The spillover effect of algorithmic management and how (not) to tame it

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Abstract

This chapter delves into the implications of the algorithmic management (AM) "spillover effect", namely the diffusion of AM systems and practices from the platform economy to conventional work settings and the broader labour market. The AM spillover is tracked across the factual, jurisprudential and legislative dimensions. The crucial questions on which this chapter is targeted are as follows. Are the existing judicial and regulatory responses keeping pace with developments? What are the lessons to be learned from the first wave of litigation concerning AM in the food delivery sector and the first generation of laws targeting AM in the platform economy? Finally, what is the way forward when it comes to addressing the AM spillover most effectively?

This chapter begins by dissecting the tools and practices adopted to engage, dispatch, manage, control and assess people who perform platform work. It then examines the case law and regulatory instruments addressing AM in the platform economy and beyond at both EU and national levels. The analysis reveals a significant shift in focus towards data protection, non-discrimination, and working conditions for larger workforce segments. Moreover, a normative critique of the emerging fragmented regulatory approach is presented, contending that a comprehensive solution requires the effective implementation of the existing legal framework and the design of AM-specific legislation to close the gaps in the EU and national *acquis*.

Keywords

algorithmic management, platform work, AI Act, case law, transparency, data protection

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Introduction: everything comes from somewhere

Digital tools represent a constitutive element of today's work environments. Indeed, large portions of the workforce are now steered by systems that process granular data collected from various sources through technological infrastructure or the involvement of customers and colleagues. Workers can receive instructions from (semi-)automated decision-making systems, be constantly tracked by wearable devices or digital log stamps, and even be dismissed for not achieving algorithmically set goals. These processes can be observed in manufacturing, warehousing, trade, hospitality and office-based occupations, to offer just a few examples. Still, a lingering question remains: where do such processes come from?

In his gloomily far-sighted book, *Spillover: Animal Infections and the Next Human Pandemic*, David Quammen (2012: 33) popularised the notion of spillover, the process whereby 'a pathogen passes from members of one species, as host, into members of another'. While his work focuses on the relationship between humans, animals and the ecosystem, much can be learned by considering events that allow a particular 'bug' to infect a new host species, thrive within it and then spread among (and beyond) its members. This chapter borrows Quammen's potent terminology to reveal how the set of practices that fall within the umbrella definition of algorithmic management (AM), which first appeared in the context of the platform economy, is increasingly affecting jobs in other areas of the labour market. While metaphors are, by definition, imperfect, this is a compelling parallel to describe how some features of AM have lost their context-specificity and become 'viral', spilling across a panoply of industries.

Given the novelty of the phenomenon, there is no commonly agreed definition of AM (Baiocco et al. 2022; Heinrich et al. 2022). However, to capture its scope in full, it must be acknowledged that any role within the set of managerial prerogatives can be offloaded to software. Thus, the present chapter applies a broad, generic understanding of the term without engaging with definitional nuances. Drawing from the current literature, AM is defined here as the use of software to automate organisational functions traditionally carried out by human managers (Wood 2021; Mateescu and Nguyen 2019).

The preliminary studies on AM, which date back to 2015, almost exclusively focused on the platform economy (Lee et al. 2015; Rosenblat and Stark 2016; Ivanova et al. 2018). In fact, only recently have researchers begun to isolate distinct AM practices from the platform economy and discuss them in a broader context (Stark and Pais 2020). Still, what is intended as AM often overlaps with the organisational model of digital labour platforms, or else tends

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to be conflated with it. The link between platform work and AM seems ineluctably indissoluble, which poses the risk of the part being confused with the whole. This risk must be diligently averted in light of the increasing recognition of the impact of AM on society.

Against this background, the goal of the present chapter is to track the process of these 'infectious' AM systems as they move from a relatively small subsegment to the broader labour market. Reverting to key tenets of the platformisation trend, without narrowly considering the dominant question of workers' employment classification, can help to unpack the tools and practices that have been adopted to engage, dispatch, manage, control and assess people who perform platform work. This tendency is tracked across three dimensions – namely, the factual, jurisprudential and legislative ones. After providing evidence of the unfolding AM spillover, the chapter discusses the case law on AM and the regulatory instruments which address it. The prevalence of platform work continues to be strongly visible across the three dimensions, even though AM systems are gradually gaining independent prominence for both litigation and legislation. Judicial and legislative spillover is occurring, albeit only to a limited extent.

On closer inspection, the vast majority of cases on AM have been decided by courts or administrative bodies in the context of platform companies, generally focusing on the issue of employment classification. In particular, AM is strictly related to the notion of control, which has been key to the reclassification of platform workers as employees (Kellogg et al. 2020). The case law on platform workers' employment classification has, slowly yet consistently, paved the way for a mature and holistic understanding of AM. More recently, some cases have examined AM systems deployed by platforms and/or more conventional workplaces in isolation from the employment classification issue, thereby shifting the focus to data protection, non-discrimination and working conditions issues for larger swathes of workers.

In the policymaking realm, much effort has been directed towards regulating AM in the platform economy, at both domestic and European Union (EU) levels. As the AM spillover is becoming increasingly noticeable, a crucial dilemma concerns whether consideration of AM as a context-specific issue, to be addressed through targeted interventions in certain specific realms, suffices as a solution. The chapter argues that narrow regulatory interventions risk missing their target. AM should be perceived as a universal trend, while the broader regulation encompassing the entire labour market should be designed to respond effectively to the related challenges. Even though some broader instruments intended to regulate AM beyond the platform economy are emerging, this trend is still in its early days. Both enforcement and

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regulatory action are needed to address the identified spillover effect, moving beyond the important but insufficient initiatives focusing on platform work and artificial intelligence (AI).

Two caveats concerning the scope of this chapter should be noted. First, the analysis is predominantly focused on food delivery companies. This is not to say that AM systems are unique to food delivery platforms; rather, many of the AM mechanisms used in this sector are shared with other types of platforms, including in transport and care as well as in crowdwork (Fieseler et al. 2019; Jarrahi et al. 2020). However, platforms in no other sector have attracted as much attention as those providing food delivery services. Despite the increasing interest in these other types, the food delivery sector remains the most prevalent in the scholarly, judicial and policy debate, which means that it has strongly shaped the discourse on AM (Franke and Pulignano 2023; Lord et al. 2023; Potocka-Sionek 2023). Second, the focus is on the cases and regulations of current EU Member States.

In the beginning was the app: documenting the spillover

Digital labour platforms started to emerge at the turn of the 21st century. In 1995, a US platform called World Wide Waiter (now Waiter.com) began offering food delivery from about 60 Silicon Valley restaurants to clients, thus serving as a precursor to modern food delivery apps. In Europe, most digital labour platforms were established after 2010 (Fabo et al. 2017). Among the most prominent examples in the food delivery sector, Takeaway (now Just Eat Takeaway) was launched as far back as 2001, although Deliveroo was set up in 2013 and both Foodora and Glovo were founded a year later (Cant 2019).

