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The European regulation of algorithmic management: an integrated overview

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Abstract

The essay, after analysing the risks of algorithmic management to workers' fundamental rights, examines the protections available within the European legal framework. It provides an integrated analysis of three regulatory areas that can be invoked against algorithmic opacity: data protection, anti-discrimination laws, and algorithmic transparency. This integrated approach leads to the conclusion that European social law offers important tools to counteract abuses of algorithmic power. However, there are areas of uncertainty which must be addressed by general recognition of the rights to algorithmic transparency, explicability and understanding which must be granted to workers and their representatives.

1. The algorithmic management: opacity and risks to workers' fundamental rights

The use of algorithmic technologies and Artificial Intelligence in organizational management and human resources (a phenomenon now known as "automated" or "algorithmic" management[1]) presents labour law with complex regulatory challenges. These tools have the potential to significantly impact employment relationships and transform traditional methods of exercising managerial authority.
Algorithmic management involves shifting traditional organizational and managerial tasks from human staff to intelligent machines. These machines, as an expression of a more rapid, accurate, and objective

[1] In Europe, the topic is the subject of a recent but substantial doctrinal debate: ALOISI, *Regulating algorithmic management at work in the European Union: Data protection, non-discrimination and collective rights*, in *IJCLLIR*, 2024; PIZZOFERRATO, *Digitalisation of work: new challenges to labour law*, in *ADL*, 2021, 6, 1329 ss.; ID., *Automated decision-making in HRM*, in *LG*, 2022, 11, 1030 ss.; GAUDIO, A*lgorithmic Bosses Can't Lie! How to Foster Transparency and Limit Abuses of the New Algorithmic Managers*, in *CLLPJ*, vol. 42, 707 ss.; KELLOGG, VALENTINE, CHRISTIN, *Algorithms at Work: The New Contested Terrain of Control*, *Academy of Management Annals*, 2020, vol. 14, no. 1, 366 ss.; DE STEFANO, "*Negotiating the Algorithm": Automation, Artificial Intelligence and Labour Protection*, ILO Employment Working Paper, n. 246/2018; PRASSL, *Regulating Algorithms at Work: Lessons for a 'European Approach to Artificial Intelligence' ELLJ*, 2022, Vol. 13, 1, pp. 30 ss.; OTTO, *Workforce Analytics v Fundamental Rights Protection in the EU in the Age of Big Data*, in *CLLPJ*, 2019, 40, 389-393; KINOWSKA, JAKUB SIENKIEWICZ, *Influence of algorithmic management practices on workplace well-being–evidence from European organisations*, in *ITP*, 36, 8, 2023, 21; WOOD, *Algorithmic management consequences for work organisation and working conditions*, in *JRC Working Papers Series on Labour, Education and Technology*, 2021, 7; ADAMS, WENCKEBACH, *Collective regulation of algorithmic management*, in *ELLJ*, 2023, *14*(2), 211 ss.; LO FARO (ed.), *New Technology and Labour Law Selected Topics*, Torino, 2023.

form of management than human oversight, promise to enhance the efficiency, productivity, and competitiveness of the digitalized enterprise, creating the most pervasive and systematic integration of technology into business activities. The organizational change underlying this shift is characterized by depersonalization: algorithms are entrusted with—or perhaps more appropriately, delegated—some of the prerogatives that are typically assigned to the employer and the client, or otherwise left to managers[2]: assign tasks, give instructions, monitor and assess the work performed, provide incentives, or impose penalties.

The area where algorithmic management is most extensively tested is undoubtedly digital platform work, where sophisticated algorithms are capable of managing, almost entirely, the organization of work[3]. Recently, however, in Europe, automated management systems are also spreading to more traditional sectors, such as logistics and services (for example, in the case of wearable devices[4], *smart factory*[5], etc.), even gaining ground in the public sphere, in the process of forming administrative measures and judicial decisions[6].

Algorithmic management responds to new forms of rationality and creates an unusual blur between the "algorithmic code" and the "legal code", which risks narrowing the scope of traditional regulatory intervention. This situation requires new approaches to power dynamics, aligned with the operational logic of algorithms and the new challenges they pose.

Regarding the use of such systems, one of the greatest risks for the protection of individuals subjected to automated systems is the difficulty of interacting with the 'machine' and reconstructing its exact functioning ex post, and thus understanding the impact it has on their working conditions (the so-called issue of algorithmic opacity[7]).

It is clear that this difficulty, when applied to the workplace context, risks further exacerbating the informational asymmetry and power imbalance that characterize the employment relationship[8].

Employer power in algorithmic management is managed through devices, software, and multifunctional digital applications that serve as both work and control tools[9], enabling continuous and uninterrupted supervision.

This creates an organizational scenario in which the employer, through the "omnipresent" algorithm, strengthens their prerogatives at the expense of workers, who, if poorly informed about the functioning and impact of algorithmic management, find themselves unable to recognize the biases they face, or are disadvantaged in acquiring sufficient evidence to assert their rights in court.

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[2] At present, algorithmic technologies can lead to two different outcomes in management: a) the creation of an "augmented human manager," who uses data derived from algorithmic workforce analytics tools to manage human resources; and b) the introduction of a true "digital or algorithmic management," in which there is a complete integration of workforce analytics devices into decision-making systems, capable of fully replacing the human manager. ZAPPALÀ, *Informatizzazione dei processi decisionali*, cit.

[3] See SANTUCCI, *Intelligenza artificiale e diritto del lavoro: l'incontro nelle piattaforme digitali di lavoro*, in SANTUCCI, TROJSI, *Diritto del lavoro e intelligenza artificiale tra rischi e benefici*, 2024, forthcoming publication; M.T. CARINCI, DORSSEMONT, *Platform work in europe towards harmonisation?*, Intersentia, Cambridge, 2021; PAIS, STARK DAVID, *Algorithmic management in the platform economy*, in *Sociologica*, 14.3, 2020, 47-72; PRASSL, *Humans as a Service : The Promise and Perils of Work in the Gig Economy*, Oxford University Press, 2018;; PERULLI, BELLOMO (eds), *Platform work and work 4.0: new challenges for labour law*, Padova, 2021.

[4] These are wearable devices containing software capable of monitoring or directing work performance, on which, finally, see KRZYWDZINSKI, EVERS, GERBER, *Control and Flexibility: The Use of Wearable Devices in Capital-and Labor-Intensive Work Processes*, in *ILR Review*, 2024, 1 ss.; KELLY-LYTH, THOMAS, *Algorithmic management: Assessing the impacts of AI at work*, in *ELLJ*, vol. 14, n. 2, 2023, 230.

