

Global Deal Thematic Brief

The impact of Artificial Intelligence on the labour market and the workplace: What role for social dialogue?

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Disclaimer Note: The opinions expressed and arguments employed herein do not necessarily reflect the official views of the OECD member countries, ILO member states or Global Deal partners.





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Introduction – The impact of Artificial Intelligence: main issues and new challenges

- 1. Artificial Intelligence (AI) technologies - machine-based systems that can, for a given set of humandefined objectives, make predictions, recommendations or decisions influencing real or virtual environments¹ - will have an important impact on labour markets, workers and the workplace. As a result, workers and firms will need to grapple with significant transitions and adjustments. Recent years have seen rapid advances in the development and adoption of AI technologies, particularly in the areas of image, text and speech recognition, computer programming and predictive analytics. These developments have, for instance, fuelled new fears about large-scale job losses stemming from the ability of AI to increasingly automate not only repetitive but also non-repetitive tasks2, and its potential to affect every sector of the economy. At the same time, AI will also create entirely new tasks and occupations, and drastically change the nature of others: as a result, some tasks may become safer and less monotonous, but in others there may be a risk of de-humanisation and even de-skilling. Moreover, the abilities among different workers and different firms to take advantage of the benefits that AI brings could also trigger inequalities in the labour market: while not new, the risk that workers who adapt more slowly to technology adoption may be excluded is likely to be magnified by AI diffusion, as "letting algorithms drive economic activity will further privilege the privileged" (Schor, 2018[1]).
- 2. Furthermore, there are concerns about autonomous decision-making in the workplace, particularly in HR and management processes, which are linked to excessive surveillance, intrusive practices and ensuring fundamental workers' rights: decisions taken by AI, when tracking drivers or nurses connected with applications, or when recruiting, firing³ or monitoring workflows and performance, could change the nature of the relationship between firms and workers, but also raise more fundamental ethical questions, linked to the risk of potentially biased decisions, discrimination, data protection and human rights. AI technologies that are able to process biometric data, but also have facial recognition and even detect emotions and behaviours may, for instance, carry a high risk of privacy breaches and a violation of human dignity.
- 3. However, AI, also brings real opportunities to create new business models and new types of jobs, as well as alter the nature and task composition of existing ones. Since AI has the potential to complement and augment human capabilities, it can lead to higher productivity, greater demand for human labour and improved job quality (Lane and Saint-Martin, 2021_[2]).
- 4. While AI therefore, as with any technological change, will bring both risks and benefits, many experts suggest that its effects on labour markets are likely to be magnified by the speed and large potential for application across multiple sectors and occupations (Brynjolfsson, D. Rock and C. Syverson, 2017_[3]) and the greater power imbalance it will trigger (De Stefano, 2019_[4]). The impact of AI, whether positive or negative, will very much depend on *how* it will be implemented at the workplace level, what will be the role of regulation (e.g. international legislation, such as the EU GDPR⁴, international labour standards, national

¹ While there is no widely accepted definition of AI, this brief uses the definition of an AI system established by the OECD's AI Experts Group (AIGO): "An AI system is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments. It uses machine and/or human-based inputs to perceive real and/or virtual environments; abstract such perceptions into models (in an automated manner e.g. with machine learning (ML) or manually); and use model inference to formulate options for information or action. AI systems are designed to operate with varying levels of autonomy".

² According to an ETUC-commissioned survey that was carried out on trade union representatives across Europe (Voss and Riede, 2018_[47]), job destruction and job creation due to automatisation ranked as the most important concern and opportunity respectively for trade unions.

³ (Lecher, 2019_[56]) reporting that Amazon's system tracks workers' productivity rate and automatically generates warnings and terminations in light of quality or productivity levels without input from a human. Amazon, however, replies that supervisors still have the possibility to override the automated process.

⁴ On 25 May 2018, the European Union replaced the Data Protection Directive (European Union, 1995), by the EU

legislation and collective bargaining) in governing Al diffusion and the extent to which all stakeholders will be involved. Previous OECD work has highlighted the instrumental role that social dialogue and collective bargaining can play in the changing world of work by easing transitions and spreading best practices in terms of the introduction of new business practices, training and safeguarding quality (OECD, 2019[5]). The key role of social partners is further underlined by the ILO's recommendations on employment policy (see for example ILO R169) as well as their recent survey on employment (ILO, 2020[6]).

- 5. More specifically, social partners have a key role to play in determining what technology and training are adopted; helping companies define tailor-made and fair solutions to organisational and technological changes at workplace level and enhancing the quality of the working environment (OECD, 2019_[5]). Depending on the various national regulatory settings as well as practices and traditions, social partners can voice concerns, inform and advise their members through codes of conduct and guidelines about privacy and ethical rights, as well as participate in decision making at the workplace. Finally, collective bargaining, provided it has high coverage while leaving some margins of flexibility, can foster inclusive and dynamic labour markets when systems are co-ordinated⁵ (OECD, 2018_[6]; OECD, 2019_[5]).
- 6. This brief aims to assist all concerned stakeholders in understanding how social dialogue and collective bargaining can facilitate AI transition at labour market and workplace levels. It provides key insights on the instrumental role social dialogue and collective bargaining can play in complementing public policies in this adjustment process, while demonstrating concrete examples of social partners' initiatives in raising voice, advising or signing innovative collective agreements. Finally, it discusses the impact that AI tools and systems may have on social dialogue itself.

