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Agency of artificial intelligence tools in defining working conditions: towards a research agenda on the individual employment contract.

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1. Introduction.

Regulation of algorithms and artificial intelligence (AI) for managerial purposes has been a challenging endeavour. A plethora of complex questions hinder the creation of comprehensive policies and legal frameworks: is AI akin to other emerging technologies at work? Is contemporary AI fair enough to manage workers, and what additional safeguards are necessary to prevent the risks of AI?

AI deployment is mainly at the employer's discretion; however, emerging literature points to legal friction between AI and labour rights. AI-powered tools are reported to discriminate against protected groups,[1] limit access to labour markets,[2] and weaken employment protections.[3] To mitigate risks and respond to potential AI harms, current regulatory proposals suggest the implementation of new digital rights for workers, enactment of policies promoting ethical AI, imposing legal obligations for vendors to create fair AI, and issuing

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[1] *See* Kim P., Bodie MT., *Artificial intelligence and the challenges of workplace discrimination and privacy,* in *ABA Journal of Labor and Employment Law*, 35, 2021, 289; Xenidis R., Senden L., *EU non-discrimination law in the era of artificial intelligence: Mapping the challenges of algorithmic discrimination*, in Bernitz U., Groussot X., Paju J., de Vries S.A. (eds.), *General Principles of EU Law and the EU Digital Order*, Kluwer Law International, 2020.

[2] Nugent S.E., Scott-Parker S., *Recruitment AI has a disability problem: Anticipating and mitigating unfair automated hiring decisions* in Aldinhas Ferreira M.I., Tokhi M.O. (eds.), *Towards Trustworthy Artificial Intelligent Systems,* Springer International Publishing, 2022.

[3] Soper S., *Fired by bot at Amazon: "It's you against the machine*" in *Bloomberg,* 2021, available at: https://www.bloomberg.com/news/features/2021-06-28/fired-by-bot-amazon-turns-to-machine-managers-and-workers-are-losing-out, 2021 (accessed 16 January 2023).

policy guidelines on AI-associated risks.[4] AI technology must be grounded in ethical standards such as transparency, explicability, and controllability. The premise of those proposals is that AI is a significant thread in the fabric of society. By promoting good policies, the outcomes of AI implementation would serve the greater good of workers.

In contrast to this notion, workplaces managed with the help of technology present an alternative landscape. Digital presence can be implemented at all stages of workplace organisation, such as recruitment, performance management, staff appraisal, task distribution, management, and evaluation of work. Even if inherent to digital labour platforms (DLP),[5] AI managerial practices are spreading to typical workplaces.[6] Technology enables an ongoing surveillance and is reported to track workers without their knowledge or consent. Instead of visualising AI tools as fully vested within the employer's prerogative, this article explores ways to find space for disclosing AI-managerial standards in individual employment contracts in typical workplaces. It focuses on the question of whether individual employment contracts can protect working conditions in workplaces managed by AI tools.

Existing labour law literature uses terms such as algorithmic management, automated decision-making systems, automation and machine learning interchangeably. From socio-legal perspectives, those terms often speak of the same risks associated with new technologies. Methodologically, this article refers to AI and relies on the following definition. AI is an area of computer science whose primary aim is to create digital systems that mimic the cognitive functions of the human brain, such as learning, reasoning, and planning. It makes decisions by combining data, algorithms, and computing power, typically without human interference.[7] While not all automated processes incorporate AI, employers use AI-powered tools to enhance automation. Depending on the resources and managerial approaches, employers either build AI infrastructure in-house or purchase it from external AI vendors.

[4] *See*, *inter alia*, the *Americans with Disabilities Act* and the use of software, algorithms, and artificial intelligence to assess job applicants and employees, 2022; White House Office of Science and Technology Polic, *Blueprint for an AI Bill of Rights: Making automated systems work for the American people*, 2022; European Parliament and European Council proposal laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain union legislative Acts, 2021.

[5] Platform work typically refers to work performed through, or facilitated by, web-based online platforms. The Directive of the European Parliament and of the Council on improving working conditions in platform work defines a 'digital labour platform' in Article 2(1) as any natural or legal person providing a commercial service which (a) is provided at a distance through electronic means, such as a website or a mobile application; (b) is provided at the request of a recipient of the service; and (c) involves, as a necessary and essential component, the organisation of work performed by individuals, irrespective of whether that work is performed online or in a certain location.

