REST PERIODS OF WORKERS USING DIGITAL TECHNOLOGY IN THE LOGISTICS SECTOR: A STUDY OF GERMAN LAW AND LESSONS FOR VIETNAM

Nguyen Ngoc Sang, Master of Laws, Ph.D. Candidate, Faculty of Law, Binh Duong University

Ho Chi Minh City, Vietnam.

ORCID ID: https://orcid.org/0009-0007-4035-1285

ABSTRACT

Against the backdrop of rapid digital transformation, the use of algorithms, monitoring devices, and intelligent dispatch systems has enhanced logistics efficiency. At the same time, however, it has increased work intensity, prolonged workers' state of connectivity, and blurred the boundaries between working time and rest periods. Meanwhile, Vietnamese law remains largely based on the traditional employment model and has yet to provide adequate protection for daily rest periods, waiting and standby time, the right to disconnect, the quality of rest breaks, and workers' ability to have their working time recorded and to access relevant working-time data. Drawing on an examination of German law, this article analyses the impact of technology-driven management on the right to rest, identifies gaps in Vietnamese law, and proposes directions for legal reform aimed at ensuring the effective recovery of logistics workers in the digital environment.

Keywords: Rest periods; labour law; workers; right to disconnect.

1. Introduction

The rapid development of the digital economy has fundamentally changed the way rest time is understood. It is no longer regarded merely as a period of "non-work" scheduled after a work shift, but is increasingly recognised as an important criterion reflecting the quality of employment, the lawful limits placed on employers' managerial authority, and the extent to which workers' physical and mental health is protected against the pressures of constant and continuous connectivity. Under international law, the right to rest is recognised in Article 7(d) of the 1966 International Covenant on Economic, Social and Cultural Rights, encompassing rest, leisure, the reasonable limitation of working hours, periodic holidays with pay, and remuneration for public holidays. Within the framework of the International Labour Organization, Convention No. 1 of 1919 laid the foundation for the principle of the eight-hour working day or the forty-eight-hour working week, while Convention No. 14 of 1921 established the requirement of an uninterrupted weekly rest period. At the European Union level, Article 31 of the Charter of Fundamental Rights of the European Union further affirms that every worker has the right to a limitation of maximum working hours, to daily and weekly rest periods, and to an annual period of paid leave. These standards demonstrate that rest time constitutes a fundamental labour right directly associated with workers' dignity, health, and occupational safety, rather than a discretionary welfare benefit to be unilaterally determined by the employer.

Digital technologies are fundamentally transforming logistics operations, particularly in transportation, warehousing, order fulfilment, and last-mile delivery. The application of data analytics, handheld devices, routing systems, sensors, enterprise resource planning and customer relationship management (ERP/CRM) software, and performance evaluation tools has facilitated the emergence of algorithmic management in work organisation. Although these technologies enhance operational efficiency, they also intensify the degree of surveillance and control over workers, as well as the pace and intensity of work, particularly in warehousing and delivery operations.[1]. In Vietnam, digital transformation has become an established management trend in the logistics sector. The 2025 Vietnam Logistics Report highlights the theme of "Smart Logistics"[2], notes that logistics enterprises are increasingly integrating the

[1] RANI Uma, PESOLE Annarosa, GONZALEZ VAZQUEZ Ignacio. (2024). *Algorithmic Management practices in regular workplaces: Case studies in logistics and healthcare*. Publications Office of the European Union, Luxembourg. https://data.europa.eu/doi/10.2760/712475

[2] Ministry of Industry and Trade. (2025). *Vietnam Logistics Report 2025: Smart Logistics.* Industry and Trade

Internet of Things (IoT), artificial intelligence (AI), big data, and machine learning into their operations. At the same time, the Strategy for the Development of Vietnam's Logistics Services for the 2025–2035 period sets the objective of substantially increasing the proportion of enterprises adopting digital transformation solutions. This practical context creates an urgent need to reconsider the regulation of rest time in relation to digital management, digital surveillance, and digitally intensified work. Against this background, the article focuses on analysing the German legal experience in protecting the rest time of logistics workers under the impact of digital technologies, while comparing it with Vietnamese law in order to identify regulatory gaps and propose directions for legal reform. The article adopts an integrated approach that situates rest time within its broader relationship with occupational safety and health, working-time recording, personal data protection, the participation rights of workers' representatives, and the management of psychosocial risks in the digital workplace.

2. Theoretical and Practical Foundations of Rest Time for Logistics Workers Subject to Digital Technology-Based Management

2.1. Rest Time as a Fundamental Labour Right in the Digital Economy

Rest time should be understood as a core legal safeguard for preserving the human dimension of the employment relationship, rather than merely as a temporary interruption following a period of work. This approach is reinforced by Article 24 of the 1948 Universal Declaration of Human Rights, under which the right to rest is closely associated with the reasonable limitation of working hours and periodic holidays with pay. Within the international labour standards system, ILO Convention No. 1 of 1919 laid the foundation for limiting the use of labour through the standards of the eight-hour working day and the forty-eight-hour working week. At the European Union level, Directive 2003/88/EC establishes minimum standards concerning daily rest, weekly rest, rest breaks, and annual leave, thereby demonstrating that rest time serves as an instrument for protecting workers' health, safety, and personal lives. Accordingly, rest time is not only an entitlement enjoyed by workers but also a legal boundary on employers' powers to organise, direct, and utilise labour.

In the context of the digital economy, rest time not only serves the function of restoring workers' capacity to work, but also operates as a mechanism for protecting their temporal

Publishing House. https://proship.vn/wp-content/uploads/2026/03/Bao-cao-Logistics-Viet-Nam-2025.pdf

autonomy, family life, and private sphere. The widespread use of smartphones, work-management applications, task-allocation platforms, internal messaging systems, and handheld devices has rendered the boundary between working time and non-working time increasingly fragile. Even after completing a work shift or leaving the physical workplace, workers may remain subject to constant connectivity and an ongoing expectation of responsiveness[3]. Accordingly, the contemporary legal challenge lies not only in controlling the total number of working hours, but also in preventing the invisible extension of work into periods designated for rest. From this perspective, the right to disconnect is regarded as a legal mechanism that enables workers to disengage from work and protects them from being required to engage in work-related electronic communications outside working hours, thereby safeguarding their work–life balance, health, and dignity in the digital working environment.

