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Challenges and Prospects for Legal Regulation of Working Time (Connection Time) for Digital Platform Workers

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Abstract

Digital platforms, transforming the labour market through crowdsourcing and multitasking, create legal challenges in regulating of working time, exacerbated by the inefficacy of traditional labour legislation. The formal autonomy of self-employed platform workers masks algorithmic control, where the absence of fixed shifts (slots) coexists with dependence on platform prescriptions and algorithms. The legal ambiguity of working time on digital platforms, which conflates active work with periods of online availability, leaves workers unprotected against digital control that disguises exploitation as market flexibility. To address the problems of platform-based work distribution and the practical inefficacy of classical regulatory approaches, the theoretical concept of connection time is proposed in the article. Unlike zero-hour contract, that masks the absence of guarantees through flexibility, and traditional normative limits on working hours, inapplicable to platform employment, connection time offers an alternative by integrating active and passive modes of online availability into a unified legal framework. Within this concept, the mere act of connecting to a platform is recognized as creating a mandatory measure of labour that restricts worker autonomy. Active connection time, linked to task performance, is governed by duration limits and payment guarantees, while passive connection time (waiting for orders, maintaining ratings, readiness for tasks) is acknowledged as labour ac-

tivity requiring compensation for readiness, that restricts personal autonomy. The concept of connection time addresses the issue of multi-platform work as a phenomenon increasing risks of workplace accidents and occupational diseases. The proposed legal innovations are insufficient without a technological approach: states must implement algorithmic regulation and monitoring systems to automate control over connection time. Institutionalizing connection time will transform abstract norms into enforceable rules, eliminating risk asymmetry between platforms and workers, while establishing the state's regulatory authority in platform employment.

Keywords

platform economy; digital platforms; platform employment; working time; zero-hour contract; measure of labour; connection time.

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Introduction

Digital platforms have been transforming conventional employment models as they transfer the provision of services to numerous self-employed providers through crowdsourcing mechanisms. This creates difficulties for law-based regulation of the working hours. The platforms use digital applications to split a task at the microlevel and distribute it between the self-employed who are formally free to choose their schedule, but in reality are subject to hidden control. Crowdsourcing, combined with the platform economy and hire-on-demand, enables the platforms to react promptly to demand fluctuations by hiring a person only for the time it takes to complete a specific assignment. But such flexibility disguises systemic problems: hired workers have no real autonomy, are subject to algorithmic control and depend on the decisions of platforms that, using the formal status of self-employment, actually dictate work conditions.

The key challenge lies in the contradiction between the proclaimed freedom of controlling the working tie and algorithmic control. E.g., Russian digital platforms (Samokat, Yandex.Eda, SberMarket etc.) enable workers to choose the length of their slots (shifts) themselves, from

1 to 16 hours a day, and up to 31 days a month. This results in cases when the actual working time can reach 20 hours a day, in particular when a person works through several platforms at the same time. Employees can sign up to an unlimited number of platforms (Samokat, Yandex. Eda, Delivery Club, etc.), which renders the control of the total working hours impossible.

Platforms use economic incentives, such as increased rates during peak hours, or penalties for rejected orders, to artificially make the availability of workers predictable. Rating algorithms that affect order allocation turn customer ratings into a pressure tool by forcing workers to tinker with the system to keep access to jobs. Platforms encourage longer slots by using higher rates, which indirectly forces workers to overwork. E.g. Yandex.Taxi and Delivery Club have established a direct correlation between income and the number of hours worked. Likewise, the platform algorithms determine the pay rate without involving the worker. For example, SberMarket can change delivery rates at any time, which directly affects the worker's income. This creates an *invisible boss effect*, where digital tools replace direct management and mimic freedom of choice while actually introducing unspoken rules.

Legal uncertainty of the status of a platform worker exacerbates the problem. Labour legislation, that is focused on conventional forms of employment does not take into account the specifics of the platform economy, where there are no fixed shifts, but dependence on algorithmic regulations remains. While formally self-employed, workers bear the risks associated with equipment and income fluctuations, but are deprived of social guarantees, and their "working hours" are not legally defined, as periods of connection to the platform are mixed with waiting for orders. According to the research conducted by researchers from the National Research University Higher School of Economics in 2024, the average duration of daily work on platforms includes time both for searching for orders and customers on platforms, and actually to perform work [Sinyavskaya O.V., Biryukova S.S., Kareva D.E., et al., 2024: 40]. This results in cases where time spent in the online availability mode is not recognised as working time, despite its economic necessity for income generation

Thus, as digital platforms reform the present-day labour market, they raise the issue of revising the need to legal criteria for working time in the context of algorithmic management. It is necessary to develop a mechanism for regulating the working hours of digital platform workers with account for the specifics of platform employment and the technological

capabilities to maintain the operation of this mechanism. Without this step, the risk of a legal vacuum remains, where workers are left unprotected in the face of digital controls in the disguise of market freedom. In this paper we will not focus on the need to include platform workers in the scope of labour legislation, as this issue is rather insignificant in the face of platformisation of more and more types of labour activity.

