Article

DOI: 10.17803/2713-0533.2026.1.35.081-099

Metamorphoses of Labor Law Subjects in AI-driven World

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Abstract: The relevance of the paper stems from anticipated transition of contemporary digital society and the platform economy from Society 4.0 to Society 5.0, characterized by the increasing integration of physical and virtual environments and the expansion of metaverse technologies. This transformation raises fundamental questions regarding revolutionary changes in labor law, including the emergence of digital legal relations, digital subjects of labor law, and qualitatively new phenomena within the institutions of the special part of labor law. The research objective is to pose the problem of digital subjects (quasi-subjects) of labor law and to comprehend the metamorphoses that occur with employees and employers in AI-driven world. During the research, a set of general and special scientific methods was used: dialectics, concrete historical, sociological, comparative legal and system-functional methods, as well as forecasting and logical techniques. Principal results include the substantiation of metamorphosis occurring between the employer and employee in the platform economy and a new concept of digital workers and digital employers as potentially significant subjects of labor law, who will gradually displace classical workers, employees and employers under the transition to Society 5.0 in AI-driven world. The authors substantiate new doctrinal definitions and elements of the legal status of a digital worker and a digital employer. They forecast the

development of legal regulation of new digital entities (quasi-subjects) of digital employment relations in Society 5.0.

Keywords: digital labor platform; platform worker; employee; employer; digital employer; digital worker; AI; subjects of labor law

Acknowledgements: The study was financially supported by Grant of the Russian Science Foundation No. 25-28-00511, https://rscf.ru/project/25-28-00511/.

Cite as: Tomashevski, K.L. and Filipova, I.A., (2026). Metamorphoses of Labor Law Subjects in AI-driven World. *Kutafin Law Review*, 13(1), pp. 81–99, doi: 10.17803/2713-0533.2026.1.35.081-099

Contents

1. Introduction

The domain of labor law subjects is traditional for the science of labor law. This issue has been examined quite extensively since the second half of the twentieth century. Among the European legal scientists who examined this issue are H. Sinzheimer (1976), J.-M. Verdier (1978), O. Kahn-Freund (1983), J. Bidden (1992), and M. Weiss (2022) among others. At the same time, prominent Soviet researchers of labor law subjects include N.G. Aleksandrov (1948), B.K. Begichev (1972), I.O. Snigireva (1983), A.S. Pashkov and V.G. Rotan (1986), etc.

Research on the subjects of labor law and their representatives has also been conducted in the early twenty-first century, including at the monographic level, by J. Prassl (2015), V.A. Vasilyev (2011), M.A. Dra-

chuk (2009), V.V. Fedin (2005), and L.V. Zaytseva (2015). At the same time, the above researchers — probably, except J. Prassl — focused mainly on the legal status of traditional subjects such as an employee, employer, and trade unions (or their associations). Less attention was paid to employer associations, the unemployed, apprentices and trainees, state employment agencies, and bodies supervising the observance of labor law.

These subjects, as participants in labor and related relations during the industrial era, continue to play an important role in relations under examination. In addition, traditional labor law subjects are adapting to rapidly evolving labor and related relations influenced by digitalization (Tomashevski, 2020).

As society transitions to the post-industrial era and the digital and platform (gig) economy emerges as part of the 4th Industrial Revolution associated with Industry 4.0, new quasi-subjects of labor law have begun to appear, including digital labor platforms and platform workers. As Society 5.0 is being formed, the sphere of labor and employment faces a growing role of generative artificial intelligence (AI), neural networks, intellectual robots, and cyborgs. The blurring of the boundary between the real and virtual worlds poses an ambitious new challenge for legal scholarship: to substantiate the concept of digital labor law subjects as participants in digital labor relations. The universal adoption of AI has significantly affected labor markets and poses a threat to the employment prospects across numerous occupations, as noted by many leading economists (Korinek and Stiglitz, 2019, p. 350) and legal scientists (Aloisi and De Stefano, 2022). In turn, this may lead to gradual complete substitution of traditional labor law subjects by emerging quasi-subjects and, in future, by new legal subjects (digital entities) endowed with AI.