The role of social dialogue in facilitating the Al transition at labour market and workplace levels

Social dialogue and collective bargaining can complement government efforts in enhancing labour market security and adaptability

7. Social dialogue and collective bargaining have a key role to play in smoothening the impact of Al in the labour market, facilitating the introduction of new technologies as well as complementing public policies in the deployment of re-training and upskilling programmes. OECD work on displaced workers (OECD, 2018_[6]) has highlighted the significant role that collective bargaining, in particular at sectoral level, can play in **enhancing labour market security and strengthening workers' labour market adaptability.** As rapidly evolving demands for products and services and Al diffusion will affect skills needs, social partners can help ensuring that if Al technologies are implemented in the workplace, they complement, rather than fully replace, existing occupations. Social partners can also provide active support to those workers displaced from their existing jobs to help them back into new ones. The Swedish Job Security Councils (JSCs) and the Austrian Outplacement labour foundations, two institutions owned jointly

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GDPR framework (European Union, 2016). The EU GDPR introduced new rules governing the collection, process, and free flow of personal data regarding data subjects in the European Union. When data originating in EU member states are transferred abroad, the EU GDPR ensures that personal data protections travel with them. The EU GDPR ensures high level of protection with consistency, while eliminating barriers to the free flow of data within the Union (European Union, 2016). Some controversies exist however on whether the existing EU GDPR framework adequately and sufficiently protect workers from the downsides of AI technologies, including for ensuring work-related stress and excessive pressure from intensive work schedules defined by AI.

⁵ OECD work (2018[6]; 2019[5]) explores the link between collective bargaining systems and a series of labour market outcomes. The main results show that wage inequalities are highest in systems with no collective bargaining or in systems with firm-level bargaining only. Moreover, coordinated systems – in which social partners negotiate for different groups of workers follow collectively defined targets when negotiating wage increases – are linked with higher employment and lower unemployment, including for women and young people, than fully decentralised systems, in which negotiations are firm-specific and not coordinated at all. Finally, coordination also increases labour market resilience, in helping social partners to account for the business cycle situation and macroeconomic effects of wage agreements on competitiveness when negotiating.

by employers' organisations and unions, are among the most notable examples of this (OECD, $2015_{[7]}$; OECD, $2019_{[5]}$).

- 8. Beyond supporting displaced workers, social partners can play a key role in **anticipating skills needs**: though their representation in skills councils and training provisions in collective agreements, as well as their involvement in the process of developing, funding and managing adult educational and training programmes, the role of social partners has been found to be beneficial both in terms of the quality of training and accessibility for all workers (Boheim and Booth, 2004[8]; Dustmann and Schönberg, 2009[9]; Verma, 2005[10]; OECD, 2019[5]). This latter point is particularly crucial in light of the growing risk of exclusion of workers lagging in Al technological adaptation. In the majority of OECD countries⁶, social partners are involved in skills assessment and anticipation exercises OECD (2015[7]). More generally, in several OECD countries⁷ social partners are represented on sectoral skills councils which produce industry-specific long-term projections to ensure that current qualifications meet future demand for skills (OECD, 2019[11]).
- 9. Crucially, social partners can help ensure that workers also get **enough lifelong training** to adjust to ongoing changes. As highlighted earlier equipping workers with the right skills, in a context of technological and occupation changes, is a key challenge for shaping an AI transition that is more inclusive and rewarding. Access to long-life training for workers can be negotiated and secured in collective agreements, and is an increasingly important issue of collective bargaining.⁸
- 10. In a time of accelerating changes stemming from AI transition, the role of social partners in managing transitions, anticipating and filling skills needs may be increasingly important. Investing in skills may not only be important to strengthen labour market adaptability and help workers in case of displacement, but could also be a winning and revitalisation strategy for social partners to reach out to new members (Klindt, 2017_[12]).
- 11. Along these lines, both unions and employers' organisations have engaged **in outreach and awareness campaigns** highlighting the need for new competences that will be required to work with digital tools, robotics and data (ILO ACT EMP and IOE, 2019_[13]; BusinessEurope, 2019_[14]; ETUC, 2020_[15]; UNI EUROPA ICTS, 2019_[16]). BusinessEurope (2019_[14]) outlines the key role of social partners in facilitating the establishment of a "data culture" and "awareness of AI". The organisation also points that a "highly educated and entrepreneurial workforce is required to promote the growth and use of AI in Europe". The European Trade Union Confederation (ETUC) calls for "AI and digital literacy schemes", as education and transparency of AI systems will be important for workers to understand, and be part of, a fair implementation of new technologies (ETUC, 2020_[15]). It proposes building "data literacy" through on-the-job training schemes to make AI more accessible to workers and workers' representatives. In the same vein, UNI Europa ICTS (2019_[16]) emphasizes the importance for employers to invest in human capital, while highlighting the role of soft skills among the new competencies that AI transition will require⁹.

⁶ For instance, in Sweden, the JSCs, are partly based on a skills barometer which is run twice a year and which allows the JSCs to anticipate new skills needs. In Germany, a 2016 agreement in the metal engineering and technology sector named "Training and qualification for Industry 4.0 – managing change successfully" committed to analysing all vocational and lifelong training programmes offered by the industry to assess their adequacy to the growing use of data exchange and automation in manufacturing.

⁷ In France, the existence of national committees for employment and professional training (commissions paritaires nationales emploi et formation professionnelle) is a source of collective agreements, in particular in the banking sector, where the agreement of the 5th February 2020 on professional training maintains employees' skills in the face of economic, technological and organisational changes through anticipation, support and adaptation to changes, in particular artificial intelligence.