This paper is a continuation of the author's theoretical exploration of the topic of platform employment and working time (connection time) on digital platforms. The purpose of this study is to demonstrate on the basis of a constructed theoretical model the potential mechanism of working time (connection time) regulation on digital platforms both in the form of a set of legal norms and data structure for the software codes of the system of control over the use of working time (connection time) on digital platforms.

1. Zero Hour Contract Time as the Paradigm of Working Time on Platforms

New technologies split services into micro-operations, allowing platforms to replace long-term labour relationships with ultra-short contracts. In these cases, workers, misclassified as independent contractors, are hired solely for the duration of a specific task. This creates a model that formally excludes defined obligations: workers receive no guarantees of minimum hours or pay, and their labour is reduced to occasional interactions determined by demand algorithms.

Formal freedom devolves into increased control through algorithmic sanctions, such as assigning jobs to "loyal" workers on a priority basis or dynamic pricing that manipulates motivation. While there is the illusion of worker autonomy, they are forced to obey hidden rules: stay online in apps to avoid missing out on orders, and accept tasks outside of preferences because of the threat of downgrading or account freezing. Crowdsourcing and on-demand hiring that underlie this model transform working time into a permanent state of availability, where the boundaries between labour and downtime are blurred. E.g., a courier who spends hours in the app waiting for an order receives no compensation for this time, although their economic activity directly depends on their readiness to respond instantly to the system's requests.

In this respect, platform work actually is based on the zero-hours paradigm.

As A. Fabrellas notes, a zero-hour contract implies that the employer hires workers without setting specific working hours. Workers are hired when there is a need for labour and are paid according to the hours actually worked [Fabrellas A.G., 2019: 7].

C. Deakin and D. Morris point out that zero-hours contracts cover all cases where the employer explicitly refuses to commit to provide any given amount of work in advance [Deakin S., Morris G., 2012: 167]. S. Fredman believes that zero-hours contracts provide for working conditions where there are no defined or guaranteed hours of paid work [Fredman S., 1997: 318].

H. Collins, K. Ewing and A. McColgan offer two interpretations of the zero-hours working time condition: the worker promises to be available and willing to work, and the employer promises to pay for the actual time worked in accordance with the employer's requirements; the employer does not promise to offer any work, but in this case the worker does not commit to be available when needed [Collins H., Ewing K., McColgan A., 2012: 243].

Based on the above descriptions, it is possible to propose the following key attribute of the zero hour contract: no guaranteed fixed hours of work with an unpaid period of waiting for assignments.

According to A. Adams-Prassl, M. Freedland and D. Adams-Prassl, the paradigm of a zero hours contract transfers the full range of risks associated with the lack of work and income security to the worker; however, such security is a core function of labour law and consists of a fair and manageable distribution between employers and workers [Adams-Prassl A., Freedland M.R., Adams-Prassl J., 2015: 19].

M. O'Sullivan points out zero that hour contracts allow employers to increase the number of people willing to work at any time and in short blocks, without the traditional employer obligations associated with the employment relationship (such as a commitment to provide with work), and thus fully realise the efficiency potential of fragmented working time [O'Sullivan M., 2019: 5].

An International Labour Organisation report says there is no obligation for both employers to provide any number of hours of work when the zero hour contract is used, and for workers to work.[1] On the other

[1] Non-Standard Employment Around the World. Geneva, 2016. Available at: URL: https://www.ilo.org/publications/major-publications/non-standard-employment-around-worldunderstanding-challenges-shaping (accessed: 08.03.2025)

hand, it is worth noting here that along with the lack of clear job commitments, workers lack the certainty of a steady and predictable income.

The practice of applying zero hours can be observed since the early 1990s when the UK company Burger King began to pay employees only for the time spent on actual customer service[2]. Studies note that the range of professions where zero hours are applied in practice, is no longer limited to sales, cleaning, and hotel services, but includes drivers, teachers, educators, business consultants, and even university professors, architects, and engineers [Jaehrling K., Kalina T., 2020: 12]. A. Adams-Prassl, M. Freedland and J. Adams-Prassl note that under a zero hours contract, an employer usually does not even need to "fire" its workers to deprive them of work; it is enough to simply terminate any actual offer of paid work, while keeping the contract nominally in force [Adams-Prassl A., Freedland M.R., Adams-Prassl J., 2015: 21].

Almost everywhere in the world the zero hours approach is outside the scope of law, but its application is not prohibited, and courts sometimes recognise it as permissible (Greece, Italy for example) [Fabrellas A.G., 2019: 9]. In the UK, the Netherlands and Turkey, zero hours work is enshrined in laws and regulations.

In the UK, under the National Minimum Wage Act 1998[3], workers on a zero hours contract must be paid the National Minimum Wage while waiting for a work assignment. In 2015, the Small Business, Enterprise and Employment Act[4] prohibited the practice of restricting the performance of other work by workers with zero working hours.