The increasing prevalence of digital technologies in work organisation requires rest time to be approached in substantive terms, rather than being determined solely by the formal distinction between working hours and non-working hours[4]. The growing use of digital technologies in work organisation is transforming the traditional understanding of rest time. In working environments operated through email, mobile applications, routing systems, management software, and performance-monitoring tools, the boundary between "working hours" and "non-working hours" is no longer always clear. Although workers may have physically left the workplace or formally completed their shifts, they may remain exposed to work-related pressures arising from requirements to stay connected, respond promptly, monitor work notifications, or meet performance expectations generated by digital systems[5]. Accordingly, rest time should be understood in substantive terms by examining whether workers are genuinely released from the constraints of their employment obligations, rather than relying solely on the formal classification of a particular period as "outside working hours." This approach is particularly important in the digital economy, as constant connectivity may undermine the restorative function of rest time in relation to workers' health, personal

[3] Eurofound. (2023). *Right to disconnect: Implementation and impact at company level*, Publications Office of the European Union, Luxembourg. https://www.eurofound.europa.eu/en/publications/all/right-disconnect-implementation-and-impact-company-level

[4] Małgorzata Kurzynoga. (2024). The right to disconnect: Rest in the digital age of work from the international, European and Polish law perspectives. *Acta Universitatis Lodziensis. Folia Iuridica*, 107, pp. 83-94. https://doi.org/10.18778/0208-6069.107.06

[5] Melissa Mazmanian, Wanda J. Orlikowski, JoAnne Yates. (2013). *The Autonomy Paradox: The Implications of Mobile Email Devices for Knowledge Professionals*. Organization Science, 24(5), pp. 1-21. DOI: https://doi.org/10.1287/orsc.1120.0806

lives, and capacity to recover and renew their ability to work.

2.2. The Impact of Digital Technologies on the Rest Time of Workers in the Logistics Sector

Logistics is a prominent example of the expansion of algorithmic management from the platform economy into traditional employment settings. Studies conducted by the Joint Research Centre (JRC), the European Agency for Safety and Health at Work (EU-OSHA), Eurofound, and the International Labour Organization (ILO) indicate that data-driven management has become firmly established in warehousing, freight forwarding, and delivery services[6]. While enhancing operational efficiency, this development has also raised concerns regarding intrusive surveillance and the deterioration of job quality. From a technical standpoint, the application of algorithms in logistics shares many similarities with platform-based ride-hailing and delivery models. In the context of real-time supply-chain operations, route optimisation, and pressure to meet delivery deadlines, rest time has become one of the labour rights most directly and sensitively affected. From the perspective of work organisation, digital technologies are simultaneously reshaping three fundamental dimensions of the employment relationship: task allocation, performance measurement, and control over working time. According to Wood's analysis, algorithmic management is, in essence, the automation of labour-management functions previously performed by human managers, including the direction, evaluation, and discipline of the workforce. More specifically, algorithms are used to allocate and coordinate tasks and to direct workers' conduct; to collect and process data for the purpose of scoring and ranking performance; and to provide the basis for decisions concerning rewards, sanctions, the continued allocation of work, or the termination of work allocation.[7] These functions are particularly evident in the logistics sector. In warehousing operations, barcode scanners, sensors, wearable devices, and task-allocation software are capable of determining the pace of work, the sequence of operations, internal movement routes, and task-completion deadlines. In delivery operations, routing and fleet-management systems enable schedules to be optimised in real time, while also individualising workers' responsibilities through indicators such as the number of orders handled, completion times, the number of deliveries made, and customer feedback. Accordingly, digital technologies not only

[6] Urzi Brancati, M.C., Curtarelli, M., Riso, S. and Baiocco, S. (2022). *How digital technology is reshaping the art of management.* European Commission. https://publications.jrc.ec.europa.eu/repository/handle/JRC130808
[7] Wood, A.J. (2021). *Algorithmic Management: Consequences for Work Organisation and Working Conditions*. European Commission. https://publications.jrc.ec.europa.eu/repository/handle/JRC124874

contribute to improving the operational efficiency of logistics enterprises, but also create the risk that rest time may be fragmented, postponed, or absorbed into productivity targets[8].

From the perspective of occupational safety and health, the most concerning impact of digital technologies in logistics is the intensification of work and the increase in psychosocial risks. In an algorithmically managed environment, the pace of work is no longer regulated primarily by direct supervisors, but increasingly depends on the processing speed of digital systems, data-driven instructions, and continuously updated performance targets. Reports by the JRC, EU-OSHA, and Eurofound indicate that these mechanisms may create pressure to complete tasks within short timeframes, increase quantitative work overload, and subject workers to constant pressure arising from performance monitoring. Such pressure is associated with stress, anxiety about job security, and a tendency to extend working hours in order to avoid being assessed as failing to meet performance targets. At the organisational level, workplaces that use technology to determine job content, control the pace of work, or monitor performance tend to exhibit higher levels of psychosocial risk. The paradox of algorithmic management lies in the fact that, while technology may create a certain sense of flexibility and autonomy, it simultaneously establishes more sophisticated mechanisms for controlling workers' time and conduct. Empirical research conducted by Wood and colleagues on platform workers demonstrates that algorithmic mechanisms for rating, allocating work, and evaluating performance may lead to irregular working hours, overwork, sleep deprivation, and exhaustion.[9] In the logistics sector, this paradox is particularly pronounced because order-processing speed, route optimisation, delivery deadlines, and customer-feedback indicators may directly determine the daily pace of work, thereby creating a risk that rest time will be fragmented, postponed, or absorbed into the requirement to maintain performance.