[6] This research uses the term 'typical' workplaces to refer to 'traditional', 'standard' or 'regular' and those that are in contrast to new forms of digital labour platforms. *See* how AI is integrated in typical workplaces in Baiocco S., Fernández-Macías E., Rani U., Pesole A., *The algorithmic management of work and its implications in different contexts*, European Commission, 2022; Clarke L., *Algorithmic bosses are moving beyond the gig economy,* in *Tech Monitor*, 2021, available at https://techmonitor.ai/leadership/workforce/algorithmic-bosses-changing-work (accessed 16 January 2023).

[7] European Commission, *White Paper on artificial intelligence - A European approach to excellence and trust*, 2020, available at https://ec.europa.eu/info/sites/default/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf (accessed 16 January 2023).

Structurally, this article first focuses on how a task is assigned from employer to workers and how the integration of AI changes the agencies of parties to the employment relationship. It then outlines the parameters that constitute a working condition and considers the effect of AI on working time and remuneration. The following section discusses the merits of considering AI within the parameters of the terms and conditions of individual employment contracts. Finally, this article concludes that employment contracts could disclose more information on working conditions to create more stable workplaces.

2. AI for workplace management: task allocation and evaluation.

Employers and workers use AI-powered tools to advance their interests. In strict terms, it is either utilised by workers for occupational development or by employers to advance the interests of their enterprises. For workers, the array of thrilling AI possibilities is arguably endless - AI can assist in bypassing routine tasks, improving performance and accelerating work processes.[8] The employer's impetus for deploying AI is similar – optimising and maximising efficiency through automation that would otherwise require human resources. For AI to deliver, employers need data on workers which is usually facilitated by digital monitoring. Personal data variables can range from age, height, and heartbeat parameters to location indicators, the number of strokes made on the keyboard, and the amount of screen time.

Employers monitoring workers is not a new phenomenon. Within reasonable bounds, this ensures the completion of work following the needs of the enterprise. The development of technology diversified and enhanced methods of work monitoring. Data gathered from monitoring is used to measure productivity, make decisions about workplace management, and implement disciplinary measures. The granularity of collected indicators afforded by the advancement of technology allows for further optimisation of the workplace. AI analyses workers' information harvested from hardware and software gadgets such as installed sensors, wearable gadgets, or computer software. AI-powered tools assist employers in managing workers in warehouses, transportation, logistics, restaurant, and hotel sectors of economic activity.[9] One of the main ways AI changes the nature of work is through task management. To explore how AI-powered tools affect decision-making, this section focuses on an assignment of a task by an employer to a worker, completion, and evaluation of a task.

Work distribution and evaluation cycles are at the core of the employer's functions. Whether it is a long- or short-term assignment, a standalone or an auxiliary task, whether it demands teamwork or is foreseen to be completed independently, this cycle can be visualised by zooming in on the process of a single task allocation. On a rudimentary level, the employer assigns a worker a task within the rights and responsibilities granted by labour and employment law. Determining the parameters of the task is left at the employer's discretion, and the worker then must perform the task, often within a specific timeframe. The results

[8] Callaway E., *"It will change everything": DeepMind's AI makes gigantic leap in solving protein structures*, in *Nature,* 588, 7837, 2020, 203.
[9] Baiocco S., Fernández-Macías E., Rani U., Pesole A., nt. (6).

can be subject to the employer's performance assessment and affect future work distribution. Without digital interference, the roles and responsibilities of the parties engaged in a working relationship are definite. The nature of the task can vary across sectors and types of employment. It can range from answering incoming emails to independently writing code for a software program, from attending unclean workplaces spaces to writing an article on a developing story, and from giving a PowerPoint presentation to packaging a certain number of products per hour. This task allocation is present throughout the workplace hierarchy.

Upon the employer's discretion, AI features can be implemented for work distribution and evaluation. Employers can delegate decision-making functions at several stages of task assignments. Namely, the algorithm can generate the type of task the worker performs, keep workers under continuous monitoring while executing the task, and, once the task is concluded, algorithms can evaluate the worker's performance. Based on task completion metrics – parameters such as speed, location, accomplishment, and customer satisfaction rate – AI predicts a worker's success in the future and adjusts the worker's performance evaluation and score.