In the Netherlands since 1999 zero hours contracts have been regulated by laws aimed at balancing flexibility for employers with the protection of workers' rights[5]. Such contracts, concluded as fixed-term or tem-

[2] Clement B. Burger King pays pounds 106,000 to staff forced to 'clock off'. The Independent. 1995. Available at: URL: https://www.independent.co.uk/news/burger-king-pays-pounds-106000-to-staff-forced-to-clock-off-1526458.html (accessed: 08.03.2025)

[3] National Minimum Wage Act. Date of enactment: 31.07.1998. Available at: URL: https://www.legislation.gov.uk/ukpga/1998/39/introduction (accessed: 08.03.2025)

[4] Small Business, Enterprise and Employment Act. Date of enactment: 26.03.2015. Available at: URL: https://www.legislation.gov.uk/ukpga/2015/26 (accessed: 08.03.2025)

[5] Flexibility and Security Act. No. 300. Date of enactment: 14.05.1998. Available at: URL: https://natlex.ilo.org/dyn/natlex2/r/natlex/fe/details?p3_isn=69254 (accessed: 08.03.2025)

porary, do not set a minimum number of working hours, allowing the workload to vary from week to week or month to month: e.g., 20 hours in one period and 30 in the next period, without paying for unworked time. But after 12 months of employment the employer must offer the employee a transition to a fixed hours contract based on the average number for the previous year, including periods of sickness, holidays, and reduced hours. The worker can choose to keep the current contract, but the employer must still offer fixed terms and conditions again every 12 months. An important element of the regulation is the employer's obligation to notify the employee at least four calendar days prior to the start of the shift. If the notice is withdrawn or changed within this period, the employee retains the right to pay for the entire period stated in the original invitation.

In Turkish labour legislation, a mechanism has been enshrined since 2003 for regulating "on-call" work (similar to zero working hours). Under Article 14 of the Turkish Labour Code[6], such relations are qualified as labour relations under a part-time employment contract, provided that the need for the services of this worker is of a non-permanent nature, and the contract itself excludes full-time employment and allows combining work for several employers. If the parties have not defined the working hours (per week, month, or year), the weekly standard is automatically set at 20 hours. The worker is paid even in case there is no call, which protects them from the risks associated with organisational changes at the employer. The employer must give a minimum of four days' notice of a call. This allows the worker to plan their schedule, especially when combining multiple jobs. Moreover, each call assumes a minimum shift length of four hours (unless otherwise specified in the contract).

As was said above, the above-presented models of zero hours focus on the guarantees of payment for the "time of waiting for the assignment." This model reflects attempts to combine flexible terms and conditions of the labour contract with social protection. This is the approach that the European Parliament insists on in its 2019 Directive on Transparent and Predictable Working Conditions in the European Union[7], which pro-

[6] Labour Act of Turkey. Law No. 4857. Date of enactment: 22.05.2003. Available at: URL: https://natlex.ilo.org/dyn/natlex2/natlex2/files/download/64083/TUR64083.PDF (accessed: 08.03.2025)

[7] Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union. Available at: URL: https://eur-lex.europa.eu/eli/dir/2019/1152/oj/eng (accessed: 08.03.2025)

vides that states that allow zero hours contracts must ensure that effective measures are in place to prevent the abuse of such contracts. Such measures may take the form of restrictions on the use and duration of such contracts, or of employment contracts with a guaranteed number of paid hours based on the number of hours worked in the previous base period, or other equivalent measures that ensure effective prevention of abuse.

Attempts to regulate zero hours work within the above framework only emphasise that this model is imbalanced, bears inherent risks for the worker, and is inapplicable to work on digital platforms. An extremely high fragmentation of work assignments, multi-platform nature, and lack of employment contracts render it impossible to use tried-and-tested legal models for regulating working time on platforms, even those that are most flexible in the organisational and economic sense.

The difference between zero hours within the labour relationship and on a platform lies the origin of the call. While in the case of an employment relationship, the employer is responsible for summoning the employee and therefore activating the labour obligation to provide services, when working on a platform, it is up to the employee to decide when to log on to the application and offer their labour force to provide services. Despite this distinction, the organisational model of crowdsourcing used by platforms and based on on-demand hiring involves, in essence and de facto, the use of a zero-hours contract.

In addition, as E.V. Motina notes, digitalisation also complicates the situation of workers as a condition that allows to expand the scope of such control by changing their work schedule in real time. With the ability to adjust their workers' work schedules in real time thanks to modern technology, employers can now exercise even greater control over workers outside of working hours and enforce requirements that are not part of their normal work responsibilities (e.g., employee loyalty in exchange for a predictable work schedule) [Motina E.V., 2024: 242]. One cannot but agree with the scholar that zero working time on platforms is a modern way of control over the worker which is carried out not only during the working time but goes beyond it, and can also act as a latent measure of quasi-disciplinary influence.

As A. Fabrellas points out, with such organisation of working time on digital platforms, workers assume risks and costs, including opportunity costs associated with periods of inactivity, lack of demand, delays, app or software failures, etc., and thus face high penalties and lack of job

security [Fabrellas A.G., 2019: 12]. The paradigm of zero hours on platforms redefines the very nature of employment. Now, instead of job security, workers face fragmented labour, where every minute is paid only when the task is completed, and the platform connection time required to maintain access to orders remains invisible to legal regulation.