In addition to intensifying work, digital technologies have also given rise to the phenomenon of "constant connectivity" as a form of extended labour that is difficult to identify. Electronic communication tools, work-management applications, and online coordination systems may continue to draw workers into work-related activities even outside their contractually defined working hours. According to a Eurofound survey, more than 80% of the

[8] Urzì Brancati, M., C., Curtarelli , M., Riso, S., Baiocco, S. *How digital technology is reshaping the art of management*. European Commission. https://publications.jrc.ec.europa.eu/repository/handle/JRC130808

[9] Alex J Wood, Mark Graham, Vili Lehdonvirta, Isis Hjorth. (2018). Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy. *Work, Employment and Society*, 33(1), pp. 56-75. DOI: https://doi.org/10.1177/0950017018785616

workers surveyed reported receiving work-related communications outside working hours during a typical week, while nearly three-quarters were contacted by colleagues outside working hours either daily or on several days of the week. Responding outside working hours does not arise solely from individual choice, but also from a sense of responsibility towards work, the need to remain informed, and implicit organisational expectations; approximately 45% of workers considered that being contacted outside working hours adversely affected their work–life balance and health. At a more fundamental level, a joint Eurofound–ILO report confirms that working through information and communication technologies may result in longer working hours, greater work intensity, and the increasing encroachment of work upon private life. Eurofound data further indicate that workers engaged in telework or ICT-based mobile work are approximately twice as likely as those working at the employer's premises to exceed the 48-hour weekly working-time limit and to receive insufficient rest. Nevertheless, the issue should be approached in a balanced manner: digital technologies not only generate risks, but may also serve as tools for protecting occupational safety and health when appropriately designed and regulated. The ILO's 2025 global report indicates that automation, artificial intelligence-enabled sensors, and wearable devices can facilitate real-time hazard detection, risk prediction, and the proactive management of occupational safety and health.[10] The same report further notes that several countries are reviewing and adjusting their legal frameworks to recognise the right to disconnect, with a view to limiting burnout and overwork in digital working environments, while extending occupational safety and health protection to remote and platform workers. Accordingly, the central issue is not to deny the role of technology in logistics, but to establish legal limits on the design, deployment, and control of workplace technologies, ensuring that they operate within a framework that respects workers' rights to rest, health, safety, and dignity.

3. The German Legal Framework Governing the Rest Time of Workers in the Logistics Sector

3.1. Regulation of Rest Time under German Labour Law

At the European Union level, Directive 2003/88/EC establishes minimum standards for the organisation of working time based on the classification of working time and rest periods

[10] International Labour Organization. (2025). *Revolutionizing health and safety: The role of AI and digitalization at work*. https://www.ilo.org/publications/revolutionizing-health-and-safety-role-ai-and-digitalization-work

as two mutually exclusive categories[11]. Accordingly, workers are entitled to at least 11 consecutive hours of rest in each 24-hour period[12], a rest break where the working day exceeds six hours, a minimum uninterrupted weekly rest period of 24 hours in addition to the daily rest period[13] and an average maximum working week of 48 hours[14]. These standards are reinforced by Article 31(2) of the Charter of Fundamental Rights of the European Union, which recognises limitations on working time and the right to rest as fundamental rights intended to protect workers' health, safety, and dignity, rather than as matters dependent solely on agreement within the contractual employment relationship. In Matzak and Stadt Offenbach am Main, the Court held that on-call time must be classified as working time where the constraints imposed by the employer objectively and very significantly restrict the worker's ability to use that time freely for personal purposes[15]. This approach is directly relevant to workers in digitally managed logistics, because periods spent online, waiting for orders, or remaining available to accept tasks may be formally designated as rest time while, in practice, continuing to be subject to platform control and impairing the worker's ability to enjoy genuine rest.

In Germany, EU standards are implemented primarily through the Working Time Act, which aims to safeguard workers' safety and health. German law limits ordinary working time to eight hours per day, although it may be extended to ten hours provided that the average working time over a period of six calendar months or 24 weeks does not exceed eight hours per day[16]; It also requires a minimum rest break of 30 minutes where working time exceeds six but does not exceed nine hours, and 45 minutes where working time exceeds nine hours, while prohibiting uninterrupted work for more than six hours[17]. Following each working day, workers must be granted a minimum uninterrupted rest period of 11 hours[18]. This period may be reduced only in certain sectors, including transport, and must be compensated for by another, longer rest period. The Act further establishes the principle of rest on Sundays and public holidays

[11] Kenner, J. (2019). Recent Court of Justice judgments on working time. *ERA Forum 20*, pp. 259-270. https://doi.org/10.1007/s12027-019-00577-7
[12] Article 3, Directive 2003/88/EC. https://eur-lex.europa.eu/eli/dir/2003/88/oj/eng
[13] Article 5, Directive 2003/88/EC. https://eur-lex.europa.eu/eli/dir/2003/88/oj/eng
[14] Article 6, Directive 2003/88/EC. https://eur-lex.europa.eu/eli/dir/2003/88/oj/eng
[15] Rebecca Zahn. (2021). Does Stand-by Time Count as Working Time? The Court of Justice Gives Guidance in DJ v Radiotelevizija Slovenija and RJ v Stadt Offenbach am Main. *European Papers*, Vol 6, No 1, European Forum, pp. 121-124. DOI: 10.15166/2499-8249/456
[16] Article 3 Arbeitszeit der Arbeitnehmer, Arbeitszeitgesetz (ArbZG). https://www.gesetze-im-internet.de/arbzg/BJNR117100994.html
[17] Article 4 Ruhepausen, Arbeitszeitgesetz (ArbZG). https://www.gesetze-im-internet.de/arbzg/BJNR117100994.html
[18] Article 5(1) Ruhezeit, Arbeitszeitgesetz (ArbZG). https://www.gesetze-im-internet.de/arbzg/BJNR117100994.html

and provides for administrative penalties in cases of non-compliance, clearly demonstrating that rest time constitutes a mandatory protective standard that workers cannot voluntarily waive. Although the German Government is promoting a shift from a maximum daily working-time limit to a weekly limit in order to increase flexibility in the allocation of working hours, scholars have observed that this reform proposal remains controversial and could result in significantly longer working days unless corresponding protective limits are designed with sufficient rigour[19]. In all circumstances, the EU minimum standard of 11 hours of daily rest remains a protective threshold below which national law may not fall, thereby illustrating the role of supranational law in preventing the erosion of the right to rest under pressures for greater labour flexibility.