⁸ In Denmark, for instance, a national tripartite agreement was signed in 2017 that specifically focused on adult and continuing training. It included a series of initiatives over four years to increase and improve the access to, and the quality of, adult learning.

⁹ According to the organisation, employers focus too much on the promotion of STEM skills, without acknowledging the importance of soft skills, including creativity, empathy and complex reasoning. This would be partly due to the fact

12. Some recent actions have also developed at European and national levels: UNI European Finance (2021_[17]) proposed to introduce responsible AI in the insurance sector through the use of a "people plan" to identify skills needs, career paths and training possibilities. In June 2020, ETUC, BusinessEurope, CEEP and UEAPME signed the European Social Partners Agreement on Digitalisation to identify the necessary digital skills and adjust training accordingly, at national sectoral and firm levels. In Spain and Sweden, unions have engaged in educating and training their own members: the Spanish union UGT agreed with Google to train two hundred unions representatives on digital skills so they themselves go on to train union members, while the Swedish Trade Confederation, TCO, provided in 2019 a free online course to workers and unions representatives on AI (TCO, 2019_[18]).

Social dialogue and collective bargaining can help define fair, ethical and pragmatic responses to Al introduction at the workplace

- 13. The introduction of AI technologies at the workplace may entail different types of risks on the quality of the working environment, but also raise fundamental ethical issues, such as excessive surveillance, breach of privacy, potential discrimination among workers and risk of de-humanisation ¹⁰ due to the emergence of AI-based management in the workplace providing potential unprecedented form of control at the workplace (Adams-Prassl, 2019_[19]).
- 14. On the one hand, the use of these new management models can help employers increase control over their workers and the workplace, advance their performance evaluation techniques including novel rating systems, improve the performance and productivity of workers, rationalise the organisation of work, reduce the cost of monitoring and surveillance, facilitate the profiling of workers, affect workplace behaviours, ensure discipline and improve HR processes: when responsibly developed, Al has the potential to reduce human bias in decision-making relating to gender and various forms of discrimination at work.
- 15. The European Agency of Safety and Health at Work suggests for instance that AI technologies, by reducing human bias in decision-making, can improve OSH surveillance, reduce exposure to various risk factors, including harassment and violence, and provide early warnings of stress, health problems and fatigue. AI-based monitoring could also support evidence-based prevention, advanced workplace risk assessment and more efficient, risk-based, targeted OSH inspections. Information could be used by organisations to identify OSH issues, including psychosocial risks, and where OSH interventions are required at organisational level (EU-OSHA, 2021[20]).
- 16. On the other hand, new management models based on AI may go beyond what is strictly necessary, and lead to unfair and intrusive practices. (Bodie et al., 2016_[21]) The OECD (Forthcoming_[22]) identifies several issues of concern related to the use of AI and data for surveillance and monitoring ¹¹. First, workers are not always aware that they are being monitored or managed via AI. Second, even when employees are aware that they are being monitored by algorithms, they do not always have access to nor any say over who uses their data and how, which can lead to decisions with significant consequences for them. Third, continuous monitoring of workers through AI-processed data may lead to privacy breaches and violation of human integrity or dignity. Moreover, AI development typically relies on data which may be biased in ways that are socially significant (Cowls et al., 2019_[23]; Schor, 2018_[1]). That may lead to an

that many Al-driven analyses aim at identifying skills gaps using open data sets such as LinkedIn profiles, which do not necessarily refer to soft skills.

 $^{^{10}}$ The TUC (2020_[45]) conducted a survey data that suggest high rates of distrust when it comes to discrimination and unfairness by workers in the UK: more than 60% of respondents indicated that if not properly regulated, AI and monitoring could increase both unfairness and discrimination.

¹¹ Data privacy and protection issues range through all Al related technologies, including cobots, individual virtual coaches, smart applications and platforms that support decision-making in sensitive areas of HR management, such as hiring and performance management processes (OECD, 2021).

amplification of already existing forms of discrimination ¹² and exclusion or the creation of new ones at the workplace.

- 17. Beyond ethical issues, the use of AI technologies, can have both positive and negative impacts on **job quality**: through a better work organisation and task optimisation, AI can reduce stress, and fatigue levels, and enhance the quality of the working environment. For example, AI can support or automate repetitive or physically and mentally strenuous tasks, thereby allowing workers to focus on more interesting and safe tasks. However, AI can also generate psychosocial risks due to excessive monitoring and ethical issue outlined before; moreover, when embedded in work equipment, AI can lead to an intensification of the workload, higher dependency of workers in their interaction with machines, as well as increased safety risks, all key drivers of the quality of the working environment (OECD, 2015_[7]). Finally, concerns about **transparency**¹³, **explainability** and **accountability** in the case of injury or damage (Moore, 2019_[24])¹⁴ may exacerbate these risks in the workplace (OECD, Forthcoming_{[221}).
- 18. Social dialogue and collective bargaining have a fundamental role to play in all the aforementioned issues. First, because evidence shows that social dialogue and collective bargaining can help companies define tailor-made and fair solutions to organisational and technological changes (OECD, 2019_[5]). ETUI (2021_[25]) highlights the importance of the flexibility that collective agreements offer to cope with the sectoral and company-specific application of AI technologies, by offering tailored-made solutions and accounting the interests of workers and employers, and applying the general principles laid down in legislation in specific contexts.
- 19. Secondly, there is evidence that social dialogue and collective bargaining can enhance the quality of the working environment¹⁵ (OECD, 2019_[5]). Along the same lines, a recent study also found that the existence of employee representation tends to lead to job designs which, under automation, provide better working conditions and reduce worker scepticism towards automation¹⁶ (Belloc, Burdin and Landini, 2020_[28]). Third, because social dialogue and collective bargaining may be even more necessary to rebalance excessive imbalances stemming from Al diffusion¹⁷ and ensure that the fundamental labour and human rights are respected, as part of the international initiative to ensure a human-centric governance.
- 20. Many authors suggest that social dialogue is essential in further examining the effect of AI in minority groups and re-examining health and safety to draft better regulation (Lillywhite and Wolbring, 2020_[29]). The OECD (2019_[28]), recognizing the importance of this topic, calls "for all actors involved at all stages of AI applications to address the risks related to safety bias and discrimination". Along these lines, the OECD AI principles (OECD, 2018_[6]) outlines the instrumental role of social dialogue in ensuring a fair AI transition (Box 1).

