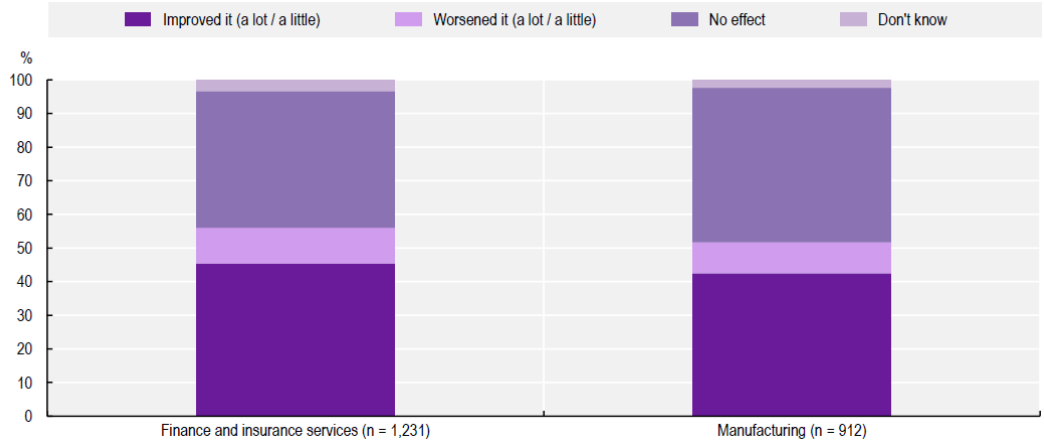
[29] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

[30] This is of particular importance regarding controversial and sensitive tools such as AI-powered facial processing technologies. For more info, see the Council of Europe's 2021 guidelines on how European countries should regulate the processing of biometric data, calling on countries to impose a strict ban on facial analysis tools that purport to "detect personality traits, inner feelings, mental health or workers' engagement from face images" (Council of Europe, 2021).

If bias is therefore addressed both in the development as well as the implementation stages of algorithmic management systems, this can lead to better insights into how employment-related decisions are made when supported by AI systems as compared to when those decisions are made by humans. After all, human decision-making in work-related contexts can be opaque and biased as well.

The OECD AI surveys find that 45% and 43% of workers who use AI in finance and manufacturing, respectively, think that AI has improved how fairly their manager or supervisor treats them (Figure 1).

Figure 1 – Percentage of AI users by change in perceived management fairness



Source: OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

Increased productivity and more efficient decision-making

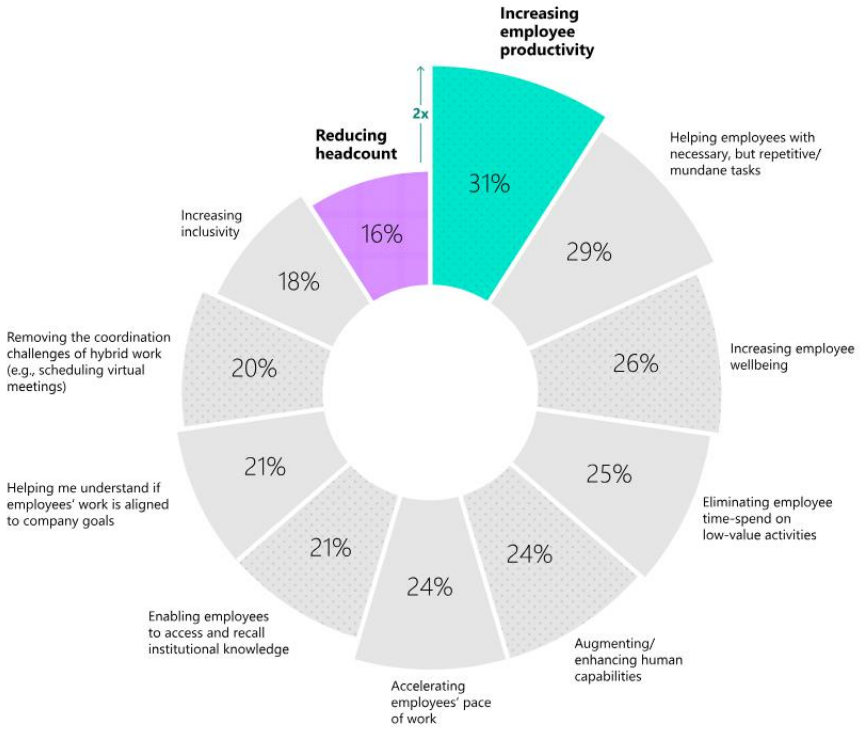
Scientific evidence indicates that algorithmic management's ability to process and model large amounts of data can facilitate decision-making processes in companies and deepen workers engagement with their work[31]. This is of particular importance for positions which rely heavily on decision making, such as managerial positions, as automation of management tasks can increase efficiency in supervision and administrative tasks or the quality of managers' decisions allowing them to focus on the more complex and interpersonal tasks. Algorithmic management can furthermore assist managers in providing training recommendations tailored to individual workers, with potentially positive impacts on the productivity and job satisfaction of both the manager and the individual worker.