3.2. Legal Responses to Digital Technology-Based Management, Work Intensity, and the Protection of Occupational Safety and Health in Logistics Work

Firstly, the comprehensive recording of working time is a prerequisite for protecting rest time against the effects of algorithmic management. In the logistics sector, task allocation, navigation, productivity monitoring, and performance evaluation are increasingly carried out through scanners, software systems, and real-time quantitative indicators[20]. This mechanism may intensify work, standardise the pace of labour, and blur the boundary between working time and rest time. In response to this risk, the judgment of the German Federal Labour Court of 13 September 2022 in Case 1 ABR 22/21 held that employers are required to establish a system for recording all working time pursuant to Section 3(2), point 1, of the Occupational Safety and Health Act. This approach is consistent with the judgment of the Court of Justice of the European Union in CCOO, according to which the recording system must be objective, reliable, and accessible.[21] Placing the obligation to record working time within the framework of occupational safety and health law demonstrates that the accurate measurement of working time serves not only managerial purposes, but also provides a basis for verifying compliance with working-time limits and ensuring the observance of minimum rest periods.

[19] Sutterer-Kipping Amélie & Brandt Laurens. (2025). Wöchentliche Höchstarbeitszeit: Mehr Arbeitszeitsouveränität?, *Wirtschaftsdienst, Sciendo*, vol. 105(11), pages 771-771. https://doi.org/10.2478/wd-2025-0197

[20] Carsten Röttgen, Britta Herbig, Tobias Weinmann, Andreas Müller. (2024). Algorithmic management and human-centered task design: a conceptual synthesis from the perspective of action regulation and sociomaterial systems theory. *Frontiers in Artificial Intelligence*, Vol 7, pp. 1-14. https://doi.org/10.3389/frai.2024.1441497

[21] Grzech-Sukalo, H., Czycholl, C. (2024). Vertrauen ist gut, Erfassung ist besser. Arbeitszeit und Arbeitszeiterfassung im Homeoffice. *Z. Arb. Wiss*. 78, pp. 78-86. https://doi.org/10.1007/s41449-023-00403-4

Secondly, German law regulates the effects of algorithmic management through the mechanism of psychosocial risk assessment in the workplace. Empirical studies indicate that high levels of exposure to algorithmic management among logistics workers are associated with increased psychological stress, occupational accidents, musculoskeletal pain, and headaches. The principal reason is that algorithmic systems intensify demands relating to speed, productivity, and responsiveness, while simultaneously reducing workers' autonomy and their access to workplace support.[22]

To address these risks, the German Occupational Safety and Health Act (Arbeitsschutzgesetz) requires employers, under Section 5, to conduct a comprehensive assessment of working conditions, including psychological burdens arising from the organisation and management of work. Section 6 further imposes a documentation obligation on enterprises employing more than ten workers, while violations may be subject to penalties under Section 25. Accordingly, time pressure, work intensity, and continuous algorithmic control are treated as occupational risks that must be identified, prevented, and managed through specific measures.

Thirdly, the works council's right of co-determination provides a mechanism of collective oversight over the introduction and operation of algorithmic management systems. Under Section 87(1), point 6, of the Works Constitution Act (Betriebsverfassungsgesetz), the works council has a right of co-determination concerning the introduction and use of technical devices capable of monitoring workers' conduct or performance. This right arises as soon as a device is objectively capable of performing a monitoring function, irrespective of whether the employer intends to use it for that purpose.[23] Accordingly, systems used to track location, off-task time, order-processing speed, and individual productivity may all fall within the scope of collective oversight. In addition, Section 87(1), point 7, establishes a right of co-determination in relation to occupational health protection measures, while Section 80(1), point 1, entrusts the works council with monitoring compliance with occupational safety and health legislation. Empirical research in the logistics sector indicates that participation and negotiation between works councils and management, technical, and data-related departments can guide the

[22] Hennum Nilsson, K., Bodin, T., Strauss, P. et al. (2025). Algorithmic management is associated with psychological distress, musculoskeletal pain, and occupational accidents: a cross-sectional study in logistics. *Int Arch Occup Environ Health* 98, pp. 929-942. https://doi.org/10.1007/s00420-025-02180-5

[23] Christin Lindenberg. (n.d.) Zum Umfang des Mitbestimmungsrechts gemäß § 87 Abs. 1 Nr. 6 BetrVG. https://law-journal.de/jahrgang-2019/heft-1-2019/mitbestimmungsrechts-betrvg/

implementation of algorithmic management towards greater attention to work processes and workers' interests, while limiting the use of technology to unilaterally increase productivity targets or performance pressure[24]. Germany's co-determination mechanism therefore enables workers to move from being objects of algorithmic management to becoming actors capable of participating in the oversight of technology's effects on the pace of work, health, and rest time.