¹² AccessNow 2018 provides evidence that workplace discrimination can be facilitated by Al.

¹³ Workers need to be informed on their privacy rights, for instance how data are used, stored or shared outside the employment relationship.

¹⁴ For instance, if Al technologies are used to implement practices that increase pressure on workers (e.g. micromanagement), they may cause stress and anxiety (Moore, 2019_[24]).

¹⁵ The OECD (2019_[5]) found that the quality of the working environment was on average highest in countries with well-coordinated social partners and a large coverage of collective agreements. It is also significantly higher in firms where workers can voice their concerns through representative institutions and through channels of direct dialogue with management.

¹⁶ The survey was conducted over a sample of more than 20 000 establishments from 28 countries. Additionally the study notes that employee representation and automatisation through Al are positively associated.

¹⁷ The use of Al may generate substantial power unbalances, for instance surveillance on platform workers can generate information asymmetries in favour of employers who have unlimited access to data on employees. Such asymmetries fundamentally change the power balance between workers and employers (Rani and Singh, 2019_[55]).

Box 1. OECD AI principles

OECD Al principles promote an Al that is innovative and trustworthy and that respects human rights and democratic values. The OECD Al principles call on governments to build human capacity and prepare the labour markets for labour transformation, by:

- 1. Empowering people to effectively use and interact with AI systems, including equipping them with the necessary skills;
- 2. Ensuring a fair transition for workers as AI is deployed, including via social dialogue, training programmes
- Promoting the responsible use of AI at work, to enhance the safety of workers and the quality of jobs, to foster entrepreneurship and productivity, an aim to ensure that the benefits are broadly and fairly shared
- 21. Several papers also acknowledge the importance of collective bargaining to prevent intrusive business practices and risk of de-humanisation: De Stefano (2020a[31]; 2020b[32]) argues that collective agreements could lay down the specific limits of Al-enabled surveillance of workers. The author argues that trades unions and workers' representatives should organise and oppose undue surveillance, for example by banning the most intrusive applications of technology including neuro-surveillance, and that collective bargaining is arguably still the most effective tool to achieve those goals in a rapid and customized fashion, considering how fast new technologies and are developed and introduced in the world of work today. Hendrickx (2019[33]) argues in favour of collective action in response to the rise of Al and surveillance. Hendrickx calls for fully coordinating human rights instruments, such as the European Convention of Human Rights, data protection instruments such as the EU GDPR and labour regulation instruments, including collective bargaining, to ensure that the use of new technologies at work is made compatible with human rights.

Social partners are engaging in outreach, awareness raising and advocacy

- 22. International and national unions have expressed their concerns and raised voice about ethical issues, through position papers and guidelines about the application of AI in the workplace. The ETUC has called for the reinforcement of workers' protections from undue surveillance, as well as from biased discrimination at the workplace in its resolution on the European Strategies on AI and data (ETUC, 2020_[15]). In its foresight brief, ETUI emphasizes the need for a preventive engagement of workers and trade unions in the way algorithms are designed and deployed, and call for collective bargaining to ensure the interest of workers and protect fundamental rights (ETUI, 2021_[25]). They can also offer the required flexibility to cope with the sector- and company-specific application of technologies. Consequently, it is vital that trade unions are aware of the risks of algorithmic management and that they plan adequate responses to these risks.
- 23. UNI Global Union produced principles ¹⁸ for ethical AI and workers' data privacy and protection to be implemented within collective agreements, at various levels or global framework agreements (UNI Global Union, 2019a[34]; UNI Global Union, 2019b[35]). AFL-CIO (2019[36]) expressed their concerns as algorithms and AI tools to make decisions about hiring and firing, promotions and work organisation without the consent of workers. They propose EU GDPR style of legislative introductions and tailored collective bargaining agreements "since optimal rules for data collection and use may vary considerably among workplaces". The European social partners in the insurance sector (UNI Europa Finance; Insurance

¹⁸ Principles related to workers' surveillance privacy and human dignity include: the right to have access to, and influence over, data collected on them; the exemption of biometric data and personally identifiable information; the avoidance of location tracking equipment unless necessary, the application of data minimalisation principle and more generally the respect of privacy laws and fundamental rights throughout the company, etc.

Europe; Amice; Bipar, 2021_[17]) also outlined the importance of assessing the risk of bias stemming from AI use and mitigate it.