[5] FAIOLI, *Mansioni e macchina intelligente*, Giappichelli, 2018; DAGNINO, *Dalla fisica all'algoritmo: una prospettiva di analisi giuslavoristica*, Adapt University Press, 2019.

[6] BIASI, *Intelligenza artificiale e processo: verso un robot-giudice per le controversie lavoristiche?*, in ID., *op. cit.*, 737 ss.

[7] See BURRELL, *How the machine 'thinks': Understanding opacity in machine learning algorithms,* in *BDS*, 1, 2016.

[8] See FALERI, *Management algoritmico e asimmetrie informative di ultima generazione*, in *Federalismi*, 2024, 3, 217 ss.

[9] See ALOISI, GRAMANO, *Artificial Intelligence is Watching You at Work: Digital Surveillance, Employee Mon-itoring, and Regulatory Issues in the EU Context*, in *CLLPJ*, 2019, 95, 105-108.

It is clear, then, that the issue of algorithmic opacity[10] can be considered a sort of "meta-risk" since, without decoding the functioning of the algorithmic machine, it is difficult to prevent and monitor other potential risks arising from the use of such systems: privacy violations, discrimination, breaches of the limits on control and disciplinary power, and so on.
To address this "meta-risk", it is essential to understand the root cause of the issue of algorithmic opacity. Undoubtedly, at the heart of the issue are technical reasons related to the functioning of certain technologies[11], but at the same time, there are also legal reasons, related to the need to adapt and update protective measures in response to the reality of the algorithmic and/or digitally integrated enterprise.

In particular, it is important to consider that there are different types of algorithms, which can be grouped into two main categories: rule-based (RL) and machine learning (ML) algorithms. In the first case, the machine's decision-making process is static and deterministic: to solve the class of problems presented, the algorithm follows the rules set in its programming, with an inductive calculation process that produces results that are predictable beforehand. Machine learning (ML) algorithms, on the other hand, are characterized by higher levels of complexity. Their functioning depends on the extensive collection and processing of large amounts of data, from which the machine can learn patterns of "action", "decision", and "behaviour"[12].

It follows that the computational process of these algorithms is dynamic and deductive, based on statistical and probabilistic relationships[13]. In these cases, the algorithm, through the statistical management of accessible data, learns in a conditioned manner based on external interactions it encounters, making predictions and thus arriving at results that are not predictable in advance[14].
Moreover, in the field of ML algorithms, deep learning algorithms are in an advanced stage of experimentation. Their functioning, designed to mimic that of neural networks, is based on progressive and autonomous learning from data (with a sort of extraction of deep layers of knowledge through data training). This layered learning, carried out autonomously, makes it difficult to explain each logical step taken by the machine afterward and could lead to irrational outcomes[15].
In this context, the advent of Artificial Intelligence [16], understood as the computational mechanism that constantly processes new inference criteria between data and makes efficient decisions based on such processing, deducing from the inputs received «how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments» (Article 3 of Regulation No. 2024/1689 of June 13, 2024 – "AI Act").
With the advent of AI, it has become even more difficult to identify, after the decision-making process, the factors and variables on which the automated decision was based, as well as the precise weight of

[10] Cfr. BURRELL, *How the machine 'thinks': Understanding opacity in machine learning algorithms*, in *BDS*, 2016, 1, 3 ss.
[11] See G. SARTOR, *L'intelligenza artificiale e il diritto*, Giappichelli, 2022; G. FINOCCHIARO, *Intelligenza artificiale. Quali regole?*, Il Mulino, 2024.

[12] SHALEV-SHWARTZ, BEN-DAVID, *Understanding Machine Learning: From Theory to Algorithms*, Cambridge University Press, 2014; FERRAGINA, LUCCIO, *Il pensiero computazionale. Dagli algoritmi al coding*, Il Mulino, 2017.

[13] As emphasized by FAINI, *Il diritto nella tecnica, tecnologia emergenti e nuove forme di regolazione*, in *Federalismi.it*, 2020, 112.

[14] For the predictive capabilities of machine learning algorithms and their critical issues in terms of reliability, see: SARTOR, *op. cit*., 49 ss., spec. 61.
[15] For the risks of this technology, refer to PERUZZI, *Intelligenza artificiale e lavoro,* cit., 20 ss. and to LO FARO, *Algorithmic Decision Making e gestione dei rapporti di lavoro: cosa abbiano imparato dalle piattaforme, Federalismi.it*, 2022, 189 ss.
[16] See PONCE DEL CASTILLO (eds.), *Artificial intelligence, labour and society*, ETUI Printshops, Brussels, 2024; CEFALIELLO-KULLMANN, *Offering false security: How the draft artificial intelligence act undermines fundamental workers' rights, ELLJ*, 13 (4), 2022, 542–562. BROECKE, *Artificial intelligence and labour market matching, OECD Social, Employment and Migration Working Papers,* No. 284, 2023, OECD Publishing, Paris; LANE, SAINT-MARTIN, *The impact of Artificial Intelligence on the labour market: What do we know so far?, OECD Social, Employment and Migration Working Papers*, No. 256/2023; WAAS, *Artificial Intelligence and Labour Law, in WPHugoSinzheimer Institute*, n. 2022/17, 95.

each factor in the decision itself[17]. In light of this reality, it is clear that protective measures need to be rethought from a more proactive approach, aimed at minimizing the risks of uncontrolled, distorted, or discriminatory effects caused by the use of digital automation in the workplace from the outset.
Algorithmic rationalities call for a more proactive regulatory approach, of a precautionary nature, axiomatically oriented towards the primacy of humans over technology. This approach seems to be gaining ground in recent European regulatory actions, which have sought new tools to strike a balance between supporting digitalization and protecting fundamental human rights.

2. *The European approach to the risks of automated management: a mapping of the sources of law*

As anticipated, in the Era of automation and AI, the essential challenge for labour law is to adapt the framework of protections to new work organizations, seeking to limit and neutralize the risks associated with the exercise of unchecked and opaque power.
This challenge has been at the core of the European regulatory agenda in recent years[18], which has become a global leader in regulating the latest technological frontiers, ushering in a new phase of the European regulatory approach, which some have termed the "New European Digital Constitutionalism"[19].
One of the initial regulatory initiatives in this field is the *White Paper on Artificial Intelligence*[20], launched by the European Commission in February 2020. This document, which outlines the European regulatory plans for the AI sector, identifies seven foundational requirements for the development of AI systems: 1) human oversight and intervention; 2) technical robustness and safety; 3) privacy and data governance; 4) transparency; 5) diversity, non-discrimination, and fairness; 6) social and environmental well-being; and 7) accountability.