There are two points to note concerning the scale and degree of AI's use for work distribution and evaluation. First, the scale of AI deployment varies significantly on the workplace and AI products the employer uses. AI-powered tools gather information by scanning the workplace with digital devices, studying workers' and customers' behaviour, computing workers' movements, trying to foresee issues with customers and dispatching workers to attend to matters that might arise. While the technology can be implemented across all stages of task assignment, there is no empirical evidence of fully automated workplaces. Some employers only resort to automating task allocation, some monitor workers, and others generate feedback based on work performed.

Secondly, the degree to which AI is truly autonomous is also highly dependent on a case-by-case basis. Wood discusses the degree of automation and proposes six levels of automation varying from non- to fully- automated algorithmic workplace management.[10] He argues that the degree of automation can be evaluated by whether the AI and/or human can (1) control evaluation and discipline, (2) review the decision and (3) overrule the decision. Baiocco and others added that, in practice, most workplaces are only partially or conditionally automated.[11] Even in DLP, where the AI saturation is high, not all stages of workplace management are consistently automated.

3. AI's agency in shaping the working conditions.

A comparison between two settings – human and AI-generated work distribution and evaluation – gives a general representation of how AI influences employment relationships. These processes would trigger AI-generated task assignments, continuous monitoring, and evaluation of workers. Employers can assign tasks and manage the workplace as they deem

[10] Wood A., *Algorithmic management consequences for work organisation and working conditions*, in *JRC Working Papers Series*, 7, 2021.
[11] Baiocco S., Fernández-Macías E., Rani U., Pesole A., nt. (6).

necessary. This falls within the employer's prerogative - "management's authority to make unilateral decisions in the workplace".[12] The degree to which this discretion is regulated depends on a country's jurisdiction and labour laws. Regardless of the boundaries of employers' prerogative, the employer is the actor who chooses how and when to deploy AI. It is therefore that when coding AI software tools, the main objective is to create an optimized piece of technology for the employer to advance their interests.[13]

AI also augments automation and, to an extent, replaces managerial roles.[14] Extensive delegation of executive responsibilities to AI-supported systems weakens the position of managers. AI, however, only partially substitutes the managerial class. The employer remains an entity even if the decision-making of the task allocation in part or whole is delegated to the AI. Instead, AI challenges the employer's agency – the employer's control over actions and outcomes. This section examines how AI-facilitated task allocation and evaluation can affect working time and remuneration standards.

3.1. Working time.

The regulation of working time is one of the cornerstones of working conditions. Limitations imposed on working hours were one of the first hard-won battles gained by organised labour movements.[15] As it is often mandated by individual or collective contracts, workers can anticipate a set work schedule. Sequential working days or weeks provide an overview of when "the worker is working, at the employer's disposal and carrying out his activity or duties".[16] The use of AI in work distribution can fragment, intensify, and prolong working time.

Work shift scheduling is one of the main managerial tasks that is automatised and often outsourced to external private AI vendors. Private companies such as Shiftboards, Percolata, Rotageek offer services in the warehouse, manufacturing, and energy sectors.[17] With the help of software, they automate and generate scheduling for workers. Applying the task's lifespan described in the previous section, employers outsource the allocation of work shifts, measurement of workers' engagement and attendance during the working time, and

[12] Racabi G., A*bolish the employer prerogative, unleash work law*, in *Berkeley Journal of Employment & Labor Law,* 43, 1, 2021, 79.
[13] Kellogg K.C., Valentine M.A., Christin A., *Algorithms at work: The new contested terrain of control*, in *Academy of Management Annals*, 14, 1, 2020, 366.
[14] Tschang F.T., Almirall E., *Artificial intelligence as augmenting automation: Implications for employment*, in *Academy of Management Perspectives*, 35, 4, 2021, 642.
[15] Reick P., *Why did organized labor struggle for shorter hours? A diachronic comparison of trade union discourse in Germany*, in *Labor History*, 60, 3, 2019, 250.
[16] European Union Directive 2003/88/EC of the European Parliament and of the Council concerning certain aspects of the organisation of working time, Article 2(1).
[17] For example, Percolata is a private company that is used to scheduled work judging on the compatibility of workers who conduct a shift together or the productivity of workers depending on the time of day. *See* Tanaka G., Liu Z., Wong G., Gao Z., Liu M., Cho PCT., Benjamin SK., *Method for Determining Staffing Needs Based in Part on Sensor Inputs,* 2016, available at https://www.freepatentsonline.com/y2016/0342929.html (accessed 16 January 2023).

processing evaluation of workers' performance. AI vendors stand out with claims to offer comprehensive solutions that would intelligently manage the workforce.