Hence, conventional legal systems focused on fixed schedules and stable employment contracts cannot adequately protect platform workers whose working hours exist in a mode of constant potential activity unrecognised by labour law.

Zero hours has thus become a key paradigm for the organisation of work on digital platforms, transforming the conventional notions of employment. Zero working time reflects a profound shift in the organisation of work in the digital age, where flexibility becomes a euphemism for insecurity, and technology and algorithms disguise exploitation as market freedom and efficiency. To overcome this paradigm, one needs to rethink legal categories: recognise platform connection time as part of working time, and introduce algorithmic transparency and mechanisms to protect against forced accessibility. Failing this, digital platforms will continue to exploit legal lacunae, turning zero-hours work into a tool of insecurity.

2. Measure of Labour on Digital Platforms: How to Strike a Balance between Autonomy and Dominating Control

The main feature and the main challenge of timing on digital platforms is their autonomy to establish the measure of labour.

With their technological and infrastructural monopoly, digital platforms effectively take over the autonomy to set the measure of labour, including the regulation of working hours (despite the formal status of information service providers operating through apps). As A.G. Fabrellas points out, the application or software used to provide services is the real infrastructure of labour activity; it is developed, maintained and owned by the platform; the platform incurs costs for economic activities: mainly costs related to the creation, development and maintenance of the application or web page, marketing and strategy costs, costs of expansion into other markets, etc.; the platform, after deducting payments to service providers, keeps the profits from the operations; and service providers do not act in the market as true self-employed workers

or independent contractors, because business, commercial and strategic decisions such as pricing policies, terms and conditions of payment and services, etc., are also the responsibility of the platform [Fabrellas A.G., 2019: 5]. This reasonable view can be complemented by the position of Q. Wang, Y. Chen and Y. Yang, who believe that algorithmic management, special business processes, and special agreements applied by digital platforms can make these platforms free from the obligations and liabilities of the employer [Wang Q., Chen Y., Yang Y., 2024: 154].

In other words, although workers use their personal resources and bear operational costs, their dependence on the algorithms and rules of the platform deprives them of real autonomy. The above crowdsourcing model of labour organisation and the use of algorithms allows platforms to exercise dominant control over labour. Dominant control over labour should be understood as a substantial degree of personal subordination, economic subordination, and organisational subordination. Dominant control over labour in the platform economy is maintained through the atomisation of workers, their distancing from the employer through digital interfaces, and platform rules that transform standard labour relations into formally voluntary interactions disguised as the provision of services or "free" labour. Thus, dominant control over labour is attained through control over algorithms and data, rather than through traditional means of production.

E.g., digital platforms such as Wildberries, Ozon, Yandex.Market and Yandex.Eda establish dominant control over labour through algorithmic evaluation and sanction systems and thus turn formally independent workers into dependent participants in the platform ecosystem. Sellers on marketplaces face blockings for delayed delivery of goods or frequent customer complaints. This automatically lowers their Quality Index, a key metric determined by the platform that affects shop visibility and audience access. In delivery services such as Yandex.Eda, couriers lose access to orders if their ratings, which are formed by user ratings, are low, and algorithms temporarily disconnect them from the system if their performance indicators fall below a set level. The platform's services initiate permanent disconnections for violations such as transferring one's account to third parties, manipulative actions with promocodes, non-compliance with the terms of offer, or the use of customer data for personal purposes; such decisions are often made without context, based on automatically collected data or complaints. As a result, workers are forced to constantly adapt to changing algorithm requirements,

maintain high ratings by doing overwork, and avoid the smallest mistakes so as not to lose access to the platform.

Digital platforms, with apps as a key means of production, are radically transforming the organisation of work, subjecting it to an algorithmic logic where traditional tools — vehicles, equipment, personal appliances — lose their independent value, becoming dependent on access to digital systems. With no connection to the app, an employee is effectively excluded from the labour process: a courier with a bicycle but without access to Yandex.Eda, or a seller at Wildberries without an account, lose the opportunity to apply their skills, despite the availability of physical resources. Such a shift of power to platforms creates a paradox: workers invest in conventional means of production, but their labour activity is entirely dependent on digital platforms that concentrate demand management, task allocation and performance evaluation. Control over apps allows platforms not only to dictate labour conditions, but actually to determine working hours by manipulating access to assignments through ratings, bonuses for activity during certain hours, or algorithmic blockings.

In addition, digital platforms have no incentive to have the optimal number of workers available. On the contrary, they have incentives to attract as many workers as possible to ensure sufficient supply and thus to meet demand at all times. N. Srnicek called this phenomenon "propensity of the platform to monopoly" [Srnicek N., 2017: 18]. This is in contrast to the traditional logic of workforce optimisation and is linked to the platforms' organisational model, where scalability and instant demand response are key values. By attracting the greatest number of workers possible, platforms receive the following advantages: a surplus of workers allows them to respond instantly to fluctuations in demand, thus maintaining the image of a reliable service; and, given the gap in legal regulation, competition among workers allows platforms to manipulate labour conditions. Ultimately, this model promotes network effects according to the following scheme: more workers → more data → better algorithms → attract new users → increase monopoly power.