The advent of platform work in Europe was experienced as a transformative force, catching commentators and regulators alike off guard. The initial tremors of this shift were felt through grassroots protests staged by workers (Tassinari and Maccarrone 2020), giving rise to the first jolt of awareness among those interested in the dynamics of the platform economy. As workers gained increasing associational power, food delivery apps emerged as a primer for discussions not only on issues such as pay or employment status but also on the functioning of the AM systems fuelling the business models (Bessa et al. 2022; Stuart et al. 2023).

Digital platforms have undeniably served as a laboratory for experimentation with tools and practices such as automated shift allocation, geolocation, nudges, dynamic pricing, rewards and penalties, which represent the ‘core’ of the notion of AM (Moore and Joyce 2020). Within

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the multifaceted realm of platform work, these digitalised organisational practices act as quintessential pillars epitomising the entire model (Aloisi 2020; Vallas and Schor 2020). Issues such as rating systems, account deactivation protocols and constant monitoring have become focal points of both discussion and concern. As experts delved deeper into the operational intricacies of platform companies, they recognised the profound implications of the partial delegation of the full lifecycle of decision-making functions, ranging from online applications to scheduling and pay determination to dismissal (Ivanova et al. 2018; Levy and Barocas 2018). From a legal perspective, these new managerial practices have prompted fundamental questions concerning the need to reassess conventional labour legislation, fuelled by a vast amount of varied and conflicting court proceedings.

Moreover, as the dust settled, attention started to shift to AM beyond platform work. Observers soon realised that workers who once operated within more traditional labour structures were now subject to algorithmic evaluations and data-driven decision-making processes. At this point, AM had already been implemented in various sectors, with warehouses, fulfilment centres, logistic hubs, fast food and dark kitchen chains, and cleaning and maintenance services, serving as expansive arenas for experimentation (Ajunwa 2018; Cattero and D'Onofrio 2018). These environments, characterised by physically demanding working conditions and the confluence of poorly remunerated positions with tight managerial regimes, were witnessing the amalgamation of longstanding despotism with game-changing technologies (Wood 2020). Even before the digital age, these industries were already bearing witness to management practices that prioritised control over workers (Baiocco et al. 2022).

However, the evolution of such practices has taken a distinctive turn following the emergence of digital labour platforms. In the quest for greater operational efficiency, related organisational strategies have become entrenched in this labour market segment, along with other arrangements such as bogus self-employment, task-based payments and gamification tactics. In addition, both employees and genuinely self-employed workers, the latter not falling within the scope of the labour law measures that rationalise managerial prerogatives, have started to be exposed to algorithmic monitoring and decision-making (De Stefano 2020). This change stems partly from the attribution of decisional functions to machines and partly from the assignment of semi-decisional roles (Vallas and Schor 2020) to co-workers and/or final clients who can 'influence the nature of control' (Duggan et al. 2023). To this must be added the internalisation of metrics and rules by workers themselves.

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Today, associating AM with platform work remains a natural inclination, considering that the aspects used to document the novelty and contentious nature of gig work are now integral components of the core definition of AM. Still, these practices are by no means limited to what can be observed in the platform economy. Over a period of only a few years, AM systems have become ubiquitous (Fumagalli et al. 2022), partially reshaping the notion of control from physical to intangible instantiations (Fana and Villani 2023).

Evidence concerning the extent of the use of AM systems in ordinary workplaces remains scant, not least due to the lack of a commonly agreed definition and the difficulty of capturing such data from a statistical perspective. Using AI in the workplace as a proxy (Lane et al. 2023), based on a study by the Organisation for Economic Co-operation and Development (OECD), around 21% of companies now use AI for human resources (HR) management. According to a study by the Joint Research Centre (JRC) of the European Commission, a significant proportion of workers, such as clerks and operators in high-technology industries, knowledge-intensive services and public administration, now apply digital devices at work on a daily basis and are subject to some form of digital monitoring or, less often, AM (Fernández-Macías et al. 2023). Similar trends have been detected in the case of those working outside of their employer's premises, for example at home or in public spaces.

The widespread adoption of digital infrastructure is having a spillover effect. Software such as teleconferencing tools, cloud spaces, web repositories, document sharing/collaboration packages and other digital equipment operate as 'superspreaders' for the dissemination of AM functions. In all sectors and economic activities, online applications are essential infrastructure for AM because they enable electronic monitoring and the collection and processing of data, these being the entry points for any cycle of automated decision-making. The JRC study regarding the platform economy noted the automated allocation of work shifts or working time to be the most widespread form of AM, with more than 10% of German workers and almost 20% of Spanish ones being subject to such practices (Fernández-Macías et al. 2023). More broadly, assuming a technology-agnostic perspective, it must be acknowledged that any digital tool, such as smartphones, laptops, swipe cards and wearables, can facilitate, at least to some extent, the transmissibility of managerial tasks encompassed by the notion of AM.

The Covid-19 pandemic also acted as a superspreader, with the enhanced adoption of remote work arrangements for white collar workers resulting in the mass application of technological infrastructure for executing relevant working duties (Aloisi and De Stefano

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2022a). The same happened to those workers whose activities were not 'remotable': a deep digital acceleration reshaped their working conditions too, enabling more pervasive surveillance. According to European Agency for Safety and Health at Work (EU-OSHA) findings from 2023, 78% of interviewed workers declared themselves to be subject to some form of digital data-driven management and surveillance organisational models. That is, they reported having digital technologies determining their speed of work, monitoring them, assigning tasks or shifts, evaluating them or even checking their vital signs (Pesole 2023).

As per a 2023 OECD survey, it is the cost of the associated technology that is the major barrier to the adoption of AI by employers (Lane et al. 2023). Thus, it is likely that the more widespread availability of such technology and the corresponding reduction in costs could expand its adoption. In the case of viruses, 'ecological circumstance provides opportunity for spillover' (Quammen 2012: 432), while economic convenience could afford the conditions necessary for the wider adoption of AM tools. Moreover, a higher digitalisation rate is associated with the deeper penetration of AM into more conventional work settings. Constant evaluation and little, if any, possibility of objection to automated decisions are potentially the most acute problems here, along with a lack of transparency, procedural fairness and accountability, heightened occupational safety and health risks and the erosion of self-determination (Salvi del Pero et al. 2022). This set of problems is cross-cutting and spans all economic activities, albeit to varying degrees. The factual spillover is rapidly unfolding.

The similarities to epidemics do not stop there. AM practices are often undetectable or subtle precisely because they rely on mundane tools that are not explicitly designed to pursue such goals or are not marketed as such (Moore 2018). These aspects can have chilling effects on individual awareness and workers' collective resistance. Like viruses, AM functions 'compete', 'evade' and 'evolve' (Quammen 2012: 217). Difficult though it may be, exploring the role of AM in conventional work environments offers a compelling opportunity to examine the (new) dynamics of the control exerted over workers and their working conditions (Aloisi and De Stefano 2022b). A key issue lies in discerning how AM in traditional settings differs, if at all, from its usage and conceptualisation within the platform economy. More research is required to unravel these distinctions and elucidate the nuanced ways in which AI is shaping working practices across diverse sectors.

Hence, the crucial questions on which this chapter is targeted are as follows. Are the existing judicial and regulatory responses keeping pace with developments? What are the

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lessons to be learned from the first wave of litigation concerning AM in the food delivery sector and the first generation of laws targeting AM in the platform economy? Finally, what is the way forward when it comes to addressing the AM spillover most effectively?