Although the legal subjectivity (personality) of AI systems remains highly contested (Filipova and Koroteev, 2023; Channov, 2022), the authors advance the following *hypothesis*. With the emergence of strong AI (AGI), which may occur within five years, it may become necessary to legislatively recognize the legal subjectivity of AI-based digital labor platforms, intelligent robots, embodied virtual agents, and other digital

entities; to endow them with the legal status of either an employee or an employer; and to clarify the labor law status of cyborgs.

The objective of this paper is to state the problem of digital subjects (quasi-subjects) of labor law and to analyze the transformations affecting employees and employers in the AI-driven world.

II. Methodology

In preparing the paper, the authors employed a methodology grounded in dialectic method, as well as general scientific methods including system analysis, the system-functional method, scientific forecasting, and modeling. The latter two methods were applied extensively in forecasting and modeling new subjects of labor law expected to emerge under the influence of AI technology and the further transition from Society 4.0 to Society 5.0. The research also incorporates a set of specific scientific and specialized methods of inquiry, including the concrete-historical, comparative-legal, and formal-legal methods, as well as logical analysis and statistical techniques. An interdisciplinary approach is emphasized, as the issues surrounding the use of AI in labor, functioning of digital platforms, organization of platform labor and their algorithmic management require not only expertise in labor, civil and information law, but also an understanding of digital technologies and contemporary technological developments. This approach enables a systemic examination of labor law issues related to the transitions experienced by labor law subjects in the context of society's digital transformation.

III. Discussion and Results

III.1. Digital Labor Platforms and Algorithmic Management in Relations Involving Platform and Traditional Employees

Over the past 10 years, platform employment and algorithmic management have become prominent topics in labor law scholarship. This is evidenced by numerous reports from the ILO, ETUI, edited monographs, international conferences and congresses, and academic articles in leading journals addressing this theme.

The growing importance of platform labor was highlighted by ILO Director-General Gilbert F. Houngbo at the 113th Session of the International Labor Conference in June 2025, noting that "The ILO estimates that digital labour platforms account for 3 to 5 per cent of employment in most countries, creating both work opportunities and also challenges in terms of working conditions and quality of employment."[1] Another ILO report prepared for the same session, presents a somewhat different estimation of platform labor worldwide: "The results of official surveys suggest that in most countries the prevalence of work on platforms that connect businesses or clients to workers is still in the low single digits, with percentages ranging from 0.5 per cent in Chile to 4 per cent of total employment in the Philippines."[2] Meanwhile, according to Rosstat data for 2023, platform employment is relatively widespread in Russia, accounting for 4.6 % of total employment (Zabelina and Sergeeva, 2024, p. 19). At the same time, the global trend toward a growing share of platform labor is undeniable, underscoring the need for legal regulation to ensure decent working conditions for this category of workers.

As early as in 2016, a British J. Prassl and an Austrian M. Risak studied the legal nature of platform employment in their article (Prassl and Risak, 2016). They proposed reviewing the notion of an employer within the concept of a "functional employer," with their functions split between several subjects. Under platform employment, it may be difficult to decide who the employer is and how the functions are distributed between the platform administrator and the client. The researchers proposed five key functions to determine the employer: emergence and termination of labor relation, receipt of work results, provision with work and payment for it, management of the enterprise, and management outside the enterprise.

[1] Jobs, rights and growth: Reinforcing the connection (Report of the Director-General). First item on the agenda. Report I(B). International Labour Office, Geneva, 2025. Pp. 17–18.

[2] Realizing decent work in the platform economy. International Labour Conference, 113th Session, 2025. Report V(1). Fifth item on the agenda. International Labour Office, Geneva, 2024. P. 21.

An interesting question is whether AI systems are already involved into labor relations under conditions of digitalization. This is illustrated by the example of platform labor, in particular crowdwork on Amazon Mechanical Turk, which requires platform workers not to "use robots, scripts, or other automated methods to perform Services." Similarly, *CrowdFlower* does not allow using "Internet bots, web robots, bots, scripts and any other form of artificial intelligence" (Aloisi and De Stefano, 2018, p. 20). As one can see, digital platforms are not interested in imposing the tasks of a human as a platform employee upon their possible digital assistants (robots, chatbots and similar digital AI-based tools).