As it was indicated above, such new information-based means of production create an asymmetry of power: platforms monopolise the control of data and algorithms, while workers, deprived of influence over these systems, find themselves in a position of dependency. By disguising control as objective "process optimisation", algorithmic management replaces direct management, making it difficult to protect workers'

rights under traditional labour law. Digital platforms not just introduce technologies, but shape a new paradigm of production, where owning digital infrastructure becomes a key tool of exploitation. This phenomenon requires a rethinking of legal mechanisms for regulating labour, including working hours on platforms.

As G. Standing argues, in the global market, the modern day traditions are inconvenience, inflexibility, barriers to trade and to competitiveness, the idol of the era. And they all contradict the dictate of flexibility [Standing G., 2011: 116]. ILO specialists note that companies use time as a key source of flexibility, increasingly fragmenting working time by strengthening time control, reducing periods of inactivity at work, intensifying and "compacting" working time [Boulin J.-Y., Lallement M. et al., 2006: 64]. In a situation where platforms exercise monopoly dominant control over labour this is expressed in unpaid working hours: hours of waiting for orders in the app that are not formally considered working hours but are in fact compulsory for access to earnings.

The lack of minimum wage guarantees, social protection and fixed hours exacerbates dependency on platforms that, by manipulating dynamic pricing and sanctions for "inefficiency," turn flexibility into an tool of forced availability. Such a model not only erodes worker autonomy, but also forms a new time regime where human time is subordinated to the logic of profit optimisation. To overcome this conflict, labour regulations should be revised: a maximum limit should be set on working hours and guaranteed rest time on the platform, and online availability time should be recognised as part of working time with appropriate payment.

To substantiate the necessity and expediency of special regulation of working time on platforms, let us turn to the classic domestic theory of working time developed by outstanding Soviet scientist, specialist in labor law Aleksandr Ivanovich Protsevskiy.

A.I. Protsevskiy noted that the working day as a component of the measure of labour is a value strictly determined by the state. As a rule, it is not the subject matter of an agreement (with the exception of part-time work), and therefore cannot be an element of a legal relationship. The state uses working time to determine the mandatory amount (measure) of labour that a worker must deliver to society at a certain stage of its development. The measure of labour also determines its length and productivity. Working time can be used in certain cases as the main measure of labour, and production quotas as such, without the determined working time duration, can't be used as the measure of labour. Hence,

the intensive side of the labour measure is of a subordinate, derivative nature. The length of working time (the extensive measure of labour) is usually a constant value, which is limited by law. On the contrary, production norms, working time norms and service norms are a flexible value of the measure of labour. This should determine the methods of legal regulation of labour rationing [Protsevskiy A.I., 1975: 31, 43].

In view of this, A.I. Protsevskiy proposed to distinguish between the determining of working time and its distribution. Determining the duration of working time is an area of exclusively state standardisation, whereas the distribution of working time is related to the contractual regulation of working time when the parties to a labour or collective agreement have the right only to reduce the duration of working time and determine its mode [Protsevskiy A.I., 1975: 39].

As we can see, according to A.I. Protsevskiy, working time is an extensive measure of labour, which determines the compulsory amount of labour provided by society. In the context of regulating the working time of digital platform workers, this position is based on the priority of the extensive measure of labour (working time duration) over the intensive one (production norms). Working time, as the quantitative basis of labour, must be strictly defined by law, whereas production norms, service standards or the algorithmic requirements of digital platforms are secondary, flexible parameters that cannot substitute for a fixed duration of labour. The intensity of labour (e.g., the number of orders completed, speed of response to assignments) cannot serve as a substitute for regulating its duration. Digital platform algorithms that manipulate production norms must function within legal limits on working hours. Without clearly defined length of working time, production norms lose their legal basis and turn into leverage over workers. E.g., a courier whose duty is to be online 12 hours a day to receive orders already performs the extensive measure of labour, even if active work takes up only part of that period. Intensity (number of deliveries) is a derived parameter here, which does not negate the need to pay for the entire connection time.

Platforms that manipulate workload through dynamic task allocation must comply with statutory working time limits, including periods of being online. This will prevent scenarios where a worker who is formally free to choose their schedule is forced to remain online 24/7 for the sake of maintaining access to orders, resulting in de facto over-exploitation. The state is therefore obliged to set a cap on working hours, including periods of forced waiting for tasks on digital platforms. Such regulation

will prevent exploitation where workers are formally "free" but are actually tied to algorithms that require to be constantly available.

Hence, even in flexible employment on digital platforms, working hours should be regulated by law and not left to the discretion of algorithms or agreements. Even if a worker is not formally performing active tasks, their connection to the platform to maintain availability should be considered part of their working time because it restricts personal freedom and requires compensation. Online availability time falls within the scope of labour norms as it forms a "compulsory measure of labour", which cannot be entrusted to contractual regulation. In the context of digital platforms, this means that working time (periods when a worker is online to perform tasks) should be regulated as part of the measure of labour, as it forms the quantitative basis of the work process, even if no continuous activity is taking place.