Sequencing the concept and relevance of AM in the case law on food delivery platforms

Courts and administrative bodies (e.g. labour inspectorates) have extensively engaged with AM since the early days of litigation concerning food delivery platforms. Employment classification cases revolved around certain aspects of what is now known as AM even before the term became widespread. Here, the reference has often been implicit, without a single mention of an algorithm or an automated decision-making system. Instead, the courts have descriptively analysed the digitalised management systems deployed by food delivery platforms, with the aim being to establish whether couriers are genuinely independent or should be reclassified as employees of a particular platform. Thus, various facets of AM have come to the fore in this regard.

In February 2018, in one of the first decisions that reclassified a Deliveroo courier as an employee, the Commission Administrative de règlement de la relation de travail/ Administratieve Commissie ter regeling van de arbeidsrelatie (CRT/CAR; Belgian Administrative Commission for the Regulation of Labour Relations)[1] noted that freedom to choose the timeslots during which couriers would be required to work was 'quite relative', as they were obliged to reserve working periods in advance, according to the availability offered by the platform and subject to the platform's approval. The booking possibilities depended on statistics related to performance, and they risked losing priority if they reserved time slots that did not correspond to the periods most favourable to the platform's activity. The CRT/CAR also recognised that the platform 'reserves for itself exorbitant possibilities of control' through using Global Positioning Systems (GPS) and that maintaining a good ranking was essential for having access to effective working possibilities. All these AM-related features were considered indicative of the existence of an employment relationship between couriers and Deliveroo.

Subsequent cases in other EU Member States have analysed the more advanced and 'intrusive' management systems deployed by food delivery platforms. For example, in the Foodora judgment, the Italian Corte di Cassazione concluded that couriers lacked autonomy

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during the 'functional phase' of the agreement – that is, during the execution of the relationship – as the modalities of performance were substantially determined by the platform.[2] More specifically, Foodora rewarded couriers' commitment to making deliveries strictly within thirty minutes from the time indicated for the collection of the food, including through issuing sanctions. The Chambre sociale (Labour Chamber) of the French Cour de Cassation emphasised further AM aspects in its decision to reclassify Take Eat Easy couriers as employees.[3] It viewed the geo-tracking system that enabled the real-time monitoring of each courier's position, and the system of bonuses and penalties applied to couriers, to be an index of the power of direction and control exercised by the platform. The Court did not, however, perceive the management system as a limitation of couriers' freedom to organise their work schedule. Rather, it held that couriers were free to choose their time slots, although this factor was irrelevant in the light of others hinting at the existence of an employment relationship.

Furthermore, some judgments have perceived AM as a sign of integration into the platforms' organisation and, relatedly, of the inability of workers to operate as an independent economic entity. For example, the Tribunale di Torino (Turin Civil Court) stated that deliveries were algorithmically assigned by Uber Eats 'on the basis of criteria completely unrelated to the preferences and general interest of the couriers themselves'.[4] This implied that the couriers had no organisational independence and were unable to offer their services on the market directly to other users. This represents yet another facet of AM analysed in some prior judgments concerning the employment classification of couriers.

The Tribunal Supremo in Spain expressed arguably the most holistic view of AM in relation to digital labour platforms in its Glovo judgment of September 2020.[5] More specifically it drew attention to three facets of platforms' control of work performance. First, Glovo assigned services according to the rating of each courier, which decisively restrained their freedom to choose their schedules and refuse orders. Second, it had the power to issue sanctions to couriers based on their behaviours. Third, the platform carried out real-time monitoring of the provision of its service. The Court's detailed reasoning here is illustrative of how various functions are performed by algorithms in a range of managerial practices – that is, the organisation of services, rating, sanctions and monitoring. This case shows that such functions are strictly intertwined and mutually reinforcing, substantially limiting couriers' freedom and endowing platforms with vast managerial powers.

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Case law on the employment classification of couriers in EU Member States shows that AM has gradually been recognised as a sign of the major involvement of platforms in the way work is executed. Referring back to the spillover terminology, the case law provides ample examples of the 'sequencing (e.g., reading out the genetic spelling)' (Quammen 2012: 128) of some fragments of managerial systems, which has been pivotal to the recognition of couriers' subordination to platforms and, ultimately, their employee status. Adjudication bodies have recognised the impact of AM throughout the phases of the work cycle, from the beginning (selection and matching) to the very end (including deactivation as a sanction for non-compliance with algorithmically determined rules). Various facets of AM have been subsumed into different forms of managerial control. For example, ratings were sometimes seen as a form of control and sometimes as a limitation of the freedom to organise work performance. Likewise, bonuses were perceived as a means of steering the behaviour of couriers[6] or as part of their performance evaluation.[7] Thus, there is a certain fluidity in terms of how AM features are linked to typical managerial prerogatives.

These nuances notwithstanding, a broad conceptualisation of AM emerges from the case law. It can be referred to as 'algorithmic management *sensu largo*', as it not only relates to the management of the organisation of work ('algorithmic management *sensu stricto*') but, more broadly, also to real-time control, *ex ante* evaluation and unorthodox sanctions such as account deactivation. It is apparent that, although the actual use of AM does not necessarily lead to automatic employment reclassification,[8] the recognition of its role in shaping work dynamics has been pivotal to the reclassification of food delivery couriers as employees.

Mobilising data protection laws as an alternative litigation strategy

More recently, courts and data protection authorities (DPAs) have started to scrutinise in even more detail the operation of AM by digital labour platforms, beyond the employment classification context (Hiessl 2023). The main question in this emerging body of cases is not whether platform workers should be reclassified as employees but whether AM systems are compliant with existing national and/or EU legislation, mostly in the field of data protection and non-discrimination. This section tracks these developments in the food delivery sector, encompassing data up to December 2023.

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In a decision from June 2021,[9] Garante per la protezione dei dati personali (Garante; the Italian DPA) fined Glovo's subsidiary, Foodinho, 2.6 million euros and mandated that it amend the way it processed couriers' data. Among the identified infringements, the platform was found to have violated their right to information on the functioning of the system and to have failed to safeguard the accuracy and fairness of the algorithmic results used to rate performance. Multiple provisions of the General Data Protection Regulation (GDPR), including the principles of transparency, data minimisation and lawfulness, as well as prohibiting the use of automated processing, were invoked, along with national labour provisions (Agosti et al. 2023).[10]

In addition to the decision of the Garante, AM practices have been challenged vis-à-vis both transparency and predictability. In a judgment issued by the Tribunale di Palermo in March 2023,[11] Uber Eats was found to have violated national legislation[12] by failing to provide sufficient information on algorithmic data processing and decision-making concerning its couriers to the most representative Italian trade union (Filcams CGIL). Among the issues that were challenged, the algorithm's dataset was unspecified, as were the criteria for the 'minimum average evaluation' and the 'other factors' leading to internal decisions. Moreover, the mitigation measures regarding automated decisions, such as the promotion or deactivation of a courier's account, their level of accuracy and the metrics used to measure their parameters, were unknown. The court obliged Uber Eats to be more specific concerning the overly generic and vague information it previously provided.