Fourthly, Directive (EU) 2024/2831 establishes a specialised regulatory framework addressing the effects of algorithmic management on workers' health and working conditions. The Directive requires limitations on the processing of data through automated monitoring and decision-making systems, the assurance of transparency, the maintenance of meaningful human oversight, and periodic assessments of the systems' impacts.[25] Persons responsible for such oversight must possess the necessary competence, receive appropriate training, and have the authority to override automated decisions where necessary. In particular, Article 12 prohibits the use of automated systems in a manner that places undue pressure on workers or endangers their physical or mental health, while also requiring the assessment of psychosocial and ergonomic risks. Although the Directive applies primarily to platform workers and does not directly cover all logistics workers employed under traditional employment contracts, its principles concerning algorithmic transparency, human oversight, and the protection of occupational safety and health remain important reference standards for extending protection to all workers subject to management through automated systems.

4. The Vietnamese Legal Framework Governing the Rest Time of Workers Using Digital Technologies in the Logistics Sector

4.1. Legal Provisions on Rest Time and Its Relationship with Occupational Safety and Health

Vietnamese labour law establishes rest time as a mechanism for limiting the employer's authority to organise and utilise labour. The right to rest is therefore not defined in isolation,

[24] Martin Krzywdzinski, Daniel Schneiß, Andrea Sperling. (2024). Between control and participation: The politics of algorithmic management. *New Technology, Work and Employment*, Vol 40, Issue 1, pp. 60-80. https://doi.org/10.1111/ntwe.12293

[25] Jeremias Adams-Prassl, Antonio Aloisi, Nicola Countouris, Valerio De Stefano, Silvia Rainone. (2025). Protecting platform workers in the European Union. *European Labour Law Journal*, Vol 16, Issue 4, pp. 427-431. https://doi.org/10.1177/20319525251376935

but is shaped in direct relation to the duration and arrangement of working time. Article 105 of the 2019 Labour Code limits normal working time to no more than eight hours per day and 48 hours per week. Where working time is organised on a weekly basis, the employer may arrange up to ten hours of work per day, provided that the total working time does not exceed 48 hours per week. Where work is required beyond these ordinary limits, employees may be required to work overtime only where the conditions and limits prescribed in Article 107 are satisfied. These provisions demonstrate that rest time is an inevitable legal consequence of limiting working time: the longer the working period or the greater the intensity with which work is organised, the more necessary it becomes to ensure reasonable periods of rest.[26] On this basis, rest breaks during working hours, rest between shifts, weekly rest, public-holiday and festival leave, and annual leave are designed to prevent the excessive exploitation of labour, while ensuring conditions for physical recovery, psychological stability, and the maintenance of workers' long-term capacity to work.

Building upon the general limits on working time, the 2019 Labour Code establishes rest periods for each working cycle in order to ensure that workers are afforded recovery time commensurate with the duration and organisation of their work. First, within the course of a working day, Article 109(1) provides that workers who work for at least six hours are entitled to an uninterrupted rest break of at least 30 minutes; this minimum period is increased to 45 uninterrupted minutes in the case of night work. This distinction reflects the need for a higher level of protection for night workers, as working contrary to the body's normal circadian rhythm may increase fatigue and adversely affect health. Notably, where workers perform continuous shift work for at least six hours, the rest break is counted as working time. This provision not only safeguards the right to suspend work temporarily, but also prevents the cost of necessary rest periods from being shifted onto workers by requiring them to remain at the workplace for longer periods without such time being remunerated.

With regard to the transition between work shifts, Article 110 requires workers to be granted at least 12 hours of rest before commencing another shift. This period is intended to ensure a minimum level of recovery before the worker begins a new work cycle, while also preventing shifts from being scheduled too closely together in a manner that may lead to

[26] Lê, N. A., Nguyễn, L. H. T., & Trần, N. P. T. (2026). The right to disconnect in relation to regulations on employees' working time and rest time in Vietnam. *Industry and Trade Magazine*. https://tapchicongthuong.vn/quyen-ngat-ket-noi-trong-tuong-quan-voi-quy-dinh-ve-thoi-gio-lam-viec--thoi-gio-nghi-ngoi-cua-nguoi-lao-dong-tai-viet-nam-513641.htm

accumulated fatigue. Over a longer time frame, Article 111 establishes the right to at least 24 consecutive hours of weekly rest. Where the particular nature of the work cycle does not permit weekly rest to be arranged on a week-by-week basis, the employer must nevertheless ensure an average of at least four rest days per month. The law permits the weekly rest day to be scheduled on Sunday or on another specified day of the week, but requires that this arrangement be clearly stated in the internal labour regulations. Where a weekly rest day coincides with a public holiday or Lunar New Year holiday, the worker is entitled to a compensatory day off on the following working day. This mechanism demonstrates that the right to weekly rest possesses a relatively independent character and is not extinguished by its overlap with other forms of statutory leave.

In addition to rest periods directly associated with the working day, work shift, and working week, the law also guarantees longer periods of rest through fully paid public and Lunar New Year holidays under Article 112 and annual leave under Article 113. Accordingly, the right to rest is structured as a comprehensive system comprising daily rest, rest between shifts, weekly rest, and annual rest. This multi-tiered framework is intended to regulate the extension of working time at different levels, while preserving workers' capacity to recover their health and restore their ability to work in both the short and long term.

Articles 63 and 64 of Decree No. 145/2020/ND-CP elaborate on Article 109 of the 2019 Labour Code by specifying the conditions and regime applicable to rest breaks during working hours. Accordingly, a continuous work shift is defined as a shift lasting at least six hours where the interval between two consecutive shifts does not exceed 45 minutes. In such cases, the rest break is counted as working time and must last at least 30 minutes, or 45 minutes where the worker performs at least six hours of work, including no fewer than three hours during the statutory night-time period. The employer is entitled to determine the timing of the rest break in accordance with production and work-organisation requirements, but may not schedule it at the beginning or end of the shift. This restriction helps ensure that the break is taken during the course of work and thereby preserves its proper function as a temporary interruption enabling workers to rest, eat, attend to physiological needs, and recover their capacity to work.[27] Where work is not organised in continuous shifts, the law does not require rest breaks to be counted as working time, but encourages the parties to negotiate on this matter, thereby allowing for

[27] Lê, Đ. Q. (2020). Some new provisions on working time and rest time under the 2019 Labour Code. *Legal Profession Review*, (3), pp. 40-43.

the establishment of arrangements more favourable to workers.