Furthermore, algorithmic management can alleviate repetitive tasks and database maintenance, thereby opening up more time and individual service for all employees to allocate to other tasks. More individualised interpersonal tasks is therefore not limited to managers, as workers who

[31] In the OECD AI Survey, 70% and 56% of AI users in finance and manufacturing, respectively, reported that AI assisted them with decision making with overwhelmingly positive effects.

have a high degree of interaction with clients will also be able to reap the benefits that algorithmic management systems offer them in this regard. Organizations that embrace AI-based systems in their workplace therefore have the potential to unleash creativity and unlock productivity for everyone. This is exemplified by the fact that business leaders are twice as likely to empower their workers by opting to 'increase employee productivity' instead of 'reducing headcount' when asked what they would most value about AI in the workplace (see figure 2)[32].

Figure 2 – Increased productivity



Source: 2023 Work Trend Index: Annual Report, "Will AI fix work?", 9 May 2023. See: WTI_Will_AI_Fix_Work_060723.pdf (ctfassets.net).

Increased job satisfaction

Aside from higher productivity rates, algorithmic management may also lead to greater job satisfaction for those workers whose repetitive or tedious tasks are being automated through the introduction of such tools in the workplace. In their AI survey, the OECD found that this reduction of time spent on tedious tasks gave workers in the manufacturing and financial sector greater opportunities to do more research, planning and project management, thereby leading to overall higher job satisfaction[33]. As previously mentioned, AI-based recruiting with algorithmic matching furthermore enables companies to bring together suitable candidates to

[32] 2023 Work Trend Index: Annual Report, "Will AI fix work?", 9 May 2023. See: WTI_Will_AI_Fix_Work_060723.pdf (ctfassets.net).

[33] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

create a better match between work and skills, which can also lead to greater job satisfaction. Lastly, AI tools can optimise and better facilitate career guidance for employees, thereby more easily steering employees in the direction that will increase their job satisfaction. This is already evidenced by companies such as The Adecco Group, which has incorporated a platform that uses AI to provide career advice to jobseekers (PHYD) such as suggestions for mobility into other job categories that match their skills, and/or opportunities for useful further upskilling.

Nevertheless, it would be remiss to omit that despite being overall positive about the impact of AI on their own performance and working conditions, respondents to the OECD AI Survey who are subject to algorithmic management are less positive than respondents who interact with AI in another way. These results might, however, be affected by the fact that the survey question on algorithmic management can only identify workers who are aware that they are subject to it. The survey could therefore exclude those workers who are unaware that their manager is being supported by AI in their decision making because they do not experience any negative consequences from it.

RISKS AND CHALLENGES OF ALGORITHMIC MANAGEMENT

Loss of autonomy

By allowing the execution of management functions through an unprecedented amount of data and processing power, the JRC finds that algorithmic management can introduce changes in work organisation through three main channels:

- the centralisation of knowledge and control;
- the redefinition of tasks and roles;
- the blurring of boundaries within the organisation[34].