These value-based requirements were subsequently articulated, albeit with varying emphasis, across a range of distinct regulatory acts adopted for different (but often complementary) purposes. This compartmentalized regulatory approach does not facilitate the work of legal practitioners and may prove less effective than a single, integrated regulatory framework (e.g., a protective Statute for individuals working in the AI Era).
Nevertheless, despite the numerous and diverse European regulatory measures, it is still possible to discern a coherence in the regulatory approach, which, on an axiological level, is grounded in the anthropocentric principle[21] ("human in command" and "human in-the-loop"[22]); on the legal technicality

[17] CRISTOFOLINI, *Navigating the impact of AI systems in the workplace: strengths and loopholes of the EU AI Act from a labour perspective*, in *ILLEJ*, 2024, 17, 1, 75 ss.
[18] In recent years, there has been a significant intervention by European institutions in the creation of a European model for the digital economy and society, identified starting with the European Commission's *Shaping Europe's Digital Future* (2020), and later reinforced by the Commission's Communication, *Bussola per il digitale 2030: il modello europeo per il decennio digitale*, 9 marzo 2021, COM(2021)118 final) and by *Dichiarazione europea sui diritti e i principi digitali per il decennio digitale* del 26 gennaio 2022, COM(2022)28 final), analyzed by TREU, *La digitalizzazione del lavoro: proposte europee e piste di ricerca*, in *federalismi*, 2022, 9, 202 ss.; SENATORI, *The European Framework Agreement on Digitalization: a Whiter Shade or Pale?*, in *ILLEJ*, 2020, 2, 159 ss.; ALAIMO, *Lavoro e piattaforme tra subordinazione e autonomia: la modulazione delle tutele nella proposta della Commissione europea*, in *DRI*, 2022, 2, 639 e ss.
[19] DE STEFANO, *The EU Commission's proposal for a Directive on Platform Work: an overview*, in *ILLEJ*, 1, 15, 2022, 2; On the new challenges of European digital constitutionalism, see, in particular: POLLICINO, *Potere digitale*, in *Enc. Dir*., *Potere e Costituzione* (diretto da CARTABIA, RUOTOLO), 2023, V, 410 ss.
[20] COMMISSIONE UE, *White paper on artificial intelligence. A European approach to excellence and trust*, 2020, n. 65, 10.
[21] Declared at the European level as early as in the Commission's Communication, "Building Trust in Human Centric Artificial Intelligence, 8 April 2019 COM(2019)168 final.
See PONCE DEL CASTILLO, *AI: the value of precaution and the need for human control*, ID. (ed.), *Artificial intelligence, labour and society*, ETUI Printshops, Brussels, 2024, 13 ss.
[22] For a distinction between the guarantee of human control ("human in command") and the guarantee of human intervention and/or oversight at every decision-making stage ("human in the loop"), see: PERUZZI, *Intelligenza artificiale*, cit., 30.

level, it instead relies on the modulation of protections based on the level of risk (risk-based approach[23]), according to the principles of precaution and prevention, as a safeguard of fundamental rights[24].
This approach is, for example, generally pursued regarding the European regulation of the online platform market, through two complementary regulations adopted in 2022: the *Digital Markets Act* and *Digital Services Act*[25], which have horizontally reinforced some of the protections already established for commercial users by Regulation No. 2019/1150/EU[26]. Both regulations, adopted to curb the concentration of market power in the hands of big online platform companies, respond (as does Regulation No. 2019/1150/EU) to a preventive regulatory approach, based on risk[27]: They foresee, under the banner of accountability, a series of preventive procedural guarantees, concerning duties of transparency, disclosure, monitoring, and risk analysis, regarding the activities of intermediary or informational platforms, especially those related to the management of users' personal data, effectively revitalizing the approach already introduced with the GDPR.
The risk-based regulatory approach is then elevated as the driving force of the Artificial Intelligence Regulation and the protection of algorithmic transparency as outlined in the "Platforms" Directive (Directive No. 2024/2831/EU), guiding several guarantees already established in the legal framework, which can be invoked as safeguards against the abuse of algorithmic power, such as data protection and anti-discrimination measures[28].
In particular, the AI Act absolutely prohibits the use of certain tools deemed to pose an excessively high risk to fundamental rights. According to Article 5 of the AI Act (which takes effect six months after the Regulation's entry into force), systems involving gamification[29], social scoring[30], and emotion recognition[31] in the workplace are prohibited, except for systems that recognize physical states introduced for health and safety purposes.
Conversely, for systems that pose a high risk to fundamental rights - including those applied in the workplace[32]-, the Article 6 of the AI Act imposes several obligations on both providers and deployers: providers must conduct verification, risk mapping, implement a risk management system, and train users[33]; employers, as users in the employment context, are responsible for ensuring transparency, providing both individual and collective notifications, monitoring, and explaining the decision-making