Vietnamese law has taken initial steps towards establishing a relationship between rest time and occupational safety and health requirements, although this connection has not yet developed into a coherent regulatory mechanism. Article 5 of the 2015 Law on Occupational Safety and Health establishes the principle of prioritising the prevention, elimination, and control of hazardous and harmful factors arising in the course of work. In furtherance of this principle, Article 25 requires employers to ensure that workers' exposure to hazardous and harmful factors does not exceed the safety limits prescribed by national technical regulations. It also provides that the determination of working time for arduous, hazardous, or dangerous occupations and jobs is governed by labour law. In addition, Article 77 imposes an obligation to assess occupational safety and health risks, thereby providing a basis for identifying and implementing preventive measures in relation to working conditions capable of harming workers' health.

However, the structure of the current provisions indicates that rest time continues to be approached primarily as a labour standard intended to limit working time and ensure the recovery of workers' capacity to work. Its relationship with occupational safety and health is expressed clearly only where workers are exposed to hazardous or harmful factors or perform arduous, hazardous, or dangerous occupations and jobs. This approach does not adequately reflect the reality that insufficient rest, unreasonable shift scheduling, or prolonged working time may themselves constitute sources of occupational risk.[28] Compared with German law, Vietnamese law does not situate compliance with rest-time requirements within the broader framework of workplace risk assessment and prevention, nor does it clearly require the identification of psychosocial risks such as stress, burnout, time pressure, and disruption of circadian rhythms. This relative separation between the two regulatory fields therefore weakens the capacity of occupational safety and health mechanisms to prevent harm arising from the unreasonable organisation of working time and rest time, particularly in working environments shaped by digital technologies.

[28] Anthony Sverre Wagstaff, Jenny-Anne Sigstad Lie. (2011). Shift and night work and long working hours - a systematic review of safety implications. *Scandinavian Journal of Work, Environment & Health*, Vol. 37, No. 3, pp. 173-185. https://www.jstor.org/stable/41151541

4.2. Legal Gaps in Protecting the Rest Time of Logistics Workers Affected by Technology

The current legal provisions are primarily based on the traditional employment model, whereas digital technologies in logistics now directly allocate tasks, monitor productivity, measure rest periods, and support disciplinary decision-making. This development creates a dual dependence of workers on both conventional managerial relationships and algorithmic systems, thereby intensifying work, reducing worker autonomy, and rendering formal compliance with working-time limits insufficient to guarantee genuine rest. This provides the basis for identifying the following gaps in the existing legal framework.

Firstly, the law has not established a minimum daily rest standard applicable to all workers. Article 110 of the 2019 Labour Code guarantees at least 12 hours of rest only when a worker changes from one shift to another. It therefore does not fully protect logistics workers who are not employed under a traditional shift-work arrangement, even though the actual rest period between two working days may be substantially reduced. By contrast, Section 5 of the German Working Time Act requires workers to be granted at least 11 consecutive hours of rest after each working day, irrespective of whether a shift change occurs. Any reduction is permitted only in limited circumstances and must be compensated for by an equivalent period of rest. This approach directly safeguards the daily restorative function of rest time.

Secondly, the law has not established adequate criteria for distinguishing working time from rest time in digital working environments. The 2019 Labour Code and Decree No. 145/2020/ND-CP primarily identify working time according to the traditional model of receiving, performing, and handing over tasks. They therefore do not clearly regulate situations such as remaining logged in while waiting for work, maintaining connectivity, receiving instructions, or processing data outside scheduled working hours. Where such periods are not classified as working time, they may be excluded from statutory working-time and overtime limits, even though workers remain subject to significant control by the enterprise. By contrast, Section 2 of the German Working Time Act defines working time as the period from the beginning to the end of work and provides a basis for assessing periods of availability according to the degree of constraint imposed on workers and their ability to use the time freely. Vietnamese law currently lacks an equivalent test for distinguishing genuine rest from periods during which workers remain under the control of a management system.

Thirdly, the law focuses on the duration of rest breaks but does not adequately guarantee their quality or effective availability. Article 109 of the 2019 Labour Code and Decree No. 145/2020/ND-CP prescribe minimum rest periods, but require such periods to be counted as working time only in the case of continuous shifts. They also fail to regulate situations in which algorithms, productivity targets, or alert systems compel workers to shorten or forgo their breaks. The law does not require workload standards to take account of physiological needs, operational disruptions, or waiting time, nor does it ensure that workers are released from the obligation to monitor or respond to devices during rest periods. Consequently, a break may be formally scheduled without fulfilling its restorative function. By contrast, Section 4 of the German Working Time Act requires rest breaks to be determined in advance, prohibits uninterrupted work exceeding six hours, and increases the required break to 45 minutes where working time exceeds nine hours.

Fourthly, the law does not adequately protect workers against requirements to remain connected and respond to work-related communications outside working hours. Vietnamese law has not recognised a right to disconnect, nor has it clearly determined when checking applications, receiving dispatch instructions, or responding to notifications outside working hours must be classified as working time. Such requirements not only interrupt rest periods but also oblige workers to remain attentive and available for work, particularly where a failure to respond may affect their ratings, income, or opportunities to receive future assignments. By contrast, Section 5 of the German Working Time Act requires a minimum uninterrupted daily rest period of 11 hours, thereby creating a functional barrier against the continued use of labour during rest time. The absence of an equivalent mechanism means that workers' right to rest in Vietnam remains heavily dependent on internal workplace policies and the relative bargaining power of the parties.