On 20 June 2023, Tribunale di Palermo again ruled on the AM mechanisms used by a food delivery platform.[13] This time, the case concerned Glovo's algorithm for distributing deliveries to workers. The violation of workers' information rights, as exercised both individually and collectively with regard to the use of 'automated decision-making or monitoring systems' under Legislative Decree 104/2022, was found to represent anti-union conduct (Veruggio 2023). The court mandated that Glovo disclose the algorithm's logic and selection mechanisms.

In line with these cases regarding access to data issues, one prior ruling has addressed algorithmic discrimination – namely, the order issued by Tribunale Ordinario di Bologna in the Deliveroo case in December 2020.[14] This case concerned the 'self-service booking system' that couriers used to book their time slots. Those couriers with the highest score based on data concerning their performance (i.e. the highest 'reliability' and 'participation' ratings) could

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book a time slot of their preference, whereas those with a lower score had to accept the remaining shifts. The score was automatically reduced when a courier failed to participate in a previously booked shift without having cancelled it at least 24 hours in advance, regardless of the reason for the absence. Thus, couriers had to suffer the negative consequences of a lower score even if there was a salient and legitimate reason for the late cancellation. The court considered this algorithm to have an indirectly discriminatory effect on those couriers who were exercising their right to engage in strike action (Purificato 2021).

Taken together, these decisions represent an important progress, reflecting the shift in attention from employment classification to data transparency and access to information as a proxy for improving understanding of the organisational model and curbing the expansion of employers' discretion. Of course, the understanding of an algorithm implemented by a digital labour platform cannot be fully separated from the issue of the subordination of food delivery couriers. Algorithmic transparency and fairness can also serve to establish the existence of an employment relationship. Put plainly, the more information provided on AM, the more likely it is to elucidate the true nature of the relationship between workers and digital platforms (Wray 2023). Thus, even though the subject matter of these two streams of litigation concerning food delivery platforms differs, they should not be seen as separate silos.

Despite the spillover effect of AM on the traditional labour market, there is limited jurisprudence on algorithmic transparency, or on AM more broadly, beyond the platform economy. While platform workers have been highly successful in claiming their data rights, the same was not true for Amazon warehouse workers in a case decided by Verwaltungsgericht Hannover (Hanover Administrative Court) on 9 February 2023[15] on the use of hand-held scanners to gather real-time data on workers' performance. These data were then evaluated using performance management software and considered in relation to task allocation and for training purposes and personnel decisions. Landesbeauftragte für den Datenschutz Niedersachsen (the Lower Saxony DPA)[16] had already prohibited the use of such systems, reasoning that the practices violated Section 26 of the Bundesdatenschutzgesetz (BDSG; the German Federal Data Protection Act) because they were not necessary for the achievement of Amazon's interests, such as the control of the logistics process, the monitoring of employees' qualifications and the objective evaluation of workers (Hiessl 2023). Following Amazon's appeal against this order, Verwaltungsgericht Hannover held that Amazon had a substantial legitimate interest in the collection of the relevant data and that such collection was suitable and necessary to protect that interest.[17] It found no violation of the BDSG and so overruled the

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DPA's order. This ruling is currently under appeal,[18] and has been heavily criticised in the literature for taking Amazon's argument 'almost at face value' (Abraha 2023: 14) and underestimating the negative effect of constant surveillance on workers.

Beyond the context of data protection, a noteworthy case concerning the AM system applied to Amazon warehouse workers was decided by Sąd Okręgowy w Poznaniu (District Court of Poznań), Poland, in June 2020. Here, the main problem was not the lack of transparency regarding Amazon's algorithm, even though the court did recognise its variability and lack of predictability (it was pointed out that the performance standards were not fixed but shifted over time based on the performance of other workers, leaving workers uncertain as to their ability to meet these benchmarks); rather, the case concerned the dismissal of a worker from the Amazon fulfilment centre for having failed to achieve minimum performance outcomes,[19] as established on the basis of data gathered from peers considering productivity, outcome quality and attendance rates. The minimum threshold corresponded to the results achieved by 90% of employees. The core issue was the systemic feature whereby the algorithm ignited a 'race' of workers against their peers and that the attainment of acceptable results was always, by default, impossible for the 10% lowest-performing workers, even if they exercised the utmost due diligence in the execution of their tasks. The court held this system violated the Polish labour law and thus determined that the dismissal was unsubstantiated and ineffective.

It is impossible to draw firm conclusions from the scarce judgments on AM beyond the platform economy. The GDPR and national data protection regulations have been invoked with mixed results, and little is currently known about the efficacy of traditional labour laws in the AM context. However, there have been instances where the courts have demonstrated a receptiveness to the influence of AM, not just in terms of reclassification but also as a contributing factor to the risk of infringement of a broader set of labour law provisions.

Containing the spread of AM in platform work: initial regulatory efforts at EU and domestic levels

As with case law, the regulation of (certain aspects of) AM has so far predominantly targeted platform work. 'Digital rights' – namely, the set of rights connected to AM, data protection, disconnection and others intended to protect platform workers from the negative impacts of AM – have been embedded in a number of legislative and policy initiatives whether at EU,

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state or regional level, as well as in bottom-up initiatives led by social partners (i.e. trade unions and employer associations).

At EU level, the first set of regulations targeting AM has been introduced in the Directive to improve working conditions in platform work (PWD), a provisional agreement on which was reached by the ministers of the EU Member States on 11 March 2024. Chapter III of this instrument bans platforms from processing personal data in certain cases where AM systems are involved (Art. 7 (1)), obliges platforms to perform a data protection impact assessment (Art. 8) and mandates crucial transparency duties concerning automated monitoring and decision-making (Art. 9). Moreover, it provides for a right to human oversight (Art. 10) and human review (Art. 11) of AM decisions, introduces important consultation rights for the representatives of platform workers (Art.13-15) and imposes certain obligations concerning safety and health on platforms (Art. 12). Most of these provisions, apart from the consultation rights and the obligations related to health and safety, also cover self-employed platform workers. In this way, the Directive recognises the link between AM and working conditions, as well as its impact both on employees and on the self-employed (Bronowicka 2023). This framework strengthens the 'classical' data protection model enshrined in the GDPR,[20] which is only somewhat suited to addressing the challenges posed by AM (Abraha 2022). Notably, Chapter III of the PWD encountered much less political opposition than the employment presumption (Aloisi et al. 2023) which was the main reason for which the Directive was on the verge of being rejected. In fact, the finally agreed version of the Directive strengthened some of the AM-related provisions originally proposed in the EU Commission's draft from December 2021, inter alia by expanding the catalogue of the prohibited usages of AM systems, mandating data protection impact assessment, ensuring the right to data portability, and fortifying information and consultation rights. Overall, the provisions on AM in the PWD are a much welcome and crucial step forward in protecting people performing platform work against some of the greatest risks stemming from algorithmic opacity.