[23] GELLERT, *The Risk-Based Approach to Data Protection*, Oxford, 2020; DE GREGORIO, DUNN, *The European Risk-Based Approach: Connecting Constitutional Dots in the Digital Age*, in *CMLR*, 2022, 59, 2, 497 ss.
[24] See, in particular, ALOISI, DE STEFANO, *Between risk mitigation and labour rights enforcement: Assessing the transatlantic race to govern AI-driven decision-making through a comparative lens*, in *Eur. Labour Law Journ*., 2023, 14, 2, 283 ss.; ADAMS-PRASSL, ABRAHA, KELLY-LYTH, SILBERMAN, RAKSHITA, *Regulating Algorithmic management: A blueprint*, in *ELLJ*, 2023, 14, 2, 124 ss.
[25] See POLLICINO, *Potere digitale*, cit., 440 ss.
[26] The Regulation consists of various provisions aimed at achieving greater transparency in the contractual conditions applied to commercial users. For a focused analysis, see: C. SARTORIS et al, *Trasparenza e piattaforme online alla luce del Regolamento (UE) 2019/1150. In: Annuario 2021. Osservatorio Giuridico sulla Innovazione Digitale-Jodi Yearbook. Juridical Observatory on Digital Innovation*, Sapienza Università Editrice, 2021, 345 ss.
[27] DE GREGORIO, DUNN, *The European Risk-Based Approaches: Connecting Constitu tional Dots in the Digital Age*, in *CMLR*, 59, 2022, 2, 473 ss.
[28] See PERUZZI, *Intelligenza artificiale e diritto*, cit., which identifies a deep functional link between the various regulatory segments.
[29] HAMMEDI, *Uncovering the dark side of gamification at work: Impacts on engagement and well-being*, *JBR*, 122, 2021, 256 ss.
[30] GEOFFROY-TERRYN, *Regulating 'Social Scores' in Data-Driven Societies*, in Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance, 2019, 516-518.
[31] DUROVIC, CORNO, *The Privacy of Emotions: From the GDPR to the AI Act, an Overview of Emotional AI Regulation and the Protection of Privacy and Personal Data*, *Privacy, DPT*, 2024, 368.
[32] More specifically, Article 6, paragraph 2, classifies as high-risk those AI systems that represent automated management namely, those used to make decisions within employment relationships and to monitor and assess workers' performance and behavior.
[33] The provider is subject to a range of additional requirements, such as the use of high-quality datasets, improvements in traceability and user-sharing mechanisms, and the design and assurance of higher standards in terms of robustness, cybersecurity, and accuracy, following a quality management system (Article 17). This also includes product certification and, most importantly, a risk management and human oversight system (see especially Articles 9, 13, and 16), all aimed at ensuring a higher standard of safety for automated technology.

processes that impact fundamental rights[34].

Indeed, although there is no unified regulatory framework in European law (which is certainly desirable[35]) for the algorithmic management of labour relations, European legislation is nonetheless dotted with regulatory segments that can be invoked to counter the risk of algorithmic opacity[36].

Alongside the general and provisions of the AI Act[37], three fundamental regulatory safeguards can be identified: a) data protection; b) anti-discrimination protection; c) algorithmic transparency and explainability.

3. Regulatory systems against algorithmic opacity: data protection

The functioning of AI and automated management systems relies on the management and analysis of large amounts of data. To prevent the risk of algorithmic opacity, data protection is essential, serving as a primary shield against invasive monitoring and data processing practices that undermine the freedom and dignity of workers[38].

In European privacy legislation, there are significant principles and rules to protect both self-employed and employed workers subject to algorithmic management.

The European General Data Protection Regulation No. 679/2016 (GDPR), directly applicable in EU member states, including in private relationships (and thus in employment relationships), aims to hold companies accountable in preventing risks to fundamental rights such as freedom, dignity, and self-determination[39], following a risk-based preventive regulatory model, whose strategic importance has already been emphasized in the context of algorithmic management.

In fact, the GDPR requires companies to adopt appropriate legal and technical-organizational measures to safeguard personal data, ensure transparency, and maintain fairness in data processing, in compliance with the principles of purpose limitation, transparency, and minimization. This is achieved through an approach that incorporates protection by default, known as privacy by design and privacy by default (Art. 25 GDPR). To uphold these principles, the GDPR grants data subjects specific rights to prior information (Art. 13 GDPR) and rights to access data being processed (Article 15 GDPR).

The GDPR specifically addresses automated processing in Article 22: the first paragraph recognizes «the right not to be subject to a decision based solely on automated processing, including profiling, that produces legal effects concerning him or her, or significantly affects his or her person»[40].

In a recent ruling[41], the Court of Justice clarified that the "decision" referred to in Article 22 should not be understood in a narrow sense as a formal decision but can also encompass "measures or assessments concerning personal aspects of individuals," providing a functional definition focused on

[34] The articles 26 and 27 further impose on the deployer the obligation to comply with the instructions received from suppliers, ensure human oversight, and conduct impact assessments on workers' rights, with the requirement to suspend use in case of risks to health, safety, and fundamental rights. On the point, see CRISTOFOLINI, *op. cit*., 79 ss.

[35] See DE STEFANO, WOUTERS, *AI and digital tolls in the workplace*, cit., 69 ss., which suggest a directive on algorithm safety to reduce occupational risks faced by workers subject to AI.

[36] On this point: PRASSL, *Regulating algorithms at work*, cit. 35 ss.

[37] Indeed, the Article 2, paragraph 11, of the AI Act clarifies that it 'does not prevent the Union or Member States from maintaining or introducing legislative, regulatory, or administrative provisions that offer greater protection to workers regarding the use of AI systems by employers, nor from promoting or allowing the application of collective agreements that provide more favorable conditions for workers. So, greater protection by individual Member States' legal systems is both possible and desirable, as pointed out by CRISTOFOLINI, *op. cit*., 81.

[38] See ABRAHA, *Regulating algorithmic employment decisions through data protection law*, in *ELLJ*, 2023, 14, 2, 180; PRASSL, *Regulating Algorithms at Work*, cit., 30.

[39] INGRAO, *La protezione dei dati personali dei lavoratori nel diritto vivente al tempo degli algoritmi*, in SANTUCCI, BELLAVISTA (a cura di), *Tecnologie digitali, poteri datoriali e diritti dei lavoratori*, cit., 130.

[40] In public law, some consider it a true new fundamental right of the individual. On this point, see SIMONCINI, *Profili costituzionali della amministrazione algoritmica*, in *Rivista trimestrale di diritto pubblico*, 2019, 4, 1152, who identifies within the essence of the concept of human dignity the fundamental right that "technology remains within the realm of means and tools and does not replace human decision-making, at least whenever the decision is capable of impacting fundamental freedoms and rights.

[41] CGUE 7 december 2023 C634/21, SHUFA Holding AG.

the impact such measures have on the personal sphere of the data subjects.

In the second paragraph, Article 22, letter (a), excludes the application of this principle in cases where the data subject has given their consent and in situations where automated processing is necessary for the conclusion or performance of a contract between the data subject and a data controller. Nonetheless, the general principle remains worthy of protection. This is because, in any case, in the third paragraph, Article 22 provides, in accordance with the anthropocentric perspective ("*human in control principle*"[42]), the obligation to adopt appropriate measures to safeguard the "right to obtain human intervention from the data controller, to express one's opinion, and to contest the decision[43]. Therefore, even when authorized, automated processing must still be subject to measures that protect the rights, freedoms, and legitimate interests of the data subject, at the very least by guaranteeing the right to express one's opinion, contest the decision made by the algorithm, and request and obtain human review.