In general, the key idea of A. Protsevskiy is transferring the quantitative measure of labour to the discretion of the employer is inadmissible. On the other hand, if digital platforms use working time as an invisible resource, the state should enshrine this in the legal framework by setting: a cap on daily/weekly periods of online availability; payment for working time, even in the absence of active tasks, as the worker is deprived of the possibility to use this time for other activities; and guarantees of rest that rule out permanent involvement in work, which corresponds to the principle of extensive labour regulation.

According to D. Prassl, for this platform economy to work for the benefit of all, we need to ensure that platforms (1) can no longer circumvent existing regulations, and (2) bear the costs associated with their operations. Labour laws are the key to fair conditions for all workers and equal competition between new and old businesses [Adams-Prassl J., 2018]. And, while we could agree with the first part of the scholar's position, the use of exclusively conventional labour law instruments seems ineffective. As I.Ya. Kiselev pointed out at the beginning of the 21st century, the hi-tech economy requires a completely different law than the economy of "smoking pipes" [Kiselev I.Ya., 2002: 54]. Regulating labour rights in a platform economy requires not only new legal norms, but also a technology transformation of the state itself, which must master digital tools, similar to those used by platforms, to regain the capacity of an actor in setting and controlling rules. The conventional enforcement mechanisms based on paperwork, regular inspections and reactive responses to complaints are hopelessly behind the dynamics of an algorithmically driven platform economy. To bridge the gap, the state

needs to implement its own platform systems that aggregate the most important functions of digital platforms.

3. Connection Time as Institutionalisation o f Working Time on Platforms

To formalise and implement algorithmic methods of platform state regulation, it is necessary to institutionalise the main phenomena that fall under such regulation. In this context, we should agree with the experts of the National Research University Higher School of Economics the introduction of minimum tariffs for services is the tool aimed to protect the income of platform workers. However, to ensure the effectiveness of this measure, calculation of their value should be linked to the norms of working time and minimum wages [Sinyavskaya O.V., Biryukova S.S. et al., 2021: 12]. Therefore, as we have already shown in this study, one of the phenomena that requires institutionalisation is the working time of digital platform workers.

Working time is the most important institution of labour law, which in a platform economy is transformed into connection time. Author of that article suggests to understand connection time as the period during which the worker has online access to their personal account on the digital platform(s) to receive and perform labour assignments.

The theoretical concept of connection time as an alternative to traditional working time in a platform economy involves rethinking labour relations through the lens of online accessibility. Due to the specifics of platform employment, where physical presence at work is replaced by digital participation, the concept is based on the recognition of the worker's period of online availability (including sign-in, task completion, and waiting for orders) as a key element of regulation.

The connection time is differentiated into active and passive connection time, which are actually specific modes of connection to the digital platform.

Active connection time can be defined as the period of direct execution of assignments initiated by the digital platform. During this period, the worker makes physical and/or intellectual efforts aimed at achieving a specific result, which is then recorded by the platform. Active connection time is easy to quantify because its boundaries coincide with order fulfilment from acceptance of the task to its completion, which is confirmed by automatic recordings in the system.

On the contrary, passive connection time covers periods when the worker stays online but does not do any specific jobs. This includes being in online availability mode, a state in which the worker remains available to respond instantly to incoming tasks, which includes waiting for new orders, maintaining an active status in the app (e.g., updating the interface regularly), and monitoring notifications. While passive connection time is characterised by the absence of explicit work activity, it creates a hidden burden: the worker is unable to properly rest, plan personal affairs, or switch to other activities. Moreover, in case competition for assignments is high, passive time may exceed active time.

From the functionality point of view, passive connection time is similar to idle time occurring through the fault of the employer: it is a temporary suspension of work due to circumstances under the employer's control, when the worker remains at their workplace awaiting the resumption of activities. Passive connection time and idle time through the employer's fault have in common the elements of forced inactivity that limits the worker's autonomy and of the preservation of labour bonding; however, their origin and socio-economic consequences are fundamentally different. Idle time through the employer's fault is caused by organisational reasons on the side of the employer whereas passive connection time is embedded in the architecture of platform economy where an uneven flow of orders and algorithmic distribution of assignments turn waiting time into a systemic element of the labour process. Unlike idle time where the employer is obliged to ensure that the worker can resume their work, platforms delegate the responsibility for "idle times" to the worker by manipulating their behaviour through selection of work slots, hidden algorithmic rules and incentives.

The key difference between active and passive waiting time lies in the degree of control that the worker has. While active time involves following clear instructions under the supervision of algorithms (routes, deadlines, quality assessment), passive time is associated with a "suspended" state, when a worker is forced to obey hidden rules of the system (e.g., algorithms may distribute orders in favour of those who remain online longer).