An attempt to scientifically substantiate the definitions of a digital platform, a freelance platform, and a work-on-demand platform was made by A.A. Linets in his monograph. He also tried to identify the signs of labor relations in the interrelations between a gig worker, a platform, and a labor consumer (Linets, 2024, pp. 202–205).

Some researchers have examined practices of algorithmic management based on AI systems, which are exerting an increasing influence on the sphere of labor, both by improving and by worsening the working environment. They paid special attention to how these AI systems influence employees regardless of their employment status (platform, distant, combined, or traditional hired labor). Some researchers focused on the risks these AI systems pose for labor conditions and labor rights, including discrimination, privacy violation, elimination of trade unions, and threats to labor safety and labor hygiene (Aloisi and Gramano, 2019; De Stefano and Taes, 2022, p. 33). Others, having compared sociological data from eight EU countries and Japan, note that changes in the working environment following the introduction of AI technologies cannot be explained solely by technological features but are also associated with how corporations respond to AI (Iwatsuki, 2025). In our opinion, this latter conclusion is persuasive, since employees' perceptions of AI systems introduced into labor and related relations largely depend on the consequences, including labor-law consequences, of the decisions proposed by algorithms, for example, the ways in which employee monitoring may affect working conditions, remuneration, and employers' personnel decisions.

Several recent researches mark the growing imbalance between the role of an employer, typical for labor law, as an owner of production assets able to run their business independently, and a limited autonomy during negotiations of companies that tend to corporate digital technology ecosystems (Rainone, 2025). However, there is no acceptable decision to this problem so far in either labor law or EU competition law.

The most pressing issue in modern labor law is that of unbiased algorithms and algorithmic discrimination (Wang et al., 2024; West et al., 2019). This issue poses a threat to job applicants, employees, and platform workers in the course of their work. In the context of the topic under study, we should note that, according to most legislations worldwide, in all cases of discrimination due to algorithmic management, a liable person is an employer, i. e., the one who introduced AI into personnel management, but not its initial developer. This said, legislation might indicate criteria so that people "in" and "after" the algorithmic management cycle could reject conclusions or decisions proposed by the algorithm, without fearing disproportionate consequences (Adams-Prassl et al., 2023, p. 150).

The issues of algorithmic management are rather fragmentarily regulated in most legislations worldwide. However, there are positive examples of legislative solutions, with the most comprehensive and tough example demonstrated by the European Union (EU).

The EU General Data Protection Regulation[3] (GDPR), in force since 25 May 2018, contains specific provisions on automated decision-making and profiling that are especially relevant to exclude or minimize algorithmic discrimination during algorithmic management, including the labor sphere. According to Art. 22 of GDPR, the data subject shall have 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 similarly significantly affects him or her.

Directive (EU) 2024/2831 of the European Parliament and of the Council on improving working conditions in platform work entered into force on 1 December 2024 and it must be transposed by the 27 Member

[3] General Data Protection Regulation. Complete guide to GDPR compliance. Available at: https://gdpr.eu/article-22-automated-individual-decision-making/ [Accessed 29.06.2025].

States by 2 December 2026. The Directive contains Chapter III devoted to algorithmic management in platform work (Art. 7–15). In particular, Art. 7 of the Directive introduced a number of restrictions on personal data processing using automated monitoring systems or automated decision-making systems; Art. 8 provides for evaluating the data protection impact; Art. 9 requires transparency regarding automated monitoring and decision-making systems, etc.

Pursuant to Art. 1(a) of Directive (EU) 2024/2831, a "digital labour platform" means a natural or legal person providing a service that meets all of the following requirements: (i) it is provided, at least in part, at a distance by electronic means, such as by means of a website or a mobile application; (ii) it is provided at the request of a recipient of the service; (iii) it involves, as a necessary and essential component, the organisation of work performed by individuals in return for payment, irrespective of whether that work is performed online or in a certain location; (iv) it involves the use of automated monitoring systems or automated decision-making systems. Hence, in relations with platform workers such a platform can be qualified as an employer with the relevant legal status.

In Australia, China, and Japan, norms concerning the inadmissibility of algorithmic discrimination are reflected, to some extent, in soft law instruments, including programmatic documents and ethical principles governing the use of AI. To compare, the USA lack federal acts in this sphere, but they have an established legal framework to fight discrimination through civil rights laws, which can be applied to algorithmic bias. Besides, the USA has a tradition of judicial protection and precedent law, which, according to some researchers, may adapt to new technological challenges (Wang et al., 2024).