Finally, from the perspective of accountability and risk prevention and management, Article 35 of the GDPR, to ensure the effective implementation of the aforementioned provisions, requires a Data Protection Impact Assessment (DPIA) to be carried out by the data controller[44].

In conclusion, it can be asserted that the data protection regulatory framework provides important safeguards, which, at the outset, require aligning the informational universe underlying the functioning of the algorithm with criteria of transparency, accuracy, precision, data minimization, and so on; moreover, it recognizes the worker's right to be informed about the existence of automated processing, to understand the functioning and influence of such processing on their legal sphere[45], as well as the right to human intervention for correction.

However, all these safeguards could lose their effectiveness in the face of opaque and difficult-to-interpret algorithmic systems. Consider the principles of purpose limitation, accuracy, adequacy, relevance of processing, and data minimization, which are central to the GDPR: their practical applicability could be weakened in systems equipped with self-learning capabilities, where the objectives and goals to be achieved are not necessarily predefined, as these systems have the ability to replace the usual cause-and-effect sequence with a more opaque and free correlation between a multitude of variables. This can lead to the possibility of unexpected outcomes.

Furthermore, even simpler systems are characterized by a continuous capacity for evolution and updating, making it more difficult to control compliance with the requirements of fairness and authenticity in data collection.

It then becomes necessary to reflect, following the integrated approach outlined earlier, on the contribution of other regulatory segments involved, to assess whether these can overcome such limitations.

4. Anti-Discrimination Protection

Another regulatory tool that can be invoked to address algorithmic opacity is anti-discrimination law. In the European legal landscape, anti-discrimination protection was the first legal "tool" employed to open the "black boxes"[46] of management algorithms and to assess whether and how automated management might result in abuses or violations of fundamental rights for platform workers involved in

[42] Also established by the European Framework Agreement on Digitalization of June 22, 2020. On this point, see TREU, *La digitalizzazione del lavoro: proposte europee e piste di ricerca*, in *Federalismi*, 9, 2022, 190 ss.

[43] Although it is possible to raise doubts regarding the application of the provision, at least with respect to subordinate employment, as noted by GRAGNOLI, *Il potere di controllo, le risorse digitali e gli algoritmi*, in BELLAVISTA, SANTUCCI (Eds.), *cit.*, 37, according to which these protections are designed for contractual situations where the parties are in an equal position, as in commercial relationships, and are not intended for subordinate workers, while it remains that this would constitute a form of minimum safeguard.

[44] See PERUZZI, *Intelligenza artificiale e lavoro*, cit.

[45] See MALGIERI, COMANDÉ, *Why a Right to Legibility of Automated Decision-Making Exists in the General Data Protection Regulation,* in *IDPL*, 2017, 243 ss.

[46] See PASQUALE, *The Black Box Society: The Secret Algorithms that Control Money and Information*, Harvard University Press, 2015.

automated decision-making processes.
Regarding the issue of discrimination, the introduction of automated systems can have ambivalent effects: on the one hand, it may lead to more rational, objective, and even fairer decisions, as they are free from human errors, biases, and prejudices[47]; on the other hand, however, as argued in academic literature and supported by case law, these systems may also create new and more insidious channels for spreading discrimination. When embedded within opaque and even less transparent mechanisms, discrimination becomes harder to prevent, identify, control, and, consequently, to sanction.
Indeed, given the functioning of algorithmic management, the mere introduction of a single distorted data point, parameter or criterion within the vast array of inputs can trigger an uncontrollable spiral of bias propagation [48]. This may ultimately affect the algorithm's final decision, thereby perpetuating a risk of structural and systemic discrimination.

Consider, for example, the case of Amazon's recruiting algorithm. This algorithm was designed to manage candidate screening during the hiring phase, but it systematically excluded female applicants' résumés. The algorithm had been programmed to consider the outcomes of previous hiring rounds, which were characterized by a low representation of women. Consequently, in its effort to replicate past hiring results, the algorithm "learned" to penalize female profiles, thereby resulting in prohibited discrimination[49].

Even more telling is the Italian case of the algorithms used by Deliveroo and Glovo. These algorithms, programmed to rank riders based on availability and punctuality, discriminated against workers who, due to strikes, illness, disability, religious obligations, or family needs, were absent more frequently and unable to meet the rigid attendance standards imposed by the algorithm[50].

In response to the new risks of algorithmic discrimination[51], traditional anti-discrimination law - originally designed to address human discrimination- has proven effective in tackling this frontier of discrimination as well[52].

Indeed, algorithmic discrimination does not alter the structure of the discriminatory offense, nor does it undermine the established concepts of direct and indirect discrimination. The fact that discrimination occurs unconsciously, through an impersonal automated tool, and even without human intervention, is not determinative under anti-discrimination law. Rather, the concept of discrimination - whether direct or indirect- is objective in nature, as it targets the discriminatory effect, not the intent. Moreover, this protection applies even in cases where discriminatory harm is merely potential and even where specific victims of discrimination cannot be clearly identified, as in cases of collective discrimination.

Therefore, since the concept of discrimination does not require any intentionality, it cannot be ruled out that algorithmic discrimination may also constitute direct discrimination[53]. As is well known, direct discrimination is subject to broader protections, leaving no room for justifications, unlike indirect discrimination, which occurs when an apparently neutral criterion or practice has a disproportionately adverse effect on members of a protected category. Additionally, anti-discrimination protection applies even when the disparity in treatment is only potential and even when no specific victim of discrimination can be identified, as in the case of collective discrimination. This protection is further reinforced by granting the judge extensive investigative powers. Once discrimination is established, the judge may order the company, in consultation with labour unions, to implement a plan to remedy the effects of the identified discriminatory practices and to conduct an impact assessment of the tools through which discrimination emerged.

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[47] DE SIMONE, *Discriminazione*, in *Lavoro digitale*, cit., 150; GAUDIO, *Le discriminazioni algoritmiche*, in *LDE*, 2024, 1, 23.
[48] A circumstance that is not uncommon, as emphasized by CRISCI, *Intelligenza artificiale ed etica dell'algoritmo*", in *Foro Amministrativo*, 2018, 10, 1787 ss.
[49] DASTIN, *Amazon scraps secret AI recruiting tool that showed bias against women*, in *Reuters*, 2018.
[50] Court of Bologna 31 december 2020; Court of Palermo 17 november 2023, on which a referral is allowed, including for references, to DE PETRIS, *La discriminazione algoritmica. Presupposti e rimedi*, in BIASI (Eds.), *op. cit*., 225 ss.
[51] See KELLY-LYTH, *Algorithmic discrimination at work*, *ELLJ*, n. 14, 2023, 152 ss.
[52] See SANTAGATA DE CASTRO, Anti-discrimination law in the italian courts: the new frontiers of the topic in the age of algorithms, in *WP C.S.D.L.E. "Massimo D'Antona".IT*- 440/2021, 1 ss.
[53] See ADAMS-PRASSL, BINNS, KELLY-LYTH, Directly discriminatory algorithms, in *MLR*, 86, 2023, 144 ss.