- 24. Some unions (ETUI, 2021_[25]; TUC, 2021_[37])¹⁹ have also started reflecting and calling for the introduction of new rights, such as the right not to be subjected to fully automated decisions (e.g. without human intervention), the right to explanation for decisions made by algorithms or machine learning models, as automated decisions may result in incorrect performance assessment, biased allocation of tasks, etc. The British Trade Union Congress (TUC) produced an Al Manifesto proposing the introduction into legislature of new rights, such as the right to data reciprocity giving workers the right to collect and combine workplace data, the right to human review of high-risk decisions, the right of human contact when important decisions are made about people at work (TUC, 2021_[37]).
- 25. In the United States, the Teamsters Union strongly positioned in favour of bargaining over the permission given to employers to monitor the workplace using cameras and define more generally the parameters of workplace surveillance (Teamster, 2018_[38]). In Germany, (DGB, 2020_[39]) called for a more active participation of trade unions in the social dialogue around the topics of workplace surveillance and privacy in the era of AI.
- 26. For employers' organisations, AI is generally perceived as an opportunity for business and economic growth in ensuring competitive advantage (BusinessEurope, 2018_[40]). Hence, employers' organisations have engaged in strategies to address challenges such as barriers for AI diffusion, including the needs of up-skilling and re-skilling, data sharing practices and cybersecurity, as well as funding issues. In its AI strategy, BusinessEurope (2020a_[41]) proposed for instance the creation of common European data spaces for business-to-business data access and sharing, cloud interconnectedness of data spaces build on trust, openness, security, interoperability and portability or no mandatory data access rights unless other options are explored first. Still, in their common report, ILO ACT EMP and IOE also outlines the role of employers and business representatives in changing business paradigms and emerging new models (ILO ACT EMP and IOE, 2019_[13]). Finally, in a survey on the introduction of digital technologies addressed to European managers (CEC European Managers, 2018_[42]), half the managers expressed some concern about the implications for privacy of digital technologies, followed by transparency and labour rights.²⁰ Those were yet primarily expressed as possibly disruptive to the business processes.

Social partners are developing action plans and signing innovative agreements

27. Beyond informing, alerting and participating in decision making, social partners can also provide guidance through framework agreements, ²¹ as well as negotiate collective agreements ensuring adequate safeguards when Al-enabled tools and algorithmic-management practices are implemented. The European Social Partners Framework Agreement on Digitalisation (2020_[43]), signed for instance by ETUC, BusinessEurope, CEEP, and SMEunited, provides guidance on most of the issues outlined above and calls for the respect of human dignity, while enabling workers' representatives to address issues related to data, consent, privacy protection and surveillance, and the need to systematically link the collection and storage of data to ensure transparency – using the EU GDPR as a reference. ²² The framework also calls for a fair deployment of AI systems, i.e. ensuring that workers and groups are free from unfair bias and discrimination.

²⁰ The Activity Report 2018 - 2021 covers CEC European Managers' activities from May 2018 to May 2021

¹⁹ Those initiatives build on the EU GDPR.

²¹ European framework agreements are a result of EU-level social dialogue. Framework agreements are just one of several possible outcomes of EU social dialogue. The term 'framework' is intended to highlight the particular nature of the agreement as providing an outline of general principles to be implemented in the Member States 'either in accordance with the procedures and practices specific to management and labour and the Member States or at the joint request of the signatory parties, by a Council decision on a proposal from the Commission' (Article 139(2) EC).

²² Notably to the article 88 of the EU GDPR which refers to the possibilities to lay down by means of collective agreements, more specific rules to ensure the protection of the rights and freedom with regards to the processing of personal data of employees in the context of employment relationships.

- 28. More recently, social partners have also started engaging in "algorithm negotiations", i.e. they are including as a subject of bargaining the use of AI, big data and electronic performance monitoring ("people analytics") in the workplace, as well as their implications for occupational health and safety, privacy, evaluation of work performance and hiring and firing decisions (De Stefano, 2018_[44]).
- 29. To date, a few collective agreements have already been signed in OECD countries related to Al. In Spain, UGT and the employer organization Ametic signed an agreement asking for compliance with the EU GDPR with regards to data collection and processing. The agreement also stipulates that new technologies should be used for the benefits of the workers as well. Another agreement was signed between the Spanish Government, CCOO, UGT, CEOE and CEPYME that guarantees platform workers' rights to algorithmic transparency. In Switzerland, the trade union Syndicom agreed with the company Swisscom to a "Smart Data" policy that includes principles when processing employees' data.

How is Al affecting social dialogue?