One of the ways AI optimises the use of the workforce is by breaking and shortening shifts as well as scheduling them more sporadically over the span of a week or month. Whether workers get a shift might depend on various factors, such as customer evaluation or monitoring of previously conducted work. This method can create on-call workforces where automated scheduling gives inconsistent work to employees and can cause precarity through irregular working hours. This puts work-life balance issues on the table and stability to plan working people's lives.

Technology changes not only the scheduling but also how workers manage their working time. Instead of entirely replacing workers, AI used in task allocation can impact workers' autonomy. When workers receive a task, they have a certain level of discretion of their own to consider the circumstances in the workplace and to make the decision on the execution of the task. Technology changes the nature of work and strips workers of their choices. Moreover, automation accompanied by AI alters working conditions by intensifying and speeding up the pace of work.[18] Optimisation of the workflow might increase the volume of work and define task execution methods more rigidly. Those systems are often inconsiderate of in-work breaks, resting time, and delays in completing tasks. Suppose the software directs a worker to attend to customers at the counter, and the worker does not reach the destination on time or does not resolve the matter efficiently. In that case, this can lead to evaluation and scoring matters. It is then that this score affects the decision-making that shapes the working conditions.

3.2. Remuneration.

Shorter and unpredictable shifts, intense working hours, and overtime leads to the discussion of the following working condition of remuneration. The remuneration includes "any additional emoluments whatsoever payable directly or indirectly, whether in cash or kind, by the employer to the worker and arising out of the worker's employment".[19] The base salary is determined by collective bargaining, individual labour contract or other relevant domestic labour laws. This can include overtime pay, commissions, vacation pay, any payments towards housing costs, employer contribution to pension funds, disability plans and other social security contributions. How and whether the domestic laws define the term remuneration depends on the respective countries.[20] AI's agency can change how employers calculate and allocate those indemnities.

[18] Wood A., nt. (10); Ball K., *Electronic monitoring and surveillance in the workplace,* Publications Office of the European Union, 2021.
[19] International Labour Organization, Convention on Equal Remuneration Convention, 1951 (No. 100), Article 1(a).
[20] *See* EPIC, *Equal pay around the world: Legal database,* available at https://www.equalpayinternationalcoalition.org/equal-pay-legal-database/ (accessed 16 January 2023).

Technology already plays a significant role in salary allocation. Employers have long been resorting to automation to optimise operations related to remuneration. Naturally, automation payment includes digitalised paychecks. The determination of base salary typically depends on the terms and conditions of the employment contract. Salary uncertainties are typical for DLP as workers are reported to experience irregular earnings, and delayed, or unpaid orders.[21] The standby time is not counted towards working time and workers are not being compensated for shifts or orders cancelled last minute.[22] The DLP workers, however, present a rather extreme example where the law does not protect workers as they are often classified as self-employed.

The scenario that is more likely to unveil in typical workplaces is the determination of bonuses and other remuneration factors. Customer feedback and scoring of workers in the service economy, for example, is already determining some or all elements of remuneration.[23] Such practices are at the core of the DLP business model and might become an essential feature of typical workplaces.[24] The company Workforce, similar to other vendors providing software products, offers to integrate payroll in relation to shifts covered, attendance and overtime. It promises to simplify everyday operations, integrate work-related business in one spot, and allocate rewards and bonuses. Frequency and the amount of remuneration, typically terms and conditions discussed in the contract, can be outsourced to an application. In that scenario, workers might experience missing paychecks if work is not completed to the standards of the application.[25] Tying elements of remuneration to the task completion measured by AI-set productivity standards tighten the employer's control.

4. Revising the role of the individual employment contract.

The previous section discussed how task distribution facilitated by AI can be consequential in shaping working conditions. As it gains more potency in the decision-making process, the application of AI tools for managerial purposes reveals the fundamental issue of undisclosed technology and productivity thresholds. Private AI vendors process the data and measure workers' performance against often automatically generated productivity standards. Not only are these standards obscure, but they can also change over the period of employment and are implemented by the employer. If the employer cannot communicate – or even worse – understand the changing parameters against which workers are performing,