However, it is also true that algorithmic discrimination may be harder to detect, especially when it takes the form of "proxy discrimination", where the discriminatory effect occurs through an indirect reference that is nonetheless correlated with membership in a protected category[54].
In such cases, the discriminatory potential may be even more obscured, although European anti-discrimination law provides an easing of the evidentiary burden in favour of the victim of discrimination[55]. The risk of algorithmic opacity affects the recognizability of discriminatory treatment, making it more difficult for the workers to offer of evidence of the discrimination suffered due to the algorithmic rule, which is difficult to decode.
Therefore, a central issue remains the need for reflection on the transparency of new algorithmic tools used in the workplace.

5. *Algorithmic transparency as a preliminary safeguard against algorithmic opacity: The Directive No. 2024/2831/EU on platform work*

Recent European regulatory measures recognize "algorithmic transparency" as an essential tool for protecting against the opacity and inaccessibility of algorithmic and AI systems implemented or applicable in the workplace[56].

In general, informational transparency[57], as a cognitive tool aimed at rebalancing the contractual vulnerability of the worker, has long been pursued within the European legal framework, beginning with Directive No. 91/533/EEC, which was implemented in our legal system through Legislative Decree No. 152 of May 26, 1997.
More recently, the protection of transparency in employment relations has been revitalized by Directive No. 2019/1152/EU, which, in response to the specific protection needs of new forms of atypical work (especially within the digital context), has the merit of complementing the promotion of informational transparency with that of predictability and security of working conditions. To this end, it establishes certain "minimum requirements" on these matters[58]. In the new Directive, transparency serves not only as a tool for rebalancing information but also as a means to uphold the "minimum rights" of work security and predictability. These rights are introduced by the Directive to protect both subordinate workers and falsely self-employed individuals[59].
The Directive No. 2019/1152/EU, albeit following a "minimum harmonization" model within an essentially binary framework (characteristic, moreover, of European social legislation[60]), reaffirms transparency as a protective measure aimed at improving working conditions. It functions as a tool to enable various forms of oversight, such as verifying corporate remuneration policies and the potential presence of gender-based discrimination[61].

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[54] NAPPI, *L'inverso rapporto tra polimorfismo ed efficienza nelle tutele processuali antidiscriminatorie*, in *DML*, 2, 2024, 456.

[55] On the subject, see SANTAGATA DE CASTRO, SANTUCCI, *Discriminazioni e onere della prova: una panoramica comparata su effettività e proporzionalità della disciplina*, in *ADL*, 2015, 820 ss.

[56] See ZAPPALÀ, *Transparency and Comprehensibility of Working Conditions and Automated Decisions: Is It Possible to Open the Black Box?*, in *ILJ*, 2023, 9, 623.

[57] See ZILLI, *La trasparenza nel lavoro subordinato. Principi e tecniche di tutela*, Pacini Editore, 2022, 109 ss.

[58] On this point, see GEORGIOU, *The new EU Directive on Transaprent Working Conditions in the context of new forms of employment*, in *European Journal of Industrial Relations*, 2022, 28, 2, 193 ss.; BEDNAROWICZ, *Delivering on the European pillar of social rights: the new directive on transparent and predictable working conditions in the European Union*, in *ILJ*, 48(4), 2019, 604-623.

[59] The Directive while clarifying the scope of its application, includes domestic workers, on-call workers, intermittent workers, voucher workers, platform workers, interns, and apprentices, but expressly excludes genuinely self-employed workers, unless they fall under the category of false self-employment, referring to the extensive case law of the Court of Justice (among others, see 14 October 2010, Union syndicale Solidaires Isère, C-428/09, ECLI:EU:C:2010:612, 9 July 2015, Ender Balkaya, C-229/14, ECLI:EU:C:2015:455; 4 dicembre 2014, FNV Kunsten Informatie, C-413/13, 19 July 2017, C-143/16, Co-operative Limited). See GRAMANO, *On the notion of 'worker'under EU law: new insights*, *ELLJ*, 12(1), 2021, 98.

[60] BARNARD, PEERS, (Eds.), *European union law*, Oxford University Press, 2023, 630.

[61] BELLAVISTA, *La questione del potere 'trasparente' nei rapporti di lavoro*, in *DML*, 2023, 577 ss.

The importance of transparency as a protective tool is emphasized by the latest European legislative initiatives, which identify the "algorithmic transparency" as a new regulatory pillar for managing and limiting employer power mediated by algorithms, thereby strengthening the effectiveness of existing regulatory mechanisms. In particular, the protection of algorithmic transparency is pursued through the Platform Work Directive (Directive No. 2024/2831/EU), recently adopted by the European Parliament and Council following a lengthy mediation process on the Directive Proposal of December 9, 2021 (COM/2021/762)[62].

To ensure better working conditions in platform work, the new Directive grants important transparency rights, as regulated in Chapter III of Directive No. 2024/2831/EU, particularly in cases involving:

a) "automated monitoring systems", where algorithms are used to monitor, manage, and evaluate the performance of work activities;

b) "automated decision-making systems", where algorithms are used to make or support decisions that affect working conditions and employment relationships.

In both cases, the Directive specifies that these systems have a «significant impact on working conditions» and pose a «high risk to the rights and freedoms of natural persons» (Article 8).

To minimize these risks -a goal already pursued broadly under the AI Act- Article 7 of the Directive strictly prohibits the processing of personal data that are not directly relevant and necessary for fulfilling the employment contract (e.g., data from private conversations or sensitive data, including biometric, health-related, emotional, or psychological data, as well as data related to the exercise of fundamental rights, especially union membership and the right to strike).