Both connection time modes create the total load but their legal recognition is different: active time is usually regulated by the platform's tariffs, while passive time remains "invisible" for payment. Hence, both connection modes must be taken into account together, as they limit the freedom of the worker to remain available for work.

To integrate this differentiation into the legal field, criteria for recording passive connection time must be worked out (e.g., recording all intervals between sign-in and sign-out from the system), and compensation mechanisms introduced (pro rata payments for waiting and/or a cap on the length of the passive mode). Without this, an imbalance will remain where workers are formally free to manage their working time but in actual fact they are bound to algorithms that transform passive connection time into a tool of hidden exploitation.

To implement the connection time concept in real life, not only a legal mechanism must be created but also a regulatory technology in which legal norms are integrated with the algorithmic control. A uniform state aggregator in the field of labour and employment ("SALE") could become such a mechanism. Its task will be to algorithmically manage work organisation processes on digital platforms by aggregating real-time data on the connection time of workers engaged on different digital platforms.

SALE is able function on the basis of integration with platforms through standardised API interfaces that provide automated collection of information about the time of connection of workers, duration of tasks, order waiting time, and other parameters of labour activity. The information received is algorithmically processed in order to compare the actual connection time with the duration set by the law, including active and passive mode of connection time. If the platform detects regular exceeding of the connection time, it initiates algorithmic measures, such as temporary blocking of the worker's access to assignments or suspension of the account (personal profile on the platform) until compliance with the requirements is restored.

The leading characteristic of SALE is preventive control that ensures continuous data analysis rather than ex post facto analysis, which will allow, among other things, to prevent violations before they occur. Platform algorithms can be dynamically adapted to the specifics of different sectors of the platform economy with account of the peculiarities of different platforms and adjusting the permissible limits in accordance with the respective industry regulations. To ensure transparency, all system actions should be documented in a distributed register that the State Labour Inspectorate can access for audit. The technical architecture of SALE should ensure compliance with the requirements of the legislation on personal data protection and provide for strict delimitation of access to data, its encryption and anonymisation during transmission.

The introduction of such a system will transform the role of the state from a passive regulator to an active digital ecosystem participant capable not only of setting norms but also of enforcing them through technological means. Also, SALE will serve as a tool for collecting aggregate statistics necessary to improve labour laws with account for the realities of an algorithmically driven economy. The state will thus destroy the monopoly of platforms to establishing the measure of labour for platform employment and outline the future contours of the state's decisive role in the regulation of social relations associated with the active use of algorithms in legal regulation.

Enshrining the connection time concept in law will require setting the limits of duration similar to the norms of the Russian Federation Labour Code, e.g., as a maximum connection time of 12 hours a day and 48 hours a week. Moreover, shorter connection times for certain types of labour activities (e.g. in the freight traffic sector) can be introduced. The system should automatically reduce the available slots for a worker if they are approaching the weekly/daily limit, and give a few hours' notice when they are approaching this limit. If the connection time standards are exceeded, the API interface blocks the worker's personal profile until the next allowable accounting period, and all platforms where the worker is registered receive a blocking notification:

```
GET /api/v1/workers/{worker_id}/status
{
 "worker_id": "12345",
 "current_status": "blocked", // or "active"
 "block_reason": "daily_limit_exceeded",
 "block_until": "2025-10-21T06:00:00Z"
}
```

Exceeding the connection time limits and blocking an employee' personal profile should not affect their rating and access to the platforms where they work. Also, the state should enshrine the regulation stipulating that platform algorithms should not downgrade workers or restrict access to orders because they refuse to work certain hours.

Multi-platform employment on digital platforms is a critical aspect of settling connection times. This implies simultaneous or sequential participation of the worker in multiple platform ecosystems. The main problem here is fragmented recording of connection time, where each platform only captures the period of worker activity within its own digital interface, ignoring the cumulative load that results from parallel or

serial connections to other platforms. Each platform optimises job allocation in favour of the most available workers. This algorithmic competition creates a forced multiplatform effect: to keep a stable income, a worker has to register on multiple platforms, obeying contradictory requirements of their algorithms. This transforms passive connection time on one platform into active time of performing tasks on another, but does not eliminate the cumulative load.

Meeting the multi-platform challenge requires the development of cross-platform standards for connection time accounting, and a digital tool that accumulates data on workers' connection time on all platforms through unified API interfaces. This will allow real-time monitoring of the total online activity duration, including periods of passive waiting and performing tasks on different services. E.g., if a worker is registered on several platforms and connects to them in parallel, the system summarises their total working hours and blocks the excess. Another possible option is non-conflicting slots in a sequential connection, where a worker cannot select slots on different platforms that overlap in time. The system returns an error through the API when a worker attempts to select an overlapping slot:

{
"error": "slot_conflict",
"message": "A slot on the 'Yandex.eda' platform (10:00-14:00) overlaps with the current request."
}
or
{
"error": "slot_overlap",
"platforms": ["Samokat", "Yandex.eda"],
"message": "Slots on Samokat (10:00-12:00) and Yandex.eda (11:00-13:00) platforms overlap."
}

The limit of the maximum number of platforms to which a worker can be connected also needs to be determined. For sequential connection, the platform limit should be determined by the cumulative maximum duration of connection time, which, as indicated above, is proposed to be fixed at no more than 48 hours per week and no more than 12 hours per day. To determine the maximum number of platforms for parallel connection (slot overlapping), additional studies are required into the cognitive and physical ability of a person to perform platform multitask-

ing without significant harm to health, working capacity, increased risk of errors, and accidents.