Looking at the bigger picture, however, the introduction of these rules in an instrument that is limited to the domain of platforms reveals, by default, an overly simplistic and already outdated understanding of the phenomenon. Those who are not organised by platforms, be they workers or the self-employed in traditional sectors, cannot rely on this additional layer of data rights. Such a policy option had been chosen by the drafters of the PWD as a more 'focused' solution that accounts for the 'business specificities' of the platform business model (Commission 2021, Annex A11.2: 25), despite widespread recognition of the already occurring

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spillover effect of AM and the advocacy of trade unions and academics for a broadening of the scope of this instrument. Still, the PWD is commonly perceived as a stepping stone towards the further regulation of this aspect beyond the platform ecosystem (Bronowicka 2023).

The PWD is not the only example of a regulation targeting solely platform workers. There are multiple national and regional laws addressing only platform workers, often limited to a specific sector. Some of these platform-specific regulations merely reiterate and reinforce the 'digital rights' established by other instruments. For example, in Italy, the Cape V-bis to Legislative Decree No 81/2015, which addresses only self-employed couriers, reaffirms the protection of privacy in accordance with the provisions of EU Regulation 2016/679 and Legislative Decree No 196/2003 (the privacy law). Some policy initiatives go beyond the pre-existing acquis and guarantee new rights, although these are still tailored solely for (some categories of) platform workers. Examples of such specific rights include the right to data portability (including the portability of ratings); the right to refuse assignments as introduced by, for example, regulations in the Italian region of Lazio;[21] and the right to disconnect, as provided for in the French 'El Khomri Law'.[22]

More recently, the revised Croatian labour law has introduced a set of detailed provisions on the AM mechanisms used by digital platforms. In essence, it obliges the platforms (or 'aggregators', i.e. the intermediaries who employ workers) to inform workers about the logic of decision-making within the automated management system and to ensure the availability and transparency of information on platform work. Moreover, platforms are required to appoint an authorised person to supervise workers' safety and workload, in addition to one whose task is to review automated decisions. The possibility of establishing professional communication with other workers and participants in the business process must also be ensured. These regulations have been effective as of 1 January 2024.[23]

Aside from these statutory interventions, several collective agreements in the field of platform-based delivery have addressed 'digital rights' (Lamannis 2023).[24] Perhaps the most progressive provisions were included in the Spanish Just Eat agreement from December 2021. Apart from addressing the right to disconnect and the right to privacy from digital surveillance (Wray 2021), it created an 'algorithmic committee' tasked with ensuring that transparency obligations and human oversight requirements are complied with.

Undoubtedly, platform work has been an area of much-needed experimentation with regulations addressing AM, and it has evidenced the regulatory need in this regard. At the same

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time, consensus is growing that regulating AM for the narrow category of couriers alone or, more broadly, even for all platform workers, only scratches the surface of the problems at hand. It can be said that such a legislative technique simply reproduces the bias according to which AM is considered a platform-specific issue, and that this may result in a further polarisation of the labour market in terms of protection schemes.

The second wave of AM regulation within and beyond the borders of platform work

A growing body of regulatory initiatives has sought to respond to AM-related risks more systematically. Spain was the first country in Europe to adopt an AM-specific regulation that covers more than the platform economy. Law 12/2021 (the so-called 'Riders' Law')[25] introduces algorithmic transparency rights which encompass all employers, not only digital labour platforms. Moreover, Art. 64(4)(d) of the Estatuto de los Trabajadores (ET; Workers' Statute) provides works councils with the right to be informed about the parameters, rules and instructions upon which algorithms or AI systems are based, provided they are used for decision-making practices that may affect working conditions and/or access to and the maintenance of employment. This text expands on the GDPR provisions that already regulate companies' obligations to inform the worker when automated processing and profiling systems are in place, addressing the individualised dimension of such a right (Todolí-Signes 2021b). The lack of a collective dimension to transparency and information rights in data protection law is also partially addressed in the 'Riders' Law'. However, besides allowing workers to learn more about the parameters, rules and instructions of algorithms or AI systems, the law does not introduce additional rights regarding co-determination or systems of redress (Aranguiz 2021; Aloisi 2022). Furthermore, its practical application has limited scope.

Another example of a national regulation addressing AM beyond platform work – that is, also in conventional workplaces – is the Italian Legislative Decree transposing the EU Directive on Transparent and Predictable Working Conditions,[26] which has been effective since August 2022. As per Section 4(8) of this instrument, the employer is required to inform workers of 'fully automated'[27] decision-making and monitoring systems that are used to provide information for hiring, managing or terminating the employment relationship or assigning tasks. In addition, information must be disclosed on the purposes, logic and functioning of automated systems; the categories of data and the main parameters used to program or train

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such systems; the control measures adopted for the decision processes; their level of accuracy, robustness and cybersecurity; the metrics used; and their potentially discriminatory impacts.

Portuguese Law 13/2023 (the 'Decent Work Agenda'), in force since May 2023, represents the most recent initiative at the time of writing. This law specifies that collective bargaining agreements can regulate the use of algorithms, AI and associated technologies solely in a way that is advantageous for employees (Art. 3(3)). It also expressly clarifies that equality and non-discrimination provisions apply to decision-making based on algorithms or other AI systems (Art. 24(3)). Moreover, it obliges employers to inform employees when they are hired of the parameters, rules and instructions on which algorithmic or AI systems are based (Art. 106(3)(iv)).

At EU level, the AI Act applies to those AM systems fuelled by AI and used at work. As specified in Annex III of the Commission's proposal (Commission 2021a), AI systems adopted in the context of 'employment, workers management and access to self-employment' qualify as 'high-risk' systems. More precisely, reference is made to AI systems intended to be used for recruitment purposes, for deciding about promotion and the termination of work contracts, for task allocation, monitoring and evaluating the performance and behaviour of people in work-related relationships. Even though this catalogue captures some of the most common uses of AM in the work context, not all relevant systems are included (Cefaliello and Kullmann 2022). The AI Act is also technology-specific – that is, it focuses solely on AI systems. Another crucial limitation is that the classification depends on the provider's intended purpose, which may differ from the use to which such systems are put. In other words, a system might not be intended to monitor or evaluate workers, although it may be suitable for such purposes and eventually used in that way by the employer (Klengel and Wenckebach 2021).[28]

AI systems that are classified as high risk need to comply with a set of requirements. A risk management system must be put in place, consisting of 'a continuous iterative process planned and run throughout the entire lifecycle of a high-risk AI system' (Art. 9 (2)). Providers must identify and mitigate the known and foreseeable risks, estimate and assess those that may emerge when a high-risk AI system is deployed 'in accordance with its intended purpose and under conditions of reasonably foreseeable misuse' (Art. 9 (2) (b) and adopt risk management measures(Art. 9 (2) (d)).

Even though it constitutes an important piece in the growing legislative puzzle of AM beyond platform work, the AI Act has been widely criticised in the literature for not paying

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enough attention to workers' rights (Klengel and Wenckebach 2021; Todolí-Signes 2021a). This lack of employment specificity largely stems from the internal market legal basis and the Act's main objectives. Its efficacy in the employment context may also be hindered by some broader, structural limitations, such as the threat that it will reinvigorate the 'constitutionally disruptive' clash between social and economic rights (Garben, 2017; De Stefano and Taes 2023). As the text of the final Act is still being finetuned, it is too early to make firm predictions regarding the role that it will play in the governance of AM tools at work.