Automated decision-making can substantially alter work hierarchies, in particular in relation to low- and middle-level management positions, and thereby centralising knowledge and control in the workplace. Whilst certain sources caution about the redundancy and disappearance of these low- and middle-management positions [35], we underline that this is highly unlikely to happen due to the overall lack of full automation in traditional workplaces. Rather than seeing their roles entirely replaced by algorithms, it is therefore more plausible that low- and middle-level management positions are simply transformed by the introduction of algorithmic management systems, becoming complementary to them. This would allow low- and middle-level management to still intervene when the algorithms fail, fine-tune the parameters of the algorithms to each particular work situation, or provide the flexibility that algorithms do not have in unforeseen situations[36].

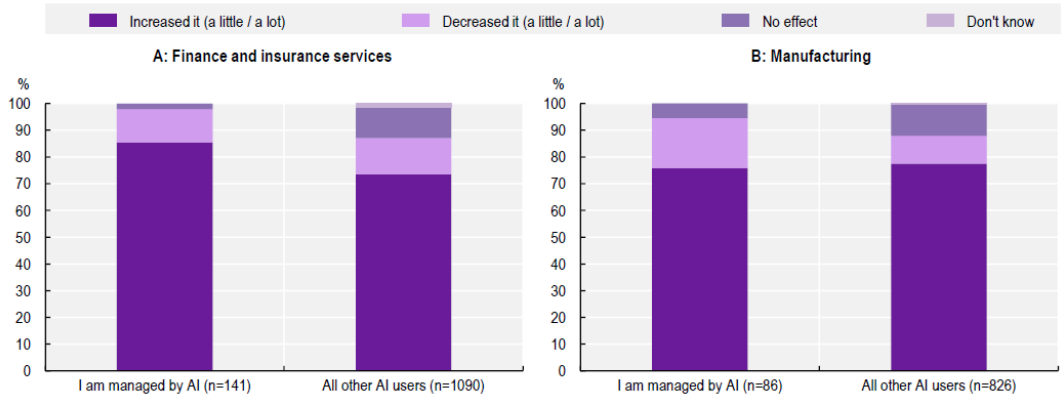
Without appropriate transparency measures, this centralisation of knowledge and control can increase the information asymmetries between management and workers, thereby creating

[34] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.
[35] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.
[36] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.

power imbalances and a sense of autonomy loss by workers. The management can directly assign, control and evaluate what workers have to do in a real-time basis, leaving little room for individual discretion over how to execute their tasks. This is particularly relevant in cases where workers have little possibility to override instructions because the data and the algorithms have already defined these instructions in a rigid and opaque way[37]. This can lead to alienation and detachment from one's job and can contribute to emotional exhaustion[38].

Nevertheless, the OECD AI surveys also find that the impact of algorithmic management on workers' sense of autonomy depends on the way and the context in which it is implemented, with a larger proportion of those managed by algorithmic systems reporting that AI increased their autonomy in finance, while the opposite is true in manufacturing (see Figure 2).

Figure 2 – Percentage of AI users, by interaction with AI and change in own work autonomy



Source: OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

Work intensification

Centralisation of knowledge and control through algorithmic management systems can also lead to work intensification and a blurring of work-life balance. This can be fuelled by an increase in number of tasks and/or decrease in allotted time to complete these tasks as well as pervasive monitoring.

Regarding the former, empirical evidence suggests an association between the adoption of technology enabling algorithmic management and an increase in the pace of work in traditional workplaces[39]. Regarding the latter, monitoring and surveillance through algorithmic

[37] As documented in the literature on the logistics, manufacturing and call centre sector. See: Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.