[21] *See* Schor J.B., Attwood-Charles W., Cansoy M., Ladegaard I., Wengronowitz R., *Dependence and precarity in the platform economy* in *Theory and Society*, 49, 5, 2020, 833.
[22] Safak C., Farrar J., *Managed by bots: Data-driven exploitation in the gig economy*, in *Worker Info Exchange,* 2021, available at https://www.workerinfoexchange.org/wie-report-managed-by-bots (accessed 16 January 2023).
[23] Darrah D., *How customer service surveys are eroding workers' rights,* in *Jacobin*, 2021, available at: https://jacobin.com/2021/04/customer-service-surveys-reviews-workers-rights (accessed 16 January 2023).
[24] Schweyer A., *The impact and potential of artificial intelligence in incentives, rewards, and recognition*, in *Incentive Research Foundation*, 2018, available at https://theirf.org/research_post/the-impact-and-potential-of-artificial-intelligence-in-incentives-rewards-and-recognition/ (accessed 16 January 2023).
[25] Gent C., *The politics of algorithmic management*, *Doctor of Philosophy Thesis*, University of Warwick, 2018.

it creates unclear working objectives. For workers, the overall problem comes from the lack of understanding of what is assessed and how work is evaluated.

To respond to the negative effect of AI presence on labour rights, the regulatory tide is heading toward creating an additional layer of regulation. Many of those initiatives are proposed with the intent to perfect the design of AI systems, create new digital rights, and restrict potential harm. They assume that translating ethical principles such as transparency, explainability, and traceability into the design of AI tools is advantageous for all parties to the employment relationship.[26] AI matters can also be addressed through the collective bargaining process,[27] laws mandating employers to disclose productivity thresholds,[28] and co-determination laws.[29]

The individual employment contract, however, remains unattended in this discourse. If AI management tightens workers' schedules, fragments their responsibilities, and narrowly dictates how to perform work, there might be an argument to present regarding changing terms and conditions of the individual employment contract. The changing of working conditions is not inherently in violation of employment law or labour rights. AI accumulating greater agency in the determination of working conditions, however, raises some salient questions. To consider these matters further, it is necessary to lay out the parameters of working conditions and how they are positioned within the employment relationship.

Labour laws define the standards of some working conditions. They are reaffirmed in employment relationships in terms and conditions of the individual labour contract or collective agreements. Working conditions arise from the rights of workers and are contract specific. According to canons of employment law, workers must familiarise themselves and understand and accept the terms of employment before starting a position. More so, the employer should provide workers with reasonable time to familiarise themselves and, in some instances, reasonable accommodations regarding upcoming changes in working conditions.

EU Council Directive 91/522/EEC of 14 October 1991 on an employer's responsibility to inform employees of the conditions applicable to the contract or employment relationship in Article 2 provides for "the essential aspects of the contract or employment relationship".[30] Those include parties to the contract, place of work, the title, grade, nature or category of

[26] Merits of those regulations are discussed at length elsewhere. *See,* for example, Kelly-Lyth A., *Dispatch no. 39 - the AI Act and algorithmic management*, in *Comparative Labor Law and Policy Journal*, 9, 2021.
[27] AI is emerging on trade unions' agendas and becoming a matter of collective bargaining. For example, the UK's Communication Workers Union includes algorithmic management in its collective agreement. The agreement emphasises that any decision concerning technology deployment must be negotiated with trade union representatives. *See* Communication Workers Union, *Collective Agreement*, 2022.
[28] *See* California Assembly, Bill 701 on *Warehouse distribution quota law*, 2022. It requires employers to disclose quotas in certain enterprises.
[29] *See* the German Works Constitution Act (Betriebsverfassungsgesetz) in Article 87(6) provides that in the absence of collective agreements, devices monitoring the behaviour or performance of workers are subject to the discretion of the works council. Sweden Employment Co-Determination in the Workplace Act (Lag om medbestämmande i arbetslivet) Article 11(2) mandates require employers consult with workers' organizations before implementing changes affecting working conditions. These provisions can keep workers informed and determine the technology that is implemented in the workplace.
[30] European Union Directive no. 91/533 on an employer's obligation to inform employees of the conditions applicable to the contract or employment relationship.

the work, a brief specification or description of the work, starting date, amount and frequency of remuneration, and length of the typical working day.