Furthermore, in line with the principles of 'human-in-command' and risk management, Article 8 of the Directive requires digital labour platforms to conduct data protection impact assessments, as outlined in Article 35 of the GDPR, with prior consultation of platform workers and their representatives. This obligation for a preliminary assessment should be read alongside the requirements set forth in Articles 26(9) and 27(4) of the AI Act, concerning data impact assessment and fundamental rights impact assessment, respectively. Together, these provisions aim to enhance the regulatory framework established by the GDPR by establishing a series of obligations and constraints on the information flow from the provider to the deployer of an AI system, to better understand and evaluate the impact of its operation[63]. Furthermore, guaranteeing prior consultation with workers and their representatives before drafting the assessment document is of primary importance, as it enables informed interaction that can enhance the effectiveness of the risk assessment.

Subsequently, Article 9 of the Directive introduces extensive information obligations for platforms towards workers, their representatives, and, upon request, the relevant national authorities.

Specifically, for both types of algorithmic systems (monitoring and decision-making), a general obligation exists to provide information on the use or commencement of any experimental phase of these systems[64].

With particular regard to monitoring systems, platforms must disclose the categories of data and activities subject to monitoring, including client evaluations; the monitoring objective and the methods by which the system aims to achieve it; the recipients or categories of recipients of personal data

[62] See SMORTO, DONINI, *L'approvazione della direttiva sul lavoro mediante piattaforme digitali*, in *LLI*, vol. 10, n. 1, 2024, 25 ss.; GIOVANNONE, *Il lavoro tramite piattaforma nell'ordina mento europeo*, in BIASI (a cura di), *op. cit*., 500 ss.; ROSIN, *Towards a European employment status: The EU proposal for a directive on improving working conditions in platform work*, *ILJ*, 2022, *51*(2), 478 ss.

[63] PERUZZI, *Gestione algoritmica del lavoro, protezione dei dati personali e tutela collettiva in giudizio*, in *LD*, 2024, 262.

[64] See ROSIN, *Towards a European employment status: The EU proposal for a directive on improving working conditions in platform work*, cit., 478 ss.

processed by such systems; and any transmission or transfer of this personal data, even within a group of companies (Article 9, paragraph 1, b).

In relation to automated decision-making, an obligation exists to provide information on 'all types of decisions supported or made by automated systems,' even if these decisions do not significantly impact platform workers.

More specifically, platforms are required to disclose the categories of data, the main parameters, and the reasons underlying decisions that affect a worker's contractual status or decisions with adverse effects, particularly regarding non-payment, or the restriction, suspension, or closure of a worker's account (Article 9, paragraph 1, c).

However, the requirement that the above-mentioned information must be provided «no later than the first working day» is unclear, as it would be preferable to recognize a prior information obligation (at the time of registration on the platform, and therefore even before receiving the first job assignment). Nonetheless, it is commendable that the Directive specifies that workers (Article 9, paragraph 3) or their representatives may request this information "at any time", and that this right also extends to prospective platform workers when automated tools are used in the hiring process (Article 9, paragraph 5).

In the Directive, the principle of algorithmic transparency is complemented by two fundamental guarantees: a) human monitoring of automated systems (Article 10), which must be carried out periodically (at least every two years) by qualified human personnel to assess specific risks, particularly those related to health and safety, as well as ensuring equal treatment for platform workers; and b) contestation and human review of automated decisions (Article 11), with an obligation to provide written justification for any decision that limits access to work or its remuneration. However, the requirement for written justification could easily be circumvented by automatic text-generation systems, which allow machines to provide a generic justification independently. Therefore, to ensure the effectiveness of this provision, it seems essential to interpret the guarantee of 'written justification' as personalized justification (related to the specific case) drafted by human personnel.

Finally, to seal the framework of protections, on one hand, Article 16 strengthens the investigative powers of the judiciary: «national courts or other competent authorities may order platforms to disclose relevant evidence under their control»[65]; on the other hand, Article 18, paragraph 2, establishes that the digital labour platform is required to provide justification for any decision to exclude a worker from the system (digital cold dismissal).

The regulation of algorithmic management in terms of algorithmic transparency under this Directive is essential, as it represents the first structured regulation of this phenomenon. However, two necessary issues arise regarding the risks of algorithmic opacity. First, the Directive applies solely to the field of digital platform work, which is indeed one of the most prevalent forms of algorithmic management but by no means the only one. Consequently, outside platform work, the protection of other forms of algorithmic management is left to the independent initiatives of individual Member States[66].

Additionally, a second crucial issue emerges: the algorithmic transparency safeguards outlined in Directive No. 2831/2024 need to be supplemented by a guarantee of algorithmic comprehensibility or

[65] Emphasize the importance of this provision, especially with regard to the judicial tools available to workers' representatives GAUDIO, *Litigating the Algorithmic Boss in the EU: A (Legally) Feasible and (Strategically) Attractive Option for Trade Unions*?, in *IJCLLIR*, 2024, *40*(1), 91 ss.

[66] In Italy, Spain, and Germany, rights to algorithmic transparency have been introduced for all employment relationships involving the use of automated decision-making or monitoring systems. For further reading: CORTI, *L'intelligenza artificiale nel decreto trasparenza e nella legge tedesca sull'ordinamento azienda*, in *Federalismi*, 2023, 29, 163 ss.; CARDO, *Decisiones automatizadas y discriminación algorítmica en la relación laboral:¿ hacia un Derecho del Trabajo de dos velocidades?*, in *REDT*, 253, 2022, 135 ss.

explainability. While this appears to be absent in the Platform Directive, it may, in the author's view, be identified through an integrated interpretation of relevant sources.

6. Algorithmic transparency and explainability through an integrated approach

The effectiveness of algorithmic transparency rights, introduced in European law with regard to individual aspects of platform work, depends on the concrete "explainability" of algorithmic functioning.

This algorithmic explainability requires a technical synthesis of relevant information, requested "upstream", which ideally should be carried out not by the employer or client, but by collectively organized entities with prior training[67]. Otherwise, there is a risk of imposing an "information overload" that would still be ineffective in redressing workers' informational asymmetries[68].

On this point, Directive No. 2024/2831/EU clarifies in Article 9, paragraphs 2 and 3, that transparency information must be concise, transparent, intelligible, and easily accessible. However, the reference to "conciseness" appears vague and of limited utility on its own to ensure genuinely informed awareness among workers. Indeed, there is no guarantee that algorithmic transparency rights will automatically translate into a "right to algorithmic understanding". While this right is generally not covered by Directive No. 2024/2831/EU, it has been introduced into the legal framework through Article 86 of the AI Act. Under this article, «a person affected by a decision based on the output of a high-risk AI system, which produces legal effects or significantly impacts their health, safety, or fundamental rights, has the right to obtain from the deployer (employer or client) clear and meaningful explanations about the role of the AI system in the decision-making process and the main elements of the decision made».