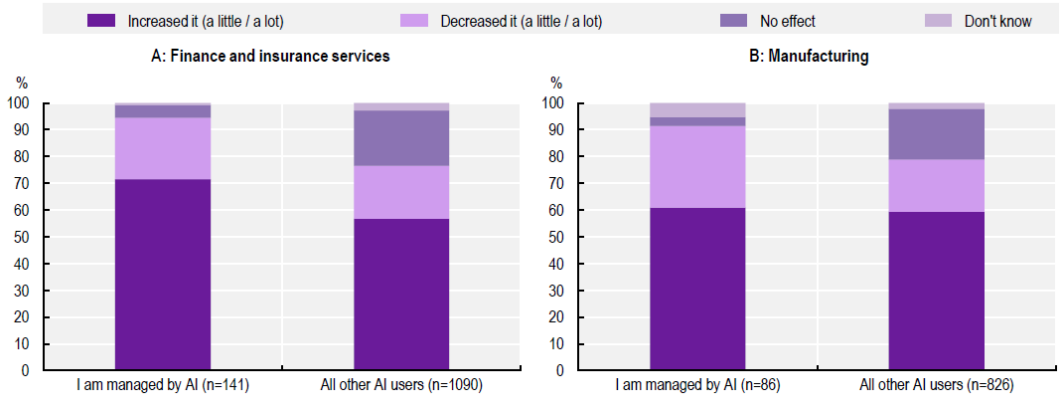
[38] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.

[39] Eurofound (2020): Employee monitoring and surveillance: The challenges of digitalisation, Publications Office of the European Union, Luxembourg. See: Working Conditions - Employee monitoring and surveillance: The challenges of digitalisation (europa.eu)

management systems can create a high-stress environment as employees may feel constantly scrutinised and under pressure to perform. Extreme levels of monitoring and surveillance can even make workers feel commoditised and create a sense of alienation (as further discussed in the section on *Pressure on occupational safety and health and social environment*). The involvement of workers in the design of such tools, transparency regarding their use and deployment, and reskilling of workers, can be effective approaches to mitigate this.

The AI Survey finds that in some warehouses, wearable AI-powered devices are used to continuously monitor and manage workers as well as score employees and communicate picking targets. This can generate increased work intensity, leading to heightened stress and physical burnout, and create potentially physically dangerous situations at work. The Survey notes that in some countries, such as Belgium, France, Italy and Spain, workers' legal right to disconnect should offer protection against this.

Figure 3 – Percentage of AI users, by interaction with AI and change in the pace of work



Source: OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

Pressure on occupational safety and health and social environment

The potential alterations to low- and middle-level management positions, could reduce the human interaction of workers with both peers and supervisors. Some workers may have to perform their tasks in isolation, increasing certain psychosocial and physical risks (such as anxiety, depression, cardiovascular diseases or musculoskeletal disorders)[40]. However, contradicting scientific research suggests that human-machine interactions can improve human-human interactions. For instance, people who interacted with an AI-powered social robot or chatbot while performing a task were more relaxed and conversational, laughed more and were better able to collaborate, although the effect depended on the type of social skills the robot portrayed[41].

[40] Baiocco, S., Fernández-Macías, E., Rani, U. and Pesole, A., *The Algorithmic Management of work and its implications in different contexts*, Seville: European Commission, 2022, JRC129749.
[41] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

In situations where algorithmic management systems make evaluation decisions, the social environment can be affected also by discrimination and by competitive rather than cooperative behaviours. This is especially the case when algorithmic evaluation is employed in contract renewals or for assigning tasks, shifts or bonuses to workers. This can be mitigated by ensuring that algorithmic management solutions are designed with HR managers intervention is important to achieve a good level of complementarity and balance, maintaining a good social climate in the workplace.

As it stands, the use of AI systems is already covered by European OSH regulations, most notably by the Framework Directive 89/391/EEC[42], which obliges employers to perform a risk assessment to pre-emptively ensure that (algorithmic management) tools will not harm workers. Such a risk assessment can include not only opportunities to improve safety and prevent harm for human physical integrity and psychological safety but also identify confirmation bias or cognitive fatigue.

The German government has tried to appropriately cover psychosocial risks posed by AI systems: a report produced by the German AI Inquiry Committee highlighted the need to "*ensur[e] that, as social beings, humans have the opportunity to interact socially with other humans at their place of work, receive human feedback and see themselves as part of a workforce*"[43].

Increased upskilling and reskilling

The introduction of algorithmic management in the workplace will automatically trigger an increased demand for digital skills to operate and interact with these technologies. It is expected that AI and big data, which are currently ranked 15th as core skills, are poised to become the third-highest priority in company training strategies by 2027[44]. It is important that these training actions are targeted both at those high-skilled workers, such as managers and leaders, who will be responsible for the development and implementation of algorithmic management systems in the workplace as well as at vulnerable groups, such as the low skilled and older workers, who will require the necessary skills to adapt to this new working environment.