Fifthly, the mechanism for recording working time is not sufficiently objective or comprehensive to safeguard the right to rest. Vietnamese law currently requires employers to manage overtime hours and rest days, but does not require the comprehensive recording of the beginning, end, and total actual duration of each working day. Although logistics enterprises possess extensive digital data, including login records, GPS data, barcode-scanning records, waiting times, and task histories, neither workers nor labour inspectors are guaranteed access to such information. As a result, the burden of proving actual working time may fall on workers. By contrast, under the judgment of the German Federal Labour Court of 13 September 2022

and the CJEU's judgment in CCOO, employers must establish an objective, reliable, and accessible working-time recording system, thereby providing a basis for verifying compliance with working-time limits and rest-time requirements.

The gap in Vietnamese law does not arise from an absence of provisions on rest time, but from the incompatibility between traditional regulatory mechanisms and technology-based labour management. The current framework primarily regulates formally recorded working hours, whereas digital systems also control waiting time, levels of availability, the pace of work, and workers' practical ability to rest. Legal reform should therefore move beyond protecting the nominal duration of rest and instead guarantee genuine opportunities for recovery; determine working time according to the degree of control exercised over workers; establish objective systems for recording working time and accessing relevant data; and require algorithmic risks to be assessed and controlled from the design and implementation stages.

5. Directions and Recommendations for Improving Vietnamese Law on the Rest Time of Workers Using Digital Technologies in the Logistics Sector

Task allocation, control over the pace of work, monitoring of workers' availability, and performance evaluation have increasingly been carried out through digital technologies in the logistics sector. Accordingly, the law should move away from an approach based primarily on work schedules and officially recorded hours towards an assessment of the actual degree of control exercised by the employer, thereby ensuring not only minimum periods of rest but also workers' genuine physical and psychological recovery.

Firstly, a minimum daily rest standard applicable to all workers should be established. The Labour Code should provide that workers are entitled to at least 11 consecutive hours of rest after the end of each working day or within every 24-hour period, irrespective of whether they perform shift work or change shifts. The requirement under Article 110 that shift workers receive at least 12 hours of rest before commencing another shift may be retained as a higher protective standard for shift work. Any reduction in the daily rest period should be permitted only in exceptional and narrowly defined circumstances and must be accompanied by an equivalent compensatory rest period.

Secondly, criteria should be developed for distinguishing working time from rest time, together with formal recognition of the right to disconnect. The classification of a period as

working time should be based on the extent to which workers remain subject to managerial direction and control and are restricted in their ability to use the time freely, rather than solely on whether they are directly performing a task. Relevant factors should include the obligation to remain connected, the location at which workers must be present, required response times, the frequency of task allocation, and the consequences of failing to respond. Accordingly, mandatory logged-in waiting time, time spent receiving instructions, travelling between tasks, waiting to collect goods, or processing data outside scheduled hours should be classified as working time where workers cannot use that time freely. Workers should also have the right not to access applications, check notifications, or respond to work-related requests during rest periods without being subjected to disciplinary action, reduced income, lower ratings, or any other disadvantage.

Thirdly, the quality and practical accessibility of rest breaks should be guaranteed. The law should require rest breaks to be determined in advance or to be reasonably predictable and should prohibit workers from working continuously for more than six hours without a break. Workload standards and algorithmic evaluation systems should allocate reasonable time for physiological needs, short breaks, equipment failures, traffic congestion, waiting periods, and other circumstances beyond workers' control. During rest breaks, workers should be released from any obligation to monitor devices, accept tasks, or respond to notifications. The exercise of the right to rest should not adversely affect workers' ratings, bonuses, or opportunities to receive future assignments.

Fourthly, an objective, comprehensive, and accessible working-time recording system should be established. Employers should be required to record the beginning, end, and total actual duration of each working day, including overtime, waiting time, mandatory availability, travel between tasks, and work performed outside scheduled hours. The system should be objective, reliable, and transparent, while enabling workers, workers' representative organisations, and labour inspectors to access the necessary data. Where an enterprise or system provider holds relevant data but fails to disclose it fully, the law should reduce or shift the burden of proof away from the worker. The use of software supplied by a third party should not exempt the employer from legal responsibility.

Fifthly, the risks arising from algorithmic management should be regulated, and enforcement mechanisms should be strengthened. The obligation to assess occupational risks

should encompass psychosocial hazards arising from continuous surveillance, excessive performance targets, unpredictable work schedules, limited autonomy, and interruptions to rest periods. Before introducing or modifying automated task-allocation, monitoring, or evaluation systems, enterprises should be required to assess their effects on workers' health, working time, and rest time and to consult workers' representative organisations. Labour inspectors should be empowered to access login records, task-allocation data, GPS information, barcode-scanning records, waiting-time data, and productivity-assessment criteria. The law should also prescribe sanctions for failing to record working time comprehensively, misclassifying waiting time, obstructing the exercise of the right to rest, or using algorithms in a manner that disadvantages workers.

Overall, legal reform should not focus solely on increasing the number of hours or days of rest, but should ensure workers' genuine capacity to recover under technology-based management. The proposed measures should simultaneously address the duration of work, the degree of constraint during waiting and availability periods, the quality of rest time, the right to disconnect, access to data, and responsibility for controlling algorithmic systems.

6. Conclusion

In the context of digital transformation, the rest time of logistics workers must be protected as a fundamental labour right closely associated with health, safety, and temporal autonomy. Although digital technologies enhance operational efficiency, algorithmic management may also intensify work, prolong periods of availability, and blur the boundary between work and rest. Vietnamese law should therefore move beyond protecting the nominal duration of rest and instead ensure workers' genuine capacity for recovery by defining working time according to the actual degree of control exercised, comprehensively recording work-related data, safeguarding the right to disconnect, and strengthening algorithmic oversight, labour inspection, and legal enforcement.