The adequacy of the current EU acquis and of 'traditional' (i.e. not AM-specific) domestic instruments to overcome the challenges related to AM in the employment context remains to be tested. As discussed above, while data protection regulations are beginning to be mobilised in courts in the context of the platform economy and, to a lesser extent, other sectors, the same cannot be said of laws regulating working conditions, occupational health and safety, and collective rights, among others. As for the GDPR, its inherent limitations due to the open-textured nature of some of its provisions are becoming increasingly evident. Moreover, the inclusion of carve-outs in its provisions means that the GDPR is imperfectly suited to an effective regulation of the intricate dynamics of AM in the workplace.

The 'competition' between existing and planned legal instruments highlights their limited effectiveness as well as the need for more active enforcement and reinforcement. Hence, some scholars advocate a 'universalistic' approach to addressing the broader spectrum of employment (Kelly-Lyth and Adams-Prassl 2021). The growing calls for a comprehensive, and employment-specific, approach are firmly grounded, as current data underscore the spillover of AM beyond the confines of the platform economy. With the influence of AM systems beginning to permeate diverse domains, it might be an opportune time to consider extending regulatory interventions to all categories of workers, thereby overcoming the limitations of existing frameworks. Recognising the urgent need for a broader response, the escalating cross-sectoral prevalence of AM underscores the need to address the entire phenomenon rather than confining regulatory efforts to its manifestation in a small segment of the labour market or through specific technologies that may soon be supplanted by new advances, such as so-called foundation models and generative AI.

Yet, even if there is growing agreement regarding the need for an AM-specific regulatory intervention, there is no consensus on how specifically this might be achieved. Should a comprehensive instrument governing various aspects of the utilisation of technologies

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in hiring, monitoring, decision-making and disciplinary activities within professional ecosystems be introduced (e.g. an 'AM at work Directive')? Or should narrower instruments targeting specific aspects of AM (e.g. an individual OSH Directive on the AM of work) be developed instead? The issue is all the more complex because many of the AM-related challenges (e.g. the potentially negative impact on mental health) also exist in the broader context and thus require more comprehensive regulatory intervention.

Be that as it may, the shaping of regulations in this domain will need to reflect not only the technical considerations but also a broader commitment to safeguarding and advancing fundamental rights at work. There is increasing recognition of the need for the implementation of comprehensive measures. In addition, there are growing calls for collaborative efforts, suggesting the need for joint regulation by unions and employer associations, not only at company level but also within the broader industrial framework.

Conclusions

This chapter has sought to elucidate the implications of the AM spillover effect – namely, the spread of AM systems and practices from the platform economy to the broader labour market. Through examining comprehensive insights from existing literature, case law and regulatory initiatives, this chapter captures these spillover effects in three dimensions: the prevalence of new management methods in conventional settings; the jurisprudence on AM in platform work and beyond; and the regulatory initiatives targeting AM, whether in platform work or more broadly. These dimensions are all interconnected, making it imperative to consider all related aspects when formulating comprehensive and future-proof responses. Furthermore, this chapter provides a normative critique of the emerging fragmented regulatory approach, contending that a holistic perspective should guide future regulatory efforts. A comprehensive solution requires both the effective implementation of the existing legal framework and the design of AM-specific legislation to close the regulatory gaps in the EU and national acquis.

AM systems have predominantly been brought before the courts with the aim of reclassifying platform workers, such cases thereby serving as a proxy for the existence of traditional managerial prerogative rather than in the attempt to secure the improvement of working conditions. As well as demonstrating the existence of an employment relationship, they have been key to understanding the algorithmic control exercised by platforms. Platform

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workers' litigation strategy has been shaped by a two-pronged approach – namely, claiming employment reclassification and mobilising national and/or EU data protection and non-discrimination provisions. Similarly, regulation has expanded from the primary goal of clarifying platform workers' employment status to guaranteeing information and transparency rights in technology-based work contexts. This approach should advance an understanding of working conditions in the platform economy and its broader implications for society.

Given the growing body of evidence concerning AM in conventional settings, there is increasing consensus that the regulation of AM systems should transcend the boundaries of platform work rather than being tethered to it. While it is undeniable that the lack of a digital labour platform does not exclude the presence of AM practices, what is truly definitory is reference to the algorithmic or automated nature of the business model, meaning that such tools and functions are partly or totally offloaded to digital infrastructure, leaving limited space for human intervention. Simply put, while couriers are largely assessed using customer reviews and feedback, a similar model can be found in other sectors where the same goal is pursued using different tools, for example peer assessments or management by objectives.

Still, most regulatory efforts continue to focus on platform workers or target exclusively one of several underlying technologies that can be used to fuel AM systems – that is, AI or personal data. Unquestionably, recent initiatives could serve as a stepping stone towards broader AM regulation in the workplace. The vicissitudes of the PWD could also redirect attention to the spillover effects. The challenges posed by AM cannot be addressed with a narrow regulatory instrument such as the AI Act, devoting most of its provisions to systems that are classified as high risk AI systems, nor with sector-specific instruments. Such laser-sharp interventions risk becoming obsolete or ineffectual once adopted and transposed, given the profound challenges presented by AM. Thus, AM should be addressed with comprehensive measures that extend beyond limited, remedial and individualised perspectives. Such measures should focus on the relevant practices (e.g. hiring, monitoring, organising, remunerating, dismissing) rather than the underlying technologies that enable their execution.

By and large, a phenomenon as multifaceted as AM demands a nuanced, holistic and evolving approach. Taming its spillover effect necessitates action on two fronts: first, enforcing the existing instruments and rectifying the gaps in horizontal legislation through the contribution of administrative bodies and the social partners; and second, adopting a modern framework for regulating data protection and automated decision-making in workplaces. Such

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a dual approach will mitigate the risk of regulatory measures merely reacting to changes rather than actively steering them, thereby ensuring a more proactive and adaptive stance in the face of rapidly evolving workplace dynamics. It is now also in the hands of MS to regulate AM practices at work. To date, only partially and in very few EU countries (Spain, Italy and Portugal) have broader AM-specific responses been deployed and, therefore, a more comprehensive regulatory approach is still in its early stages. To avoid further fragmentation, though challenging it may be, action at the supranational level is required.

To conclude by returning to the spillover metaphor, implementing localised infection-control efforts exclusively to address (certain groups of) platform workers or specific technologies, such as AI, risks missing the target. Indeed, doing so in a haphazard manner may not yield the desired results. The challenge is to mobilise existing legal instruments to reinforce a general immunisation response to AM. A combination of data protection, non-discrimination and information and consultation provisions will effectively avoid the harm stemming from the misguided use of AM tools. Such antibodies as these would introduce can limit the infection or prevent its most nefarious consequences. Moreover, as the big data at the heart of AM requires large and dense aggregations of data subjects to operate efficiently, the collective implementation of the existing guardrails is essential. Hence, containment measures in the case of data-borne transmission need to be adopted at the level of populations and communities, not single individuals.

Electronic copy available at: https://ssrn.com/abstract=4738680

References

Abraha H.H. (2022) A pragmatic compromise? The role of Article 88 GDPR in upholding privacy in the workplace, International Data Privacy Law, 12 (4), 276–296.