On the topic of algorithmic explainability, although the Platform Work Directive does not contain an express provision equivalent to Article 86 of the AI Act, the algorithmic transparency safeguards provided in Articles 10 and 11 of the Directive—including the obligation of human oversight, the right to explanation, and human review of algorithmic decisions—appear to be aligned with this objective. The requirements for human supervision and monitoring of the algorithm's functioning, combined with the obligation of written justification, may indeed lay the groundwork for establishing an independent right to "algorithmic explainability". In particular, the right to obtain from the platform, without delay, a transparent and intelligible explanation for any decision made or supported by an automated system helps to resolve doubts regarding the existence, within data protection law (specifically Article 22 of the GDPR), of an independent right to an explanation of the impact and functioning of automated processes[69].

In conclusion, transparency protections are essential to mitigate the risks associated with opaque and uncontrollable management practices. An integrated interpretation of the GDPR, the AI Act, and the Platform Work Directive supports the recognition of a new right to algorithmic comprehensibility and/or explainability. However, it is important to emphasize that this integrated reading cannot fully address the limitations stemming from the lack of a comprehensive regulatory framework for algorithmic management.

A more cohesive and less fragmented European regulatory approach would have been desirable, one grounded in the recognition of next-generation (digital) rights aimed at protecting workers' dignity and

[67] See GAUDIO, *Litigating the Algorithmic Boss in the EU*, cit., 94 SS.

[68] On this point: ZAPPALÀ, *Transparency and Comprehensibility of Working Conditions and Automated Decisions: Is It Possible to Open the Black Box?*, cit., 623.

[69] See WACHTER, MITTELSTADT, FLORIDI, *Why a Right to Explanation of Automated Decision Making Does Not Exist in the General Data Protection Regulation*, in *IDPL*, 2017, vol. 7, no. 2, 76 ss.; MALGIERI, COMANDÉ, *Why a Right to Legibility of Automated Decision-Making Exists in the General Data Protection Regulation,* in *IDPL*, 2017, 243 ss.

freedom from arbitrary and abusive practices concealed within algorithmic organization not only on platforms but in digital and algorithmic enterprises more broadly.
Furthermore, for the effectiveness of these safeguards, it is essential that rights to information on the functioning and impact of algorithms are recognised by collective representatives (both self-employed and employees). Collective actors must understand algorithmic operations to better protect individual rights and strengthen collective bargaining, which can also serve as an effective tool for early regulation of automated systems[70].

6. Concluding remarks

Considering the analysis conducted so far, it can be concluded that although there is no unified regulatory framework (which would certainly be desirable) regarding the algorithmic management of labour relations, the European Union legal system is marked by various legal provisions that can be invoked to mitigate the risks of algorithmic opacity, both preventively and remedially.

Among these, particular emphasis should be placed on data protection safeguards and anti-discrimination protections, which serve as external limits to the employer's organizational and control power (including in its automated form) and as instruments that can be invoked, even by collective actors[71], to assess the impact of automated systems on fundamental rights in judicial proceedings.

However, it has also been observed that in relation to the "meta-risk" of algorithmic opacity, the effectiveness of the GDPR and anti-discrimination law is weakened by increasing informational asymmetries[72], which make it extremely difficult for workers to understand the effects produced by the algorithmic system. In the absence of understanding and recognition of the prejudice suffered, invoking existing protections in legal proceedings becomes more challenging.
To strengthen the effectiveness of these protections, it is argued that it is necessary to promote, through a proactive and precautionary approach, specific "algorithmic transparency" rights that should be operational before the introduction or use of automated systems in all labour relations impacted by algorithmic management.
Important protections in this regard have been introduced with respect to platform work by Directive No. 2831/2024; however, its limited scope of application does not provide sufficient protection against the risks of algorithmic management within the European context.
Some more generalized provisions can be found in the AI Act, which has the merit of introducing a right to algorithmic explainability; however, there is a lack of specific provisions on algorithmic transparency tailored to the particularities of labour relations.
Therefore, while an integrated interpretation of anti-discrimination, privacy, and algorithmic transparency rules is helpful, it cannot be assumed that these legal segments will fully resolve the problem of understanding how algorithms operate, especially the more complex ones.
The best solution appears to be the adoption of an independent regulatory framework for algorithmic management in labour relations, which would introduce specific rights to algorithmic transparency, explainability of automated actions, and provide a facilitated burden of proof for workers. Moreover, it seems essential to steer the development of algorithms toward a principle of readability by design and by default (following the path already outlined by the GDPR around privacy).

[70] See DE STEFANO, *"Negotiating the Algorithm": Automation, Artificial Intelligence, and Labor Protection*, in *CLLPJ*, 41, 2019, 15 ss.
[71] On the strategic importance of collective actors in the era of digitalization see PIZZOFERRATO, TURRIN (Eds.), *Current Issues of EU Collective Labour Law*, Giappichelli, Torino, 2024.
[72] See PRASSL, *Regulating algorithms at work*, cit., 30 ss.

This approach could make a difference, as the promise of fairness, rationality, and objectivity in the digital revolution is not necessarily destined to remain an illusion.
Algorithmic decisions are potentially more traceable and controllable than human ones, and, in general, technology is the object of action, not the acting subject: it merely provides us with tools, and their impact - whether positive or negative - on the real world depends on the choices that guide their construction, use, and regulation.

Abbreviation

ADL- Argomenti di Diritto del Lavoro
BGS - Big Data & Society
CLLPJ - Comparative Labor Law & Policy Journal
CMLR- Common Market Law Review
DML- Il diritto del Mercato del Lavoro
DPT - Data Protection and Data-driven Technologies
DRI- Diritto delle Relazioni Industriali
ELLJ - European Labour Law Journal
IDPL - International Data Privacy Law
ILJ - Industrial Law Journal
ILLEJ - Italian Labour Law e-Journal
IJCLLIR - International Journal of Comparative Labour Law and Industrial Relations
ITP - Information Technology & People
LD – Lavoro e Diritto
LDE - Lavori Diritti Europa
LG - Il Lavoro nella Giurisprudenza
LLI - Labour&Law Issues
MLR - Modern Law Review
REDT- Revista Española De Derecho Del Trabajo