E.g., scientists from South Korea have shown that working with multiple mobile apps to check orders and managing navigation settings to change routes across three digital platforms increases the risk of accidents for couriers and drivers. Workers using multiple platforms in parallel reported symptoms such as headaches and eye fatigue [Yoo H., Yang M. et al., 2024: 21]. Brazilian scientists have found a correlation between the risk of mental health disorders and couriers' parallel connection to multiple platforms [Santos M.F., Siqueira J.S. et al., 2025: 100, 102]. Let us believe that a differentiated approach should be applied to establish the limit of the maximum number of platforms to which a worker can be connected, depending on the sphere of labour activity and exposure to unfavourable environmental factors.

If the limit for the scope of a driver / courier is set to three platforms, the system will automatically block registration on the fourth platform by issuing an API error:

```
{
 "error": "platform_limit_exceeded",
 "message": "The registration limit for 3 platforms has been reached."
}
```

Another important aspect of solving the multiplatform problem should be to integrate through APIs all platforms on which the worker is registered and check the overlapping of slots with other platforms through the following queries:

```
POST /api/v1/slots/check
{
 "worker_id": "12345",
 "new_slot": {
 "start": "2024-10-20T14:00:00Z",
 "end": "2024-10-20T18:00:00Z"
 }
}
```

Furthermore, to prevent abuse by both platforms and workers, it should be prohibited to register under different names on multiple platforms. To this end, the worker identity must be verified through their personal profile on the Gosuslugi.ru government portal. Sanctions, including fines and suspension of platform activity, for submitting wrong

data (e.g., underreporting passive connection time periods) should be introduced to prevent abuse by platforms. At the same time, exceptions should be established for extraordinary circumstances (technical failures, natural calamities) requiring manual revision of limits by authorised bodies. In case of systematic violations (e.g. use of personal profiles of other users), workers may be blocked access to all platforms for a period of one month.

Payment for passive and active time should be differentiated. For work during active connection time, the worker should be paid 100% of the value of the assignment. If there are no assignments during in the slot, the platform pays at least 50% of the average labour cost for the worker being in the passive connection time mode. This rule effectively enshrines the platform's obligation to provide labour and the platform's liability for failure to provide assignments. This reduces the risk of demand manipulation by platforms and fragmentation of labour activities of the platforms' workers.

The calculation mechanism is based on automated activity monitoring through the platforms' integration with SALE, where algorithms record the start and end of assignments. Data transparency is ensured by aggregating data in secure registers accessible for audit by the State Labour Inspectorate (e.g., to prevent underreporting of passive connection time by platforms). Payment automation can be effected through linking workers' personal profiles to state payment systems, which guarantees timely payment for all the relevant periods taken and includes passive connection time. It should be noted that the issues of remuneration of labour on digital platforms need separate legal research.

Thus, as traditional legal mechanisms fail to offer an adequate response in the context of algorithmic optimisation of production processes in the digital economy, the institutionalisation, and legal and technological regulation of connection time are necessary to overcome the systemic imbalances generated by the platform-based organisation of work.

A clear regulatory framework should be established that recognises connection time (both active and passive) as an integral part of working time. This will ensure that fundamental labour rights are protected at a time when digital platforms are transforming human labour into an algorithm-driven resource. Technological regulation through the integration of state monitoring systems with platform APIs will make it possible to transform abstract legal norms into executable algorithmic rules. This

will lay the groundwork for a fair distribution of risks between platforms and workers, as well as for strengthening the regulatory influence of the state on new forms of employment.

Conclusion

The study is an attempt to understand the possible ways of regulating labour relations in the digital age, when traditional legal concepts and regulatory methods developed in industrial society are becoming less and less useful due to the widespread use of algorithms.

The view of working time as a time of connectivity proposed in this article aims to equalise the institutional balance between the state as universal regulator, and digital platforms, which have gained a substantial share of real decision-making power in the field of labour regulation thanks to the introduction of algorithms. In contrast to the established practice of zero hours, connection time is a legal construct that allows the chaotic and fragmented labour market on digital platforms to be built into a coherent system.

As regulatory and technological regulation of connection times is implemented, it will be important to maintain a balance between technological control and market freedom: excessive centralisation is able to stifle innovation and insufficient centralisation is able to leave workers unprotected. Therefore, conclusions regarding specific connection time norms and technological tools to enforce them should be validated in subsequent studies. In any case, without digitalisation and platformisation of state regulation, labour regulations on digital platforms will remain nothing but lip service, and platforms will continue to dictate their terms and conditions using the technological divide as a shield protecting them from liability.

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