Increased digital skills will furthermore be indispensable in order to foster a greater understanding and help build trust in algorithmic management systems. After all, transparency and explainability of algorithmic decision-making processes will only be useful, efficient and effective if the involved workers possess the necessary digital skills. This shift will require a massive investment in and strengthening of adult learning systems, integrating AI at all levels of the education system, and raises the need to add AI-specific training content to digital skills programmes. The cooperation to that end between employers, social partners and policy-makers at all the appropriate levels will be crucial to actually meet the rapidly growing and regularly changing digital skills needs.

[42] Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work.

[43] Deutscher Bundestag Enquete-Kommission, "Kurzfassung des Abschlussberichts der Enquete-Kommission Künstliche Intelligenz", 2020, p. 12. See: Informationsblatt (bundestag.de)

[44] Ius Laboris, "The future of employment in an AI-driven world", June 2023.

In practice, countries where people report higher levels of understanding of AI tend to have more trust in companies that use AI. This is not only an issue of transparency of AI use, but also of understanding how the technology works. Increasing understanding of AI among workers and their representatives' can help better understand the benefits and risks of AI systems used in the workplace and empower them to engage in consultation and take action as needed[45].

However, algorithmic management tools can also be a useful vehicle for bridging this digital skills gap. From an employers' perspective, algorithmic management tools can assist companies in assessing and developing the skills of their existing workforce. From the workers' perspective, algorithmic management tools can facilitate workers' understanding of their own skills profile and how it can best be developed to achieve their career goals.

THE WAY FORWARD

Regulatory Burden

We firstly underline that any potential initiative to address potential risks and challenges related to algorithmic managements should be aimed at helping companies to mitigate these risks and harness its potential. Creating legislative red tape that makes it difficult for companies to introduce algorithmic management systems should be avoided at all costs given its potential benefits for employers and workers. Whilst we welcome President Von der Leyen's political commitment to reduce the reporting requirements of EU legislation by 25%, this political commitment now needs to be turned into swift and tangible actions. To achieve a real burden reduction, it is therefore imperative that the regulatory burden of the proposals that are currently being proposed or negotiated must be kept to a minimum.

Need for new EU legislation needs to be assessed carefully

We furthermore note that due to the fast-paced changes introduced in AI technologies and its ever-evolving nature and strong global dimension, the need for new EU legislation needs to be assessed carefully. Considering the existing regulations on or related to AI, BusinessEurope at this stage does not see the need to develop new EU legislation. As evidenced by this note, there is also a lack of consistent and robust data across different sectors, which should be further looked into in the coming years. Also, uptake of algorithmic management is still very low in traditional workplaces. Furthermore, existing EU regulations already largely address the challenges posed by AI, including discrimination, health and safety, information and consultation and data protection laws. Unless a clear business case is made as to the reasons why a new EU legislative initiative would strengthen Europe's position, the Commission should first and foremost leave the space needed for companies develop responsible and ethical approaches to working with AI technologies and for workers to use these technologies focus on upskilling. In this respect, the Commission should also take into account the actions that social partners take

[45] OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris, https://doi.org/10.1787/08785bba-en.

at European, national and company level to meet the challenges of introducing algorithmic management in the workplace.

Introduction of a Code of Ethical Principles

In order to address the introduction of algorithmic management in a proportionate and meaningful manner, BusinessEurope calls for increased transparency on how AI is used in order to achieve more trust. Against this background, we deem that the best way forward could be to open up a discussion with the inclusion of the social partners on a code of ethical principles that can be adapted over time, offering clear guidelines as uncertainty surrounding regulations hinders firms from adopting and utilising AI technologies. We note in this regard that the World Employment Confederation has already developed a code of ethical principles on the use of AI, which is based on ten fundamental principles[46].

[46] World Employment Confederation, Code of Ethical Principles in the use of Artificial Intelligence, 2023. See: AI-principles-WEC-AI-Code-of-Conduct-March-2023.pdf (wecglobal.org)