Abraha H.H. (2023) Automated monitoring in the workplace and the search for a new legal framework: lessons from Germany and beyond. https://ssrn.com/abstract=4595760

Agosti C., Bronowicka J., Polidoro A. and Prior G. (2023) Exercising workers' rights in algorithmic management systems: lessons learned from the Glovo-Foodinho digital labour platform case, Report 2023.11, ETUI.

Ajunwa I. (2018) Algorithms at work: productivity monitoring applications and wearable technology as the new data-centric research agenda for employment and labor law, St. Louis University Law Journal, 63 (1), 21–53. https://scholarship.law.slu.edu/lj/vol63/iss1/4

Aloisi A. (2020) Hierarchies without firms? Vertical disintegration, outsourcing and the nature of the platform. https://ssrn.com/abstract=3124389

Aloisi A. (2022) Platform work in Europe: lessons learned, legal developments and challenges ahead, European Labour Law Journal, 13 (1), 4–29.

Aloisi A. and De Stefano V. (2022a) Essential jobs, remote work and digital surveillance: addressing the Covid-19 pandemic panopticon, International Labour Review, 161 (2), 289–314.

Aloisi A. and De Stefano V. (2022b) Your boss is an algorithm: artificial intelligence, platform work and labour, Bloomsbury Publishing.

Aloisi A., Rainone S. and Countouris N. (2023) An unfinished task? Matching the proposed Platform Work Directive with the EU and international 'social acquis', Working Paper 101, ILO.

Aranguiz A. (2021) Spain's platform workers win algorithm transparency, Social Europe, 18.03.2021. https://socialeurope.eu/spains-platform-workers-win-algorithm-transparency

Baiocco S., Fernández-Macías E., Rani U. and Pesole A. (2022) The algorithmic management of work and its implications in different contexts, JRC Working Paper 2022/02, European Commission.

Baker M. (2020) AI shows value and gains traction in HR, Gartner. https://www.gartner.com

Bessa I., Joyce S., Neumann D., Stuart M., Trappmann V. and Umney C. (2022) A global analysis of worker protest in digital labour platforms, Working Paper 70, ILO.

Bronowicka J. (2023) How the Platform Work Directive protects workers' data, Verfassungsblog, 19.07.2023. https://verfassungsblog.de/how-the-platform-work-directive-protects-workers-data/

Cant C. (2019) Riding for Deliveroo: resistance in the new economy, Polity.

Cattero B. and D'Onofrio M. (2018) Organizing and collective bargaining in the digitized 'tertiary factories' of Amazon: a comparison between Germany and Italy, in Ales E. et al. (eds.) Working in digital and smart organizations: legal, economic and organizational perspectives on the digitalization of labour relations, Palgrave Macmillan, 141–164.

Electronic copy available at: https://ssrn.com/abstract=4738680

Cefaliello A. and Kullmann M. (2022) Offering false security: how the draft Artificial Intelligence Act undermines fundamental workers rights, European Labour Law Journal, 13 (4), 542–562.

De Stefano V. (2020) 'Masters and servers': collective labour rights and private government in the contemporary world of work, International Journal of Comparative Labour Law and Industrial Relations, 36 (4), 424–444.

De Stefano V. and Taes S. (2023) Algorithmic management and collective bargaining, Transfer, 29 (1), 21–36.

Duggan J., Carbery R., McDonnell A. and Sherman U. (2023) Algorithmic HRM control in the gig economy: the app-worker perspective, Human Resource Management, 62 (6), 883–899.

European Commission, Commission Staff Working Document, Impact Assessment Report Accompanying the document Proposal for a Directive of the European Parliament and of the Council On improving working conditions in platform work, SWD(2021) 396 final (Commission 2021)

Fabo B., Beblavý M., Kilhoffer Z. and Lenaerts K. (2017) An overview of European platforms: scope and business models, Publications Office of the European Union.

Fana M. and Villani D. (2023) Is it all the same? Types of innovation and their relationship with direct control, technical control and algorithmic management, European Journal of Industrial Relations, 29 (4), 367–391.

Fernández-Macías E., Urzì Brancati M.C., Wright S. and Pesole A. (2023) The platformisation of work: evidence from the JRC Algorithmic Management and Platform Work Survey (AMPWork), JRC Science for Policy Report, Publications Office of the European Union.

Fieseler C., Bucher E. and Hoffmann C.P. (2019) Unfairness by design? The perceived fairness of digital labor on crowdworking platforms, Journal of Business Ethics, 156 (4), 987–1005.

Franke M. and Pulignano V. (2023) Connecting at the edge: cycles of commodification and labour control within food delivery platform work in Belgium, New Technology, Work and Employment, 38 (2), 371–390.

Fumagalli E., Rezaei S. and Salomons A. (2022) OK computer: worker perceptions of algorithmic recruitment, Research Policy, 51 (2), 104420.

Heinrich K., Vu M.A. and Vysochyna A. (2022) Algorithms as a manager: a critical literature review of algorithm management, ICIS 2022 Proceedings, 9.

Hiessl C. (2023) Jurisprudence of national courts in Europe on algorithmic management at the workplace, European Centre of Expertise in the Field of Labour Law, Employment and Labour Market Policies (ECE).

Garben S. (2017) The Constitutional (Im)balance between 'the Market' and 'the Social' in the European Union, European Constitutional Law Review, 1 (1), 23–61.

Ivanova M., Bronowicka J., Kocher E. and Degner A. (2018) Foodora and Deliveroo: the app as a boss? Control and autonomy in app-based management: the case of food delivery riders, Working Paper Forschungsförderung 107, Hans-Böckler-Stiftung.

Electronic copy available at: https://ssrn.com/abstract=4738680

Jarrahi M.H., Sutherland W., Nelson S.B. and Sawyer S. (2020) Platformic management, boundary resources for gig work, and worker autonomy, Computer Supported Cooperative Work, 29 (1), 153–189.

Kellogg K.C., Valentine M.A. and Christin A. (2020) Algorithms at work: the new contested terrain of control, Academy of Management Annals, 14 (1), 366–410.

Kelly-Lyth A. and Adams-Prassl J. (2021) The EU's proposed Platform Work Directive: a promising step, VerfBlog, 14.12.2021. https://verfassungsblog.de/work-directive/

Klengel E. and Wenckebach J. (2021) Artificial intelligence, work, power imbalance and democracy: why co-determination is essential, Italian Labour Law e-Journal, 14 (2), 157–171.

Lamannis M. (2023) Collective bargaining in the platform economy: a mapping exercise of existing initiatives, Report 2023.02, ETUI.

Lane M., Williams M. and Broecke S. (2023) The impact of AI on the workplace: main findings from the OECD AI surveys of employers and workers, OECD Social, Employment and Migration Working Paper 288, OECD Publishing.

Lee M.K., Kusbit D., Metsky E. and Dabbish L. (2015) Working with machines: the impact of algorithmic and data-driven management on human workers, CHI '15: Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems, 1603–1612.

Levy K. and Barocas S. (2018) Refractive surveillance: monitoring customers to manage workers, International Journal of Communication, 12, 1166–1188.