Returning to the issue of identifying the employer in platform and other atypical forms of employment, the following observations may be made. In our view, for an entity to qualify as an employer, it must primarily possess legal personality (subjectivity), that is, legal capacity. Second, it must establish labor relationships, at least, with one employee. To identify the established labor relationships, one may use the features provided in Clauses 11–13 of ILO Recommendations 198 "On

labor legal relationship" of 1996,[4] as well as those regulated in national legislation of a certain state. For example, legal definitions of labor relations are set out in Art. 15 of the Russian Labor Code (2001), Art. 1(21) of the Kazakhstan Labor Code (2015), and Art. 1(65) of the Kyrgyzstan Labor Code (2025). In some cases, these elements, though not expressly provided for in labor legislation, are developed through judicial practice, including case law, as in Great Britain and the United States.

According to both the EU legislation (Digital Services Act and Digital Markets Act), and the current legislation of EAEU member states, digital platforms are not yet viewed as subjects of law, but only as technological products. Legal persons possessing them are operators of digital platforms. Accordingly, digital platforms are not endowed with civil or labor legal personality (subjectivity). For this reason, the courts considering labor disputes on requalifying civil-labor relations with the self-employed into labor legal relations often conclude that an employer is a legal person or an entrepreneur, who is a partner of the digital platform operator entering into actual legal relations with the platform employee.

As to whether a digital labor platform may be regarded as an employer, the diversity of platform work models and of foreign legislative and judicial approaches to their classification precludes a definitive answer at present. At the same time, we are inclined to answer in the negative. A digital labor platform is, essentially, a complex computer program (application) adapted for mobile devices that allows finding clients and executors of works and services and establishing connections between them. These relations can be qualified as labor ones, if platform employees perform such work systematically and receive regular payments via a specific platform (there is economic dependence on the platform) with a certain algorithmic control and management on the part of the platform operator or its partner. However, the part of the employer in this labor relationship is still not the digital labor platform, but the legal or physical person possessing it, administering it and introducing it into their activity (Motina et al., 2024, p. 126).

[4] Employment Relationship Recommendation, 2006 (No. 198). Available at: https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312535 [Accessed 26.06.2025].

Nevertheless, legislation admits the technique of a legal fiction, when, functioning on the basis of advanced AI, is endowed with the rights of a legal person, for example.

III.2. New (Quasi-) Subjects of Labor Law Emerging from the Growing Impact of AI on the Labor Sphere

Today, employer traits mainly attach to platform operators; as AI advances, the platforms themselves will acquire clearer quasi-subjectivity. Platform operators will delegate managerial functions to AI systems while retaining ultimate control. After certain types of AI systems obtain quasi-subjectivity, legal liability will be distributed between them and the legal persons in whose interest the relevant AI system functions. If the intellectual platformization of the economy extends to the labor sphere, digital employers are likely to proliferate. In our opinion, in future, digital employers may be digital labor platforms functioning on the basis of intellectual automation of recruiting, managing, and payment, and interacting with employees in the virtual environment.

Alongside with digital employers, digital employees will emerge. As the role of AI grows worldwide, the significance of AI working force will also increase, meaning AI systems substituting or complementing human labor. AI working force includes both cyber-physical AI systems (intellectual robots, autonomous vehicles), and virtual AI systems (digital twins, including AI digital avatars and embodied virtual agents).

The potential subjectivity of cyber-physical AI systems has been noted since at least 2016, when the European Parliament's Committee on Legal Affairs commissioned research by the Department for Citizens' Rights and Constitutional Issues into European civil norms concerning robotics. Finally, on 16 February 2017, the European Parliament approved a Resolution on civil-legal norms in robotics.[5] It mentioned a proposal to recognize a special legal status of an electronic person (*electronic personhood*) for complex robots making autonomous decisions.

[5] European Parliament Resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2013(INL). Available at: http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2017-0051+0+DOC+XML+V0//EN [Accessed 28.07.2025].