- 30. If social partners can and should contribute to a fair AI transition, they also have to face additional pressures brought by AI, stemming from the complexity and lack of transparency of AI technologies. In addition, they have to develop strategies enhancing their affiliates' trust towards AI. More generally, to address fundamental ethical questions linked to human dignity, a more general policy framework besides social dialogue and collective bargaining may also be required. At the same time, AI technologies may also bring opportunities to social partners, for instance in helping strengthening workers' organisation or voice.
- 31. Particular attributes of AI technologies, such as their complexity and opacity, make it difficult for users and social partners to understand the social implications of their implementation or to make claims, and the allocation of liability may be unfair or inefficient. For instance, having a fair algorithm and respecting labour standards may require social partners to be involved in the design of the algorithm. However, having the mathematical code is often not sufficient to understand the purpose behind the algorithm and identify who are the targeted individuals, what are the trade-offs made in the input of values and variables, such as race, gender or other characteristics. In order to be able to critically understand AI's role and its impact on their work, social partners need to become "AI literate" (ETUI, 2021_[25]).
- 32. According to a survey conducted by the British Trade Union Congress (TUC), 36% of the survey participants felt that neither they nor their representatives could effectively challenge what they considered unfair decisions, due to lack of knowledge about the algorithmic operations and use, problems accessing data and management claiming infallibility of algorithms (TUC, 2020_[45]).
- 33. The lack of transparency and explainability, while undermining trust in AI technologies 23 , may also damage mutual trust between social partners, one of the key conditions for successful dialogue and collective bargaining (OECD, $2018_{[6]}$). This concern has been recently expressed by social partners in various papers see for example, UNI Europa Finance; and BusinessEurope ($2020b_{[46]}$), calling for an approach to "excellence and trust".
- 34. Furthermore, social partners will also need to continue their efforts in maintaining and/or improving their representativeness, as ensuring a large coverage is another key factor for a well-functioning social dialogue in a changing world of work (OECD, 2019_[5]). According to a recent survey conducted by ETUC, most collective agreements around digitalisation have been by far concluded in large companies. Far fewer have been concluded on a sectoral level and most often in sectors strongly affected by new technologies. (Voss and Riede, 2018_[47]). While collective agreements on AI technologies specifically are still in an early stage across OECD countries, the sectoral patterns are likely to be similar.
- 35. Along these lines, unions are diversifying their strategies to reach potential members and represent non-standard forms of employment (OECD, 2019_[5]). New minority independent unionism is on the rise, especially in AI and digitalisation related sectors, to bring bargaining counterparts to the table, even though they usually lack formal collective bargaining participation (Johnston and Land-Kazlauskas,

²³ According to the same TUC survey, 56% of the respondents found that AI introduction damaged trust between workers and employers (TUC, 2020).

- 2018_[48]). Employers also highlight the need for businesses to reach out to underrepresented or emerging economic actors and in particular giving "a seat at the table" to small and medium enterprises, as well as new business models based on AI technologies (ILO ACT EMP and IOE, 2019_[13]).
- 36. Finally, since AI systems may take decisions that violate fundamental human rights whether or not this is known or intended by the developers and applying business, social partners' actions may not be sufficient and require adjustments in national and international legislation governing AI as well as effective enforcement by public authorities. Such an issue should be further investigated in forthcoming research. Codes of conduct, soft law and other self-regulatory instruments are not legally binding. Evidence shows that their impact is rather limited and companies using them have a limited ability to evaluate their success or implementation (Auplat, 2012_[49]; Jenkins, 2001_[50]). Furthermore, the lack of enforcement mechanisms, as well as explicit sanctions for non-compliance is a real concern (ETUI, 2021_[25]).
- 37. The use of new technologies, including AI-enabled technologies, also provide an opportunity for workers' representatives to increase workers' voices and organise (Adler-Bell and Miller, 2018_[51]). Following the onset of the internet, which has had a tremendous impact in terms of facilitating communication and presenting renewal opportunities for unions (Martinez and Walker, 2005_[52]) AI can further boost trade unions through increased outreach, especially to younger members, new forms of management, facilitation of membership renewals, but also data analysis and machine learning techniques aiming to inform the union strategy about concerns related to the world of work (Vandaele, 2018_[53]). Flanagan and Walker (2020_[54]) provide an illustration of an application of AI used to build unions' power in Australia and the United States: using a reconfigured chatbot to reflect an "organising" rather than a "servicing" ethos, they argue that chatbots can offer various possibilities to unions trying to enhance their resources or capabilities.²⁴
- 38. Ranking applications, initially developed by platforms for their customers and employed to put pressure on workers of those platforms through monitoring and discipline, are also re-appropriated by workers to rank employers and their working conditions (AFL-CIO, 2019_[36]; Johnston and Land-Kazlauskas, 2018_[48]). Unions representatives and workers, are developing new initiatives, as they become aware of the potential of digital technologies to help them organise and reach out more workers from the digital economy ²⁵ (Voss and Riede, 2018_[47]).

Conclusions

- 39. This brief argues that social dialogue and collective bargaining can play an important role in addressing some of the key challenges driven by AI technologies. Previous evidence has shown that when social partners work cooperatively, social dialogue and collective bargaining can support and usefully complement public policies in easing transitions in the labour markets. Moreover, collective bargaining systems, when coordinated, can also reduce inequalities and foster inclusive and dynamic labour markets.
- 40. However, the fundamental ethical issues that the use of AI poses in terms of workers' privacy, data protection, surveillance and discrimination, may call for international and national actions to ensure the right ethical and legal framework is in place. Furthermore, the complexity and lack of transparency of AI algorithms represents a serious challenge for social partners who may be unable to understand, explain and adequately defend their members' interests. Along these lines addressing transparency, explainability and accountability will be key to build trust around AI adoption and diffusion.

²⁴ The reconfigured chatbot was used to enable otherwise marginal workers to receive basic information in a manner that reinforced union narratives of power and worker solidarity, and workplaces to be mapped more efficiently. The chatbot did not act as a labour-saving tool, but stimulated wide-ranging learning by bringing implicit tensions between 'servicing' and 'organising' conceptions of knowledge, power and expertise to the surface.

²⁵ For instance, new applications, such as Alia for domestic workers, or Weclock, have been developed to empower workers and unions. New online tools, such as the faircrowd.work website portal set up by IG Metall, the Austrian Union Confederation and the Swedish Unionen, provide support and information to platform workers on their working conditions. Along the same lines, the Lighthouse in the United Kingdom, provides an online tool for unions to educate themselves and find out where they stand in matters of data governance on their projects and as a whole.