REFERENCES

1. RANI Uma, PESOLE Annarosa, GONZALEZ VAZQUEZ Ignacio. (2024). *Algorithmic Management practices in regular workplaces: Case studies in logistics and healthcare*. Publications Office of the European Union, Luxembourg. https://data.europa.eu/doi/10.2760/712475

2. Ministry of Industry and Trade. (2025). *Vietnam Logistics Report 2025: Smart Logistics.* Industry and Trade Publishing House. https://proship.vn/wp-content/uploads/2026/03/Bao-cao-Logistics-Viet-Nam-2025.pdf

3. Eurofound. (2023). *Right to disconnect: Implementation and impact at company level*, Publications Office of the European Union, Luxembourg. https://www.eurofound.europa.eu/en/publications/all/right-disconnect-implementation-and-impact-company-level

4. Małgorzata Kurzynoga. (2024). The right to disconnect: Rest in the digital age of work from the international, European and Polish law perspectives. *Acta Universitatis Lodziensis. Folia Iuridica*, 107, pp. 83-94. https://doi.org/10.18778/0208-6069.107.06

5. Melissa Mazmanian, Wanda J. Orlikowski, JoAnne Yates. (2013). *The Autonomy Paradox: The Implications of Mobile Email Devices for Knowledge Professionals*. Organization Science, 24(5), pp. 1-21. https://doi.org/10.1287/orsc.1120.0806

6. Urzi Brancati, M.C., Curtarelli, M., Riso, S. and Baiocco, S. (2022). *How digital technology is reshaping the art of management.* European Commission. https://publications.jrc.ec.europa.eu/repository/handle/JRC130808

7. Wood, A.J. (2021). *Algorithmic Management: Consequences for Work Organisation and Working Conditions*. European Commission. https://publications.jrc.ec.europa.eu/repository/handle/JRC124874

8. Urzì Brancati, M., C., Curtarelli , M., Riso, S., Baiocco, S. (2022). *How digital technology is reshaping the art of management*. European Commission. https://publications.jrc.ec.europa.eu/repository/handle/JRC130808

9. Alex J Wood, Mark Graham, Vili Lehdonvirta, Isis Hjorth. (2018). Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy. *Work, Employment and Society*, 33(1), pp. 56-75. https://doi.org/10.1177/0950017018785616

10. International Labour Organization. (2025). *Revolutionizing health and safety: The role of AI and digitalization at work*. https://www.ilo.org/publications/revolutionizing-health-and-safety-role-ai-and-digitalization-work

11. Kenner, J. (2019). Recent Court of Justice judgments on working time. *ERA Forum 20*, pp. 259-270. https://doi.org/10.1007/s12027-019-00577-7

12. Rebecca Zahn. (2021). Does Stand-by Time Count as Working Time? The Court of Justice Gives Guidance in DJ v Radiotelevizija Slovenija and RJ v Stadt Offenbach am Main. *European Papers*, Vol 6, No 1, European Forum, pp. 121-124. 10.15166/2499-8249/456

13. Sutterer-Kipping Amélie & Brandt Laurens. (2025). Wöchentliche Höchstarbeitszeit: Mehr Arbeitszeitsouveränität?, *Wirtschaftsdienst, Sciendo*, vol. 105(11), pages 771-771. https://doi.org/10.2478/wd-2025-0197

14. Carsten Röttgen, Britta Herbig, Tobias Weinmann, Andreas Müller. (2024). Algorithmic management and human-centered task design: a conceptual synthesis from the perspective of action regulation and sociomaterial systems theory. *Frontiers in Artificial Intelligence*, Vol 7, pp. 1-14. https://doi.org/10.3389/frai.2024.1441497

15. Grzech-Sukalo, H., Czycholl, C. (2024). Vertrauen ist gut, Erfassung ist besser. Arbeitszeit und Arbeitszeiterfassung im Homeoffice. *Z. Arb. Wiss*. 78, pp. 78-86. https://doi.org/10.1007/s41449-023-00403-4

16. Hennum Nilsson, K., Bodin, T., Strauss, P. et al. (2025). Algorithmic management is associated with psychological distress, musculoskeletal pain, and occupational accidents: a cross-sectional study in logistics. *Int Arch Occup Environ Health* 98, pp. 929-942. https://doi.org/10.1007/s00420-025-02180-5

17. Christin Lindenberg. (n.d.) Zum Umfang des Mitbestimmungsrechts gemäß § 87 Abs. 1 Nr. 6 BetrVG. https://law-journal.de/jahrgang-2019/heft-1-2019/mitbestimmungsrechts-betrvg/

18. Martin Krzywdzinski, Daniel Schneiß, Andrea Sperling. (2024). Between control and participation: The politics of algorithmic management. *New Technology, Work and Employment*, Vol 40, Issue 1, pp. 60-80. https://doi.org/10.1111/ntwe.12293

19. Jeremias Adams-Prassl, Antonio Aloisi, Nicola Countouris, Valerio De Stefano, Silvia Rainone. (2025). Protecting platform workers in the European Union. *European Labour Law Journal*, Vol 16, Issue 4, pp. 427-431. https://doi.org/10.1177/20319525251376935

20. Lê, N. A., Nguyễn, L. H. T., & Trần, N. P. T. (2026). The right to disconnect in relation to regulations on employees' working time and rest time in Vietnam. *Industry and Trade Magazine*. https://tapchicongthuong.vn/quyen-ngat-ket-noi-trong-tuong-quan-voi-quy-dinh-ve-thoi-gio-lam-viec--thoi-gio-nghi-ngoi-cua-nguoi-lao-dong-tai-viet-nam-513641.htm

21. Lê, Đ. Q. (2020). Some new provisions on working time and rest time under the 2019 Labour Code. *Legal Profession Review*, (3), 40–43.

22. Anthony Sverre Wagstaff, Jenny-Anne Sigstad Lie. (2011). Shift and night work and long working hours - a systematic review of safety implications. *Scandinavian Journal of Work, Environment & Health*, Vol. 37, No. 3, pp. 173-185. https://www.jstor.org/stable/41151541