The objective was to create opportunities for imposing responsibility on robots for harm, for example, caused by an unmanned vehicle. A 2016 report, which underlay the said resolution, explicitly indicated the risk of dehumanization associated with the spread of such AI systems. The experts who made the report opposed recognizing robots as legal subjects, so that, as they said, not to allow equaling the natural and artificial intelligences.[6]

Today, all jurisdictions recognize AI systems as objects, not subjects of law. However, the discussion on the probable legal subjectivity of AI systems continues, and its acuteness increases with the development of AI. A key prerequisite for recognizing AI systems as legal subjects is that they attain cognitive capacities comparable to those of humans. Given that experts believe that this level can be achieved in about 5 years, the issue is sure to stay on the agenda. In particular, it is proposed to endow AI systems with a special legal status (for example, as was mentioned above, to distinguish "electronic persons" as an absolutely new category of legal subjects or to endow AI system with limited legal capacity within civil law relations by creating a category of "electronic agents"). If certain AI systems get civil legal subjectivity, then the next stage will be to recognize labor subjectivity, as cyber-physical AI systems are already "working" alongside with people.

Advancing cyber-physical AI requires progress in materials science and related technologies, which has so far lagged behind developments in the virtual domain. Consequently, as AI agents advance, virtual AI systems are attracting increasing attention. The leap in the development of virtual AI systems (due to generative AI), which is observed today, shows that these AI systems perform a growing amount of intellectual tasks that before could be only performed by human employees.

Embodied virtual agents are the likeliest candidates for recognition as legal subjects — or at least quasi-subjects — because they exhibit greater autonomy than other virtual AI systems. Unlike digital avatars that act as a person's "digital body" under that person's control

[6] Règles européennes de droit civil en robotique. Étude. Bruxelles: Departement thematique C: Droits des citoyens et affaires constitutionnelles, 2016. Available at: http://www.europarl.europa.eu/RegData/etudes/STUD/2016/571379/IPOL_STU%282016%29571379_FR.pdf [Accessed 28.07.2025].

(even when created to represent a real individual), embodied AI agents are becoming increasingly autonomous and are designed to cooperate closely with their human counterparts (Zhang et al., 2024). Given that AI systems will achieve the level of strong artificial intelligence (AGI) in the near future, the created "digital persons," both having and not having real prototypes, will become part of daily routine, including labor sphere. The joint work of people with such virtual AI agents, substituting some employees, will be a rather widely spread phenomenon. The prototypes of such "cyber-colleagues" today are generative artificial experts, "intended for cooperation between a human and artificial intelligence in working with knowledge" (Sowa and Przegalinska, 2025, p. 2101).

This suggests the emergence of "digital workers," i.e., AI systems that possess agency and can automatically perform various working tasks and ensure processes in the digital environment. The key characteristics of a digital worker including autonomy; the possession of intellectual functions comparable with or exceeding human capabilities (including capabilities to learn, adapt to the existing conditions, etc.); ability to execute these functions continuously during a long time, ability to integrate with other AI agents and other types of AI systems; easy interaction with people. Given that the proportion of the workforce comprised of AI systems is likely to increase under current trajectories of societal development, and that these systems' functional capabilities will expand, particularly with respect to intellectual tasks, the question of granting legal status to AI systems will become increasingly salient.

Besides AI systems, AI-enhanced people will increasingly influence the labor sector. This may be both about using "smart" exoskeletons allowing increased physical load unavailable for people without them, and neuroprotheses and neuroimplants. This means not relatively simple neuroimplants or neuroprotheses (like cochlear implants), but complex neural AI devices, partially changing the very nature of a human, turning one into a cyborg. Today, the humanity is standing at the threshold of this event. In time, some people will be able to prolong their lives or increase their capabilities by choosing cyborgization, i.e., uniting oneself with an AI system. This is confirmed by achievements in development and introduction of neural chips, which have transited into the

practical stage showing positive results of integration between a human brain and AI. Such integration will finally enable humans to solve tasks that were previously inaccessible.