References

Adams-Prassl, J. (2019), <i>What if Your Boss Was an Algorithm? The Rise of Artificial Intelligence at Work</i> , (SSRN Scholarly Paper No. ID 3661151) Social Science Research Network, Rochester, NY.	[20]
Adler-Bell, S. and M. Miller (2018), <i>The Datafication of Employment, How Surveillance and Capitalism Are Shaping Workers' Futures without Their Knowledge.</i> , The Century Foundation.	[50]
AFL-CIO (2019), Report of the AFL-CIO Commission on the Future of Work and Unions (Report to the AFL-CIO General Board).	[35]
Auplat, C. (2012), Nanotechnology and sustainable development, Routledge.	[48]
Belloc, F., G. Burdin and F. Landini (2020), <i>Robots and Worker Voice: An Empirical Exploration</i> , IZA, Discussion Papers 38.	[27]
Bodie, M. et al. (2016), <i>The Law and Policy of People Analytics</i> , Fac. Scholarsh.	[22]
Boheim, R. and A. Booth (2004), <i>Trade Union Presence and Employer Provided Training in Great Britain</i> , Ind. Relat. J. Econ.Soc.43, 520-545.	[9]
Brynjolfsson, E., D. Rock and C. Syverson (2017), <i>Artificial intelligence and the Modern Productivity Paradox: A Clash of Expectations and Statistics</i> , NBER Working Paper Series, No.24001, NBER.	[3]
BusinessEurope (2019), Artificial Intelligence Reccomendations.	[15]
BusinessEurope (2018), Robotics and Automation.	[39]
BusinessEurope (2020a), A European Strategy for Data.	[40]
BusinessEurope (2020b), Al: A European Approach to Excellence and Trust (Position Paper).	[45]
BusinessEurope, SMEunited, CEEP and the ETUC (2020), European Social Partners Framework Agreement on Digitalisation, https://www.etuc.org/system/files/document/file2020-06/Final%2022%2006%2020_Agreement%20on%20Digitalisation%202020.pdf .	[42]
CEC European Managers (2018), CEC European Managers Survey, https://www.cec-managers.org/wp-content/uploads/2021/06/CECActivity-Report-2018-2021.pdf .	[41]
Cowls, J. et al. (2019), <i>Designing AI for Social Good: Seven Essential Factors</i> , (SSRN Scholarly Paper No. ID 3388669). Social Science Research Network, https://doi.org/10.2139/ssrn.3388669 .	[24]
De Stefano, V. (2019), <i>Introduction: Automation, Artificial Intelligence, and Labour Protection</i> , Social Science Research Network, Rochester, NY.	[4]
De Stefano, V. (2018), 'Negotiating the Algorithm': Automation, Artificial Intelligence and Labour Protection, (SSRN Scholarly Paper No. ID 3178233). Social Science Research Network, https://doi.org/10.21 forma39/ssrn.3178233.	[43]
De Stefano, V. (2020b), 'Masters and Servers': Collective Labour Rights and Private Government in the Contemporary World of Work, Int. J. Comp. Labour Law Ind. Relat. 36.	[31]
De Stefano, V. (2020a), <i>Algorithmic Bosses and What to Do About Them: Automation, Artificial Intelligence and Labour Protection</i> , Springer International Publishing, https://doi.org/10.1007/978-3-030-45340-4 .	[30]
DGB (2020), Artificial Intelligence (AI) for Good Work.	[38]
Dustmann C and II Schönberg (2009) Training and Union Wages Rev. Econ. Stat. 91, 363	[10

[29]

376., https://doi.org/10.1162/rest.91.2.363.	
ETUC (2020), Resolution on the European strategies on artificial intelligence and data, ETUC Executive Committee.	[16]
ETUI (2021), Algorithmic management and collective bargaining (Foresight Brief).	[26]
EU-OSHA (2021), Impact of Artificial Intelligence on Occupational Safety and Health.	[21]
Flanagan, F. and M. Walker (2020), How can unions use Artificial Intelligence to build power? The use of AI chatbots for labour organising in the US and Australia, New Technol. Work Employ, https://doi.org/10.1111/ntwe.12178 .	[53]
Hendrickx, F. (2019), <i>Privacy 4.0 at Work: Regulating Employment, Technology and Automation</i> , Comp Lab Pol J 41, 147.	[32]
ILO (2020), Promoting employment and decent work in a changing landscape: Report of the Committee of Experts, ILO, https://labordoc.ilo.org/discovery/delivery/41ILO_INST:41ILO_V2/1268239920002676?lang=en-wiewerServiceCode=AlmaViewer .	[6]
ILO ACT EMP and IOE (2019), Changing Business and Opportunities for Employer and Business Organizations, International Labour Organization and International Organisation of Employers.	[14]
Jenkins, R. (2001), Corporate codes of conduct. Self-regulation in a global economy, Technology, Business and Society Programme Paper 2, United Nations Research Institute for Social Development.	[49]
Johnston, H. and C. Land-Kazlauskas (2018), Organizing on-demand representation, voice, and collective bargaining in the gig economy, International Labour Office, https://www.ilo.org/wcmsp5/groups/public/ed_protect/protrav/travail/documents/publication/wcms_624286.pdf .	[47]
Klindt, M. (2017), <i>Trade union renewal through local partnerships for skill formation</i> , Transfer: European Review of Labour and Research, Vol. 23/4, pp. 441-455.	[13]
Lane, M. and A. Saint-Martin (2021), <i>The impact of Artificial Intelligence on the labour market:</i> What do we know so far? (No. 256), OECD Social, Employment and Migration Working Papers, OECD Publishing.	[2]
Lecher, C. (2019), "How Amazon automatically tracks and fires warehouse workers for 'productivity".	[55]
Lillywhite, A. and G. Wolbring (2020), Coverage of Artificial Intelligence and Machine Learning within Academic Literature, Canadian Newspapers, and Twitter Tweets: The Case of Disabled People, Societies 10, 23., https://doi.org/10.3390/soc10010023 .	[28]
Martinez, M. and S. Walker (2005), <i>The Networked Union? The Internet as a Challenge to Trade Union Identity and Roles</i> , Crit. Perspect. Int. Bus. 1, 137–154., https://doi.org/10.1108/17422040510595645 .	[51]
Moore, P. (2019), <i>The Mirror for (Artificial) Intelligence: In Whose Reflection?</i> , SSRN Electron. J., https://doi.org/10.2139/ssrn.3423704 .	[25]
OECD (2019), Negotiating Our Way Up: Collective Bargaining in a Changing World of Work, OECD Publishing, Paris, https://dx.doi.org/10.1787/1fd2da34-en .	[5]
OECD (2019), OECD Employment Outlook 2019: The Future of Work, OECD Publishing, https://doi.org/10.1787/9ee00155-en .	[12]