Directive 91/533/EEC is superseded in favour of EU Directive 2019/1152 of 20 June 2019 on transparent and predictable working conditions,[31] which should be implemented by the EU Member States per respective national labour laws in 2022. Until then, Directive 91/533/EEC remains in force. Directive 2019/1152 was introduced to tackle precarity related to job insecurity and the emerging atypical forms of employment in the world of work. In comparison to Directive 91/533/EEC, Directive 2019/1152 expanded the scope of application and ensured higher guarantees for workers to receive information on unpredictable factors defining working conditions.[32]

Directive 2019/1152 is a noteworthy instrument to consider in light of challenges posed by AI tools in typical workplaces. Article 4(1)(k) retains the provision from Directive 91/533/EEC which requires the employer to indicate the remuneration. In relations to working time, Article 4(2)(l) and (m) introduces the regulation of predictable and unpredictable working schedules. The first instance concerns a rather straightforward provision. If the work pattern is predictable, the employer should disclose the length of a working day or week, any arrangements for overtime and its remuneration, and any arrangements for shift changes. In the second instance, the employer should inform the worker with entirely or mostly unpredictable work patterns of the fact that the schedule is variable, of the guaranteed paid hours and of the remuneration for work performed in addition to those guaranteed hours. In addition, the employer should reference hours and days within which the worker may be required to work, and the minimum notice period to which the worker is entitled before the start of a work assignment.

This provision of Directive 2019/1152 narrows down the window of working hours when a worker can expect a shift and prescribes not only guaranteed working hours but also any remuneration entitlements. If called outside of the defined timeframe, the worker can "refuse a work assignment without adverse consequences" as per Article 10(2). Furthermore, Article 11 aims to prevent abusive practices by imposing limitations to the use and duration of on-demand contracts and a rebuttable presumption of the existence of an employment contract with a minimum amount of paid hours. These provisions reshape the employers' prerogative by restricting the flexibility with which the workforce can be scheduled. If scheduling is delegated to AI software, it should be able to intergrade the minimum protections afforded above. These measures preventatively eliminate the likelihood of sporadic working hours and guarantee wages for the worker – the conditions that could be altered by AI.

One of the missed opportunities of Directive 2019/1152 was omitting the expanded definitions of a 'worker', which was on the table at the initial stages of the negotiation.[33] This

[31] European Union Directive 2019/1152 on transparent and predictable working conditions in the European Union.
[32] Miranda Boto JM., *Much ado about anything? The new Directive (EU) 2019/1152 on ransparent and predictable working conditions in the European Union,* in Marhold F., Becker U., Eichenhofer E., Igl G., Prosperetti G., Miranda Boto, JM., (eds.), *Arbeits- und Sozialrecht für Europa*, Nomos Verlagsgesellschaft mbH & Co. KG, 2020, 157.
[33] Bednarowicz B., *Delivering on the European Pillar of Social Rights: The new Directive on transparent and predictable working conditions in the European Union*, in *Industrial Law Journal*, 48, 4, 2019, 604.

definition would have extended the right to information of the working conditions to all workers, notably to the atypical workers. Directive 2019/1152 ultimately applies to "every worker in the Union who has an employment contract or employment relationship as defined by the law, collective agreements or practice in force in each Member State with consideration to the case-law of the Court of Justice".[34]

On the EU level, Directive on improving working conditions in platform work (the Draft) picks up on this gap with the aim to regulate algorithmic management for people performing platform work, whether it is a self-employed or an employee.[35] One of its propositions concerns clarifying the algorithm which ultimately affects working conditions.[36] As it stands today, Article 9 of the Draft presents some people performing platform work with the right to information and consultation which obliges the employer to notify of significant changes in the algorithmic systems. Advising workers' representatives of any changes in advance of algorithmic deployment is a significant suggestion. AI systems are distinct due to algorithmic adaptability and automatic alteration in the decision-making process.[37] The Draft supplies a way for workers to understand changing AI management systems.

Both instruments, in essence, carve avenues for access to information regarding the working conditions. It is done by imposing obligations on the employer to communicate the potential time and effort required by the worker. Directive 2019/1152 aims to protect the immutable working conditions such as working time and remuneration that, as was argued in this article, can be compromised by the interference of AI agents. At the same time, Directive 2019/1152 has its limitations with regard to AI implementation. As it is not tailored within the context of evolving technologies, Directive 2019/1152 evidently does not tackle the matter of algorithms and AI in the workplace. It does not regulate the disclosure of the productivity thresholds workers are evaluated against. Even if it does not address all the issues that arise, Directive 2019/1152 offers a possible roadmap for a supranational legal instrument to regulate the composition of the employment contract to ensure the minimum level of protection. These obligations not only elevate the ethical AI systems but also translate those principles into the terms and conditions of the individual employment contract.