Theorists estimate approximately 15 years until the widespread adoption of cognitive enhancement devices contingent on overcoming certain legal, technical, and biological obstacles (Boufidis et al., 2025) and approximately 50 years until the attainment of complete brain — AI symbiosis free of significant risk. However, representatives of developer companies insist on an about two-fold reduction of the time necessary (Martins et al., 2019). In April 2025, Neuralink opened an international patient registry for people with paralysis of all four limbs who are willing to volunteer in ongoing clinical trials of neural interfaces that enable users to control a computer with their thoughts.[7]

The trend to cyborgization of people is growing with the technological progress. Some "technologically enhanced people" will appear forcibly, as medicine finds solutions to restore the organism functions or prolong life; others will *cyborgize* because of the desire to "upgrade" themselves and complement their organism resources by acquiring capabilities exceeding those of a usual person. This advantage of cyborgs will be of interest for employers, i.e., it will influence the labor sector (Filipova, 2024, p. 757).

The spread of complex neuroprotheses and neuroimplants will require providing a special legal status to people integrated with AI systems, i.e., distinguishing the legal status of a cyborg, including labor sphere. This is necessary to provide the rights of a person united with the AI system and to protect the rights of other people. Cyborg employees will have to be distinguished as a special group to avoid discrimination. The latter is difficult to identify when using technologies allowing to both restore the disturbed human functions and to provide new opportunities giving additional advantages (Koops et al., 2013).

The participation of cyborgs in labor relations requires the consolidation of a number of special rights and obligations in labor legislation. One of these rights is the employee's right to keep their cyber

[7] Join the Patient Registry. Available at: https://neuralink.com/patient-registry/ [Accessed 28.07.2025].

devices under all circumstances, with the exception of devices that are illegally integrated or pose a danger to others. Such an employee should be guaranteed the right to manage their cyber device. In addition, an employee should not be discriminated against because of cyborgization. In addition to special rights, there will also be responsibilities arising from the additional risk to the workers surrounding the cyborg. Firstly, it is the duty not to use cyber devices in a way that poses a danger to other people, and, secondly, the duty not to disseminate confidential information about other people obtained during the operation of a neuroprosthesis or a neuroimplant.

Whereas cyborg employees are natural persons already recognized under labor law and therefore need only to be classified as a distinct category with tailored rights and obligations, AI systems that constitute the AI workforce are not recognized as legal subjects. However, their contribution into economy will grow as compared with the share of classical working force (people). This suggests that certain categories of AI systems may be recognized as digital employees in the future (Filipova and Tomashevski, 2025).

The current changes cannot but affect the representatives of both employees and employers — their associations; hence, one cannot exclude the emergence of digital trade unions (including those uniting digital employees) and digital associations of employers.

IV. Conclusion

The ongoing digital transformation of the society and increasing intellectual automation of the labor sector necessitate recognition of new digital entities as potential subjects of labor law. In this context, a digital employer may be understood as a legal person or a digital labor platform, functioning on the basis of intellectual automation of recruiting, managing, payment processes, and interacting with employees and digital employees in the virtual environment. A digital employer may take the form of a legal person characterized by an exceptionally high degree of digitalization or of a digital labor platform. In either case, human resource (HR) processes constitute fully automated, cloud-based services are extensively utilized, and managerial functions are exercised

through systems of algorithmic management. In turn, a digital employee is an AI system, possessing agency and in the future — legal subjectivity, capable of automatically performing various working tasks and ensuring processes in the virtual environment. The key characteristics of a digital employee include automation; autonomy; the possession of intellectual functions comparable to those of humans; the capability to perform these functions continuously during extended time; the ability to integrate with other AI agents and easy interaction with people. At present, these characteristics are most closely approximated by embodied virtual agents — AI systems virtual by form but capable of integrating with the expanded reality uniting the real and the virtual environments and executing tasks with the results in the real world. As to the conditions for attaining legal subjectivity, these would require, at a minimum, the development of artificial general intelligence (AGI) and, at a maximum, the emergence of artificial superintelligence (ASI). Such digital entities will displace employees and disrupt employers during the transition to Society 5.0, *i. e.,* the AI-driven world.

The proposals and conceptual ideas advanced in this paper are not intended to result in immediate amendments to existing legislation. On the contrary, they are offered as a formulation of the underlying problem and as an invitation to open scholarly debate, the outcomes of which may encourage the development of future models for regulating legal relationships involving new subjects of labor law in an AI-driven world.

References

Adams-Prassl, J., Abraha, H., Kelly-Lyth, A., Silberman, M. "Six" and Rakshita, S., (2023). Regulating algorithmic management: A blueprint. *European Labour Law Journal*, 14(2), pp. 124–151, doi: 10.1177/20319525231167299.