OECD (2019), Scoping the OECD Al principles: Deliberations of the Expert Group on Artificial

Intelligence at the OECD (AIGO) OECD Publishing, Paris,, OECD Publishing, https://doi.org/10.1787/d62f618a-en .	
OECD (2018), OECD Employment Outlook 2018, OECD Publishing,, https://doi.org/10.1787/empl_outlook-2018-en .	[7]
OECD (2015), Back to work: Sweden: Improving the Re-employment Prospects of Displaced Workers, OECD Publishing, https://doi.org/10.1787/9789264246812-en .	[8]
OECD (Forthcoming), Al at the workplace: the fundamental ethical issues, OECD Publishing.	[23]
Rani, U. and P. Singh (2019), <i>Digital Platforms, data, and development: Implications for Workers in Developing Economies</i> , Autom. Artif. Intell. Labor Law 41, 23.	[54]
Rosenberg, A. (1984), "Automation and the work preservation doctrine: Accommodating productivity and job security interests", <i>UCLA L. Rev.</i> , <i>32</i> ,, p. p.135.	[56]
Schor, J. (2018), The Platform Economy: Consequences for labour, inequality and the environment. An Excerpt from Work in the Digital Age: Challenges of the Fourth Industrial Revolution., Rowman & Littlefield spencer.	[1]
Solomon, L. and N. Hyman (1989), "Improving the Competitive Position of US Manufacturing Firms: A Legal and Policy Analysis", <i>JL & Com</i> , Vol. 9, p. p.21.	[57]
TCO (2019), TCO's board accepts Al challenge, https://www.tco.se/nyheter-och-debatt/Pressmeddelanden/2019/tcos-styrelse-antar-ai-utmaning/?epslanguage=sv (accessed on 22 April 2021).	[19]
Teamster, D. (2018), The Future of Work is Now bargaining strategies: From Machine Breaking to Artificial Intelligence 84.	[37]
TUC (2021), Dignity at Work and the Al Revolution. A TUC Manifesto, Trade Union Congress.	[36]
TUC (2020), <i>Technology managing people - The worker experience</i> , Trade Union Congress, https://www.tuc.org.uk/research-analysis/reports/technology-managing-people-worker-experience (accessed on 20 January 2021).	[44]
UNI Europa Finance; Insurance Europe; Amice; Bipar (2021), Joint declaration on Artificial Intelligence by the European social partners in the insurance sector, https://www.uni-europa.org/wp-content/uploads/2021/03/20210316 ISSDC Joint-declaration-on-Artificial-Intelligence-1.pdf (accessed on 13 April 2021).	[18]
UNI EUROPA ICTS (2019), Position on Artificial Intelligence.	[17]
UNI Global Union (2019b), Top 10 Principles for Ethical Artificial Intelligence, UNI Global Union.	[34]
UNI Global Union (2019a), <i>Top 10 Principles for Workers' Data Privacy and Protection, The Future World of Work</i> , http://www.thefutureworldofwork.org/docs/10-principles-for-workers-data-rights-and-privacy/ .	[33]
Vandaele, K. (2018), Will trade unions survive in the platform economy? Emerging patterns of platform workers' collective voice and representation in Europe, ETUI Working Paper 35.	[52]
Verma (2005), What do unions do to the workplace? Union effects on management and HRM policies, J. Labor Res.	[11]
Voss, E. and H. Riede (2018), Digitalisation and workers participation: What trade unions, company level workers and online platform workers in Europe think, https://www.etuc.org/sites/default/files/publication/file/2018-09/Voss%20Report%2 .	[46]

THE GLOBAL DEAL FOR DECENT WORK AND INCLUSIVE GROWTH

The Global Deal is a multi-stakeholder partnership that aims to address the challenges in the global labour market to enable all people to benefit from globalisation. It highlights the potential of sound industrial relations and enhanced social dialogue to foster decent work and quality jobs, to increase productivity, and to promote equality and inclusive growth. The Global Deal welcomes governments, businesses, employers' organisations, trade unions, as well as civil society and other organisations to join the partnership.