5. Discussion.

Employers are enjoying discretion on ways to manage a workforce. Assigning tasks is a quintessential feature of the employers' powers which affects workplace management and

[34] Directive 2019/1152, Article 1(2). Apart from Article 9 on information and consultation and Article 7(2) on some provisions on human monitoring of automated systems, algorithmic management provisions also apply to self-employed platform workers.
[35] Proposal for a Directive of the European Parliament and of the Council on improving working conditions in platform work, COM/2021/762 final, Chapter III.
[36] Aloisi A., Potocka-Sionek N., *De-gigging the labour market? An analysis of the "algorithmic management" provisions in the proposed Platform Work Directive,* in *Italian Labour Law e-Journal,* 15, 1, 2022, 29.
[37] De Stefano V., *The EU Commission's Proposal for a Directive on platform work: An overview*, in *Italian Labour Law e-Journal,* 15, 1, 2022, 1.

working environments. The ability of employers to delegate their managerial functions to AI and to continuously track and monitor workers expands and amplifies employer powers. This can result in consolidation of information causing asymmetries that affect jobs with poor protections,[38] worker displacement to more precarious forms of work,[39] and the exacerbation of societal inequalities.[40]

For too long, the employment contract has been the symbol of the employer's entitlements and control while it left workers with undefined working terms and conditions.[41] There are specific ways these principles should be revisited to avoid risks associated with AI involvement. Reliance on AI can be definitive and formative of working conditions such as working hours and remuneration. It is therefore that even the fairest of AI can modify contractual terms. This article explored how employers can disclose the use of AI in decision-making through the employment contract.

Especially in non-unionised settings, the law could mandate that employers foresee AI-related matters in the terms and conditions. As AI management advances to typical forms of employment, Directive 2019/1152 can be a blueprint for making working conditions more predictable. This approach does not contradict other suggestions to limit AI's adverse effects. For that, the regulatory bodies need to push to unleash the potential of individual employment contracts to empower workers. In one way or another, the employer who exercises the prerogative to deploy AI should also bear the responsibility for its consequences. AI is not sophisticated enough to be completely autonomous, and it is questionable whether it will ever be. Therefore, AI is auxiliary to managerial tools and instrumental to expanding employers' powers. Regardless of the sophistication and innovation of AI-powered systems, they remain to be nothing more than tools that can be communicated, disclosed, and used for the amelioration of workers' rights.

When Directive 2019/1152 was adopted, it did not expand its scope to protect the most vulnerable of DLP workers. This was considered a failure.[42] Directive 2019/1152, however, can emerge as an unexpected and timely ally against AI-related risks for typical workers. This brief contribution considered working time and remuneration, but the literature examines the interplay between AI and other working conditions, such as occupational safety and health.[43] The road ahead lies with the need for more empirical studies of AI's potential to change working conditions at sectoral levels, deeper analyses of the terms and conditions vis-à-vis AI, the study of Directive 2019/1152 implementation by Member States, and the landscape for the necessary domestic labour law reforms to solidify the right to information.

[38] Racabi G., nt. (12).
[39] Berg J., *Protecting workers in the digital age: Technology, outsourcing, and the growing precariousness of work,* in *Comparative Labor Law & Policy Journal*, 41, 1, 2019, 69.
[40] International Labour Organization, *Inequalities and the world of work*, ILC.109/IV(Rev.), 2021, available at http://www.ilo.org/ilc/ILCSessions/109/reports/reports-to-the-conference/WCMS_792123/lang--en/index.htm (accessed 16 January 2023).
[41] Deakin S., *Formation of the Contract of Employment,* in Freedland M., Bogg A., Cabrelli D., Collins H., Countouris N., Davies A.C.L., Deakin S., Adams-Prassl J. (eds.), *The Contract of Employment*, Oxford University Press, 2016, 386.
[42] Bednarowicz B.., nt. (33).
[43] Todolí-Signes A., *Making algorithms safe for workers: Occupational risks associated with work managed by artificial intelligence*, in *Transfer: European Review of Labour and Research*, 27, 4, 2021, 433.

Regardless of future development, there is a need for an academic agenda to revisit the role of the individual employment contract when AI sets and changes terms and conditions. This approach is worth exploring as it can curtail the powers of the employer and inform workers of emerging technologies that affect their working environment. This partial solution will only remedy some problems with AI; nevertheless, it will build a foundation to increase employer accountability.