Aleksandrov, N.G., (1948). *Labour Legal Relationship*. Moscow: USSR Ministry of Justice Publ. (In Russ.).

Aloisi, A. and De Stefano, V., (2018). *European legal framework for "digital labour platforms"*. Luxemburg: Publications Office of the

European Union, doi: 10.2760/78590. Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC112243 [Accessed 10.08.2025].

Aloisi, A. and De Stefano, V., (2022). *Your Boss Is an Algorithm: Artificial Intelligence, Platform Work and Labour*. Oxford: Hart Publishing.

Aloisi, A. and Gramano, E., (2019). Artificial intelligence is watching you at work. Digital surveillance, Employee monitoring and regulatory issues in the EU context. *Comparative Labor Law & Policy Journal,* 41(1), pp. 95–121.

Begichev, B.K., (1972). *Labor Legal Capacity of Soviet Citizens*. Moscow: Yuridicheskaya literature Publ. (In Russ.).

Bidden, J., (1992). Workers' Participation: Influence on Management Decision-making by Labour in the Private Sector. Edited by Roger Blanpain. *Bulletin of Comparative Labour Relations*, 23. Deventer; Boston: Kluwer Law and Taxation Publishers.

Boufidis, D., Garg, R., Angelopoulos, E., Cullen, D.K. and Vitale, F., (2025). Bio-inspired electronics: Soft, biohybrid, and "living" neural interfaces. *Nature Communications,* 16(1), pp. 1861, doi: 10.1038/s41467-025-57016-0.

Channov, S.E., (2022). Robot (Artificial Intelligence system) as a subject (quasi-subject) of law. *Aktual'nye problemy rossijskogo prava*, 12, pp. 94–109, doi: 10.17803/1994-1471.2022.145.12.094-109. (In Russ.).

De Stefano, V. and Taes, S., (2022). Algorithmic management and collective bargaining. *Transfer: European Review of Labour and Research,* 29(1), pp. 21–36, doi: 10.1177/10242589221141055.

Drachuk, M.A., (2009). *Subjects of Labor Law*. Omsk: Omsk State University Press. (In Russ.).

Fedin, V.V., (2005). *Legal Status of an Employee as a Subject of Labor Law*. Moscow: Prospekt Publ. (In Russ.).

Filipova, I.A. and Koroteev, V.D., (2023). The Future of Artificial Intelligence: Object or Subject of Law? *Journal of Digital Technologies and Law,* 1(2), pp. 359–386, doi: 10.21202/jdtl.2023.15.

Filipova, I.A. and Tomashevski, K.L., (2025). The Concept of a Digital Employment Relationship. *Law. Journal of the Higher*

School of Economics, 18(4), pp. 114–142, doi: 10.17323/2072-8166.2025.4.114.142.

Filipova, I.A., (2024). Intelligent Robots, Cyborgs, Genetically Enhanced Individuals, Chimeras: The Future and the Challenges of Law. *Journal of Digital Technologies and Law,* 2(4), pp. 741–781, doi: 10.21202/jdtl.2024.38.

Iwatsuki, Sh., (2025). Position of Japan Regarding Changes in Work Environment Following Introduction of AI Technology in Workplace: International Comparison Focusing on Reponses by Corporate. *Japan Labor Issues,* 9(53), pp. 3–19. Available at: https://www.jil.go.jp/english/jli/documents/2025/053-01.pdf [Accessed 17.03.2026].

Kahn-Freund, O., (1983). *Labour and the Law*. 3rd ed. Ed. by M. Freedland and P. Davies. London: Stevens & Sons.

Koops, B.-J., Di Carlo, A., Nocco, L., Casamassima, V. and Stradella, E., (2013). Robotic Technologies and Fundamental Rights: Robotics Challenging the European Constitutional Framework. *International Journal of Technoethics,* 4(2), pp. 15–35.

Korinek, A. and Stiglitz, J.E., (2019). Artificial Intelligence and its Implications for Income Distribution and Unemployment. In: Agrawal, A., Gans, J. and Goldfarb, A., editors. *The Economics of Artificial Intelligence: An Agenda*. Chicago: University of Chicago Press.