Lord C. et al. (2023) The sustainability of the gig economy food delivery system (Deliveroo, UberEATS and Just-Eat): histories and futures of rebound, lock-in and path dependency, International Journal of Sustainable Transportation, 17 (5), 490–502.

Mateescu A. and Nguyen A. (2019) Explainer: algorithmic management in the workplace, Data & Society Research Institute.

Moore P.V. (2018) OSH and the future of work: benefits and risks of artificial intelligence tools in workplaces, Discussion Paper, European Agency for Safety and Health at Work.

Moore P.V. and Joyce S. (2020) Black box or hidden abode? The expansion and exposure of platform work managerialism, Review of International Political Economy, 27 (4), 926–948.

Pesole A. (2023) Surveillance and monitoring of remote workers: implications for occupational safety and health, EU OSHA Report, European Agency for Safety and Health at Work.

Potocka-Sionek N. (2023) Easier done than said? An empirical analysis of case law on platform work in the EU, Hungarian Labour Law e-Journal, 1, 46–65.

Purificato I. (2021) Behind the scenes of Deliveroo's algorithm: the discriminatory effect of Frank's blindness, Italian Labour Law e-Journal, 14 (1), 169–194.

Quammen D. (2012) Spillover: animal infections and the next human pandemic, W.W. Norton & Company.

Rosenblat A. and Stark L. (2016) Algorithmic labor and information asymmetries: a case study of Uber's drivers, International Journal of Communication, 10 (2016), 3758–3784.

Electronic copy available at: https://ssrn.com/abstract=4738680

Salvi del Pero A., Wyckoff P. and Vourc'h A. (2022) Using artificial intelligence in the workplace: what are the main ethical risks?, OECD Social, Employment and Migration Working Paper 273, OECD Publishing.

Stark D. and Pais I. (2020) Algorithmic management in the platform economy, Sociologica, 14 (3), 47–72.

Stuart M., Trappmann V., Bessa I., Joyce S., Neumann D. and Umney C. (2023) Labor unrest and the future of work: global struggles against food delivery platforms, Labor Studies Journal, 48 (3), 287–297.

Tassinari A. and Maccarrone V. (2020) Riders on the storm: workplace solidarity among gig economy couriers in Italy and the UK, Work, Employment and Society, 34 (1), 35–54.

Todolí-Signes A. (2021a) Making algorithms safe for workers: occupational risks associated with work managed by artificial intelligence, Transfer, 27 (4), 433–452.

Todolí-Signes A. (2021b) Cambios normativos en la digitalización del trabajo: comentario a la 'Ley Rider' y los derechos de información sobre los algoritmos, IUSLabor, 2, 28–65.

Vallas S. and Schor J.B. (2020) What do platforms do? Understanding the gig economy, Annual Review of Sociology, 46, 273–294.

Veruggio M. (2023) Il giudice: 'Glovo riveli i segreti del suo algoritmo', Gli Stati Generali, 07.07.2023. https://www.glistatigenerali.com/sindacati/il-giudice-glovo-riveli-i-segreti-del-suo-algoritmo/

Wood A.J. (2020) Despotism on demand: how power operates in the flexible workplace, Cornell University Press.

Wood A.J. (2021) Algorithmic management consequences for work organisation and working conditions, JRC Working Papers Series on Labour, Education and Technology 2021/07, European Commission.

Wray B. (2021) Gig Economy Project – Just Eat signs 'pioneer' labour agreement with Spanish unions, Brave New Europe, 17.12.2021. https://braveneweurope.com/gig-economy-project-just-eat-signs-pioneer-labour-agreement-with-spanish-unions

Wray B. (2023) Gig Economy Project – Accessing the algorithm to build union power: the case of Palermo, Brave New Europe, 07.07.2023. https://braveneweurope.com/accessing-the-algorithm-to-build-union-power-the-case-of-palermo

All the links were checked on 19.02.2024.

Electronic copy available at: https://ssrn.com/abstract=4738680

[1] Administrative Commission for the Regulation of Labour Relations, decision of 23 February 2018, 116 – FR – 20180209.
[2] Judgment of 24 January 2020, RG n. 11629/2019, para. 33.
[3] Judgment of 28 November 2018, No. 17-20.079.
[4] Judgment of 18 November 2021, RG n. 4991/2020.
[5] Judgment of 23 September 2020, 4746/2019.
[6] Judgment of the Dutch Supreme Court, 24 March 2023, ECLI:NL:HR:2023:443.
[7] Judgment of the French Supreme Court, 28 November 2018, No. 17-20.079.
[8] See, e.g, the judgment of the Cour du travail de Bruxelles/Arbeidshof Brussel (Brussels labour tribunal), 8 December 2021, JT 08/12/2021.
[9] Injunction against Foodinho srl – 10 June 2021 [9675440].
[10] Very similar reasoning was applied in the 'twin' decision on Deliveroo issued just a month later – that is, in July 2021. See the injunction order against Deliveroo Italy srl – 22 July 2021 [9685994].
[11] Judgment of 31 March 2023, RG n. 645/2023.
[12] Legislative Decree 152/1997, as amended by Legislative Decree No 104 of 27 June 2022, transposing Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union.
[13] Tribunale di Palermo, 20 June 2023.
[14] Order no. 2949/2019.
[15] Ref: 10 A 6199/20.
[16] Decision of 28 October 2020 (unpublished).
[17] The three essential purposes pursued by Amazon were 'the control of logistics processes, the control of the individual qualification of employees, and the creation of objective assessment bases for individual feedback and personnel decisions'. See para. 62 of the judgment. For detailed reasoning on why the use of FCLM and ADAPT was suitable and necessary, see paras. 66–91 of the judgment.
[18] Appeal pending before Oberverwaltungsgericht (higher administrative court) Lüneburg, under case no. 11 LC 105/23.
[19] VIII Pa 135/19, Sąd Okręgowy w Poznaniu, 10 June 2020 (unpublished).
[20] 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, and repealing Directive 95/46/EC (General Data Protection Regulation).
[21] 'Provisions for the protection and safety of digital workers' (Art. 5).
[22] Law No 2016-1088 of 8 August 2016 on labour, the modernisation of social dialogue and the securing of professional careers.
[23] An unofficial English translation of this regulation is available at https://uznr.mrms.hr/wp-content/uploads/labour-act.pdf.
[24] For example, the LaConsegna agreement, Montegrappa agreement, Tadan agreement and agreement on riders' rights concluded in Italy by Regione Toscana (the Region of Tuscany) and CGIL, CISL and UIL.
[25] Law 12/2021 of 28 September, modifying the Workers' Statute approved by Royal Legislative Decree 2/2015 of October 23, to guarantee the labour rights of people dedicated to delivery in the field of digital platforms..
[26] Legislative Decree No 104 of 27 June 2022, transposing Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union.
[27] Legislative Decree No 48 of 4 May 2023 (labour law). Another intervention in the same Decree rewrote para. 8 to the effect that these information obligations 'do not apply to systems protected by industrial and commercial secrecy'.
[28] Note that if the user substantially modifies the intended purpose of a high-risk AI system that has already been introduced, this will lead to them being considered a provider for the purposes of the AI Act instead of the initial provider (Art. 28(1)(b) AI Act).

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