Linets, A.A., (2024). *Labor Law and Economics*. Moscow: Yustitsinform Publ. (In Russ.).

Martins, N.R.B., Angelica, A., Chakravarthy, K., Svidinenko, Y., Boehm, F.J., Opris, I., Lebedev, M.A., Swan, M., Garan, S.A., Rosenfeld, J.V., Hogg, T. and Freitas, R.A., (2019). Human Brain/Cloud Interface. *Frontiers in Neuroscience,* 13(112), pp. 1–24, doi: 10.3389/fnins.2019.00112.

Motina, E.V., Tomashevski, K.L. and Chichina, E.V., (2024). *Legal Regulation of Atypical Forms of Employment in the Context of Digitalization and Regional Integration*. Minsk: Amalfeya Publ. (In Russ.).

Pashkov, A.S. and Rotan, V.G., (1986). *Social Policy and Labor Law*. Moscow: Yuridicheskaya literature Publ. (In Russ.).

Prassl, J. and Risak, M., (2016). Uber, Taskrabbit, & Co: Platforms as Employers? Rethinking the Legal Analysis of Crowdwork. *Comparative Labor Law & Policy Journal,* 37, pp. 619–628.

Prassl, J., (2015). *The Concept of the Employer*. Oxford: Oxford University Press.

Rainone, S., (2025). Rethinking the Concept of the Employer in the Digital Economy: Corporate Fragmentation and Power Dynamics through Labour Law and Competition Law Lenses. *Comparative Labor Law and Policy Journal.* 45(1), pp. 147–174, doi: 10.60082/2819-2567.1026.

Sinzheimer, H., (1976). *Arbeitsrecht und Rechtssoziologie: gesammelte Aufsätze und Reden*. Frankfurt/Köln: Europäische Verlagsanstalt. 2 teil. T. 1. (In Germ.).

Snigireva, I.O., (1983). *Trade Unions and Labor Law*. Moscow: Yuridicheskaya literature Publ. (In Russ.).

Sowa, K. and Przegalinska, A., (2025). From Expert Systems to Generative Artificial Experts: A New Concept for Human-AI Collaboration in Knowledge Work. *Journal of Artificial Intelligence Research,* 82, pp. 2101–2124, doi: 10.1613/jair.1.17175.

Tomashevski, K.L., (2020). Digitalization and its impact on the labour market and employment relations (theoretical and comparative legal aspects). *Vestnik of Saint Petersburg University. Law,* 11(2), pp. 398–413, doi: 10.21638/spbu14.2020.210. (In Russ.).

Vasilyev, V.A., (2011). *Representation in Labor Law*. Chelyabinsk: Poligraf-Master Publ. (In Russ.).

Verdier, J.-M., (1978). *Droit du travail*. Paris: Dalloz. (In French).

Wang, X., Wu, Y.C., Ji, X. and Fu, H., (2024). Algorithmic discrimination: examining its types and regulatory measures with emphasis on US legal practices. *Frontiers in Artificial Intelligence,* 7, Art. 1320277, doi: 10.3389/frai.2024.1320277.

Weiss, M., (2022). *A Legal Scholar without Borders. Selected Writings and Some Reflections on the Future of Labour Law*. Milano: ADAPT University Press.

West, S.M., Whittaker, M. and Crawford, K., (2019). *Discriminating systems: Gender, race and power in AI*. New York: AI Now Institute.

Zabelina, O.V. and Sergeeva, M.V., (2024). Digital platform employment in Russia: Scale, legal features and development trends. *Social and Labor Research,* 57(4), pp. 8–20. (In Russ.).

Zaytseva, L.V., (2015). *Representation and Mediation in Labor Law: A Comparative Study*. Moscow: Prospekt Publ. (In Russ.).

Zhang, J., Han, B., Dong, Z., Wen, R., Lee, G.A., Hoermann, S., Zhang, W. and Piumsomboon, Th., (2024). Virtual triplets: a mixed modal synchronous and asynchronous collaboration with human-agent interaction in virtual reality. *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '24)*, Article No. 366:1-8. New York: ACM, doi: 10.1145/3613905.3650766.

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Received 12.08.2025
Revised 03.09.2025
Accepted 30.10.2025