

Guest Editorial.

Multidisciplinary Perspectives on Work and Digitalisation

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1. Introduction.

Digitalisation represents more than a mere technological shift; it reshapes the foundations of work, organisations, and the relationships between employers and employees. Far from being solely about efficiency, digitalisation transforms daily work routines and redefines the dynamics of human-machine interactions. Ethical considerations, such as safeguarding human dignity and addressing the rising inequalities, are integral parts of the discourse on the fundamentally disruptive effects of digitalisation. Furthermore, lawmakers and courts are confronted with demands for social justice and the protection of decent employment in this new context of digitalisation, which challenge the existing legal frameworks.

With its disruptive effects, digitalisation creates opportunities for renewal of workforce management, including issues such as improved occupational health and safety monitoring and risks prevention, equal information sharing, transparency and codetermination.¹ However, to understand the full scope of the disruptive effect of digitalisation on work and to actually realise the opportunities it provides, questions about the organisation of work, working conditions, power relations, ethics of business and legal protection first need to be addressed. These questions stretch over many different scientific fields, rendering a collaborative focus on the topic a fruitful way to approach the topic.

This Thematic Section of the *Italian Labour Law e-Journal* aims to explore work and digitalisation from a multidisciplinary perspective. It is the result of a collaborative effort among researchers from various faculties and disciplines at the University of Groningen in the project Panoptiwork, complemented by collaborations with researchers from other universities. Before elaborating on the overarching themes in the contributions (section 3),

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¹ See the contributions in this issue: De Lombaert T. et al., *Mass Collection of Workers' Data in Warehouse Facilities: Reflections on Privacy and Well-Being*; Gould S., *Differential Privacy and Collective Bargaining over Workplace Data*; and Ter Haar B.P., *Industry 4.0 + 5.0 = Happy Marriage Between Humans and Technology*.

we introduce the project Panoptiwork, including its aim and what activities have been undertaken (section 2). We close with some overall conclusions (section 4) and acknowledgements (section 5).

2. Panoptiwork: multidisciplinary research on work and digitalisation at the University of Groningen.

The project Panoptiwork is funded by a special fund from the University of Groningen to facilitate interdisciplinary collaboration between employees of different faculties to address together the challenges of our complex world.² The name for the project, Panoptiwork, is a reference to the panopticon, which the 18th-century philosopher Jeremy Bentham presented as a design for an institutional building with an inbuilt system of control. More particularly, the panopticon ‘allows a watchman to observe occupants without the occupants knowing whether or not they are being watched’.³ The level of surveillance panopticon stands for, makes it a much-used metaphor for the new digital governance in general and at workplaces more particularly.⁴

The project Panoptiwork brought together over twenty researchers from seven different faculties (law, political science, sociology, computer sciences, philosophy, economics and business, and economic geography) within the University of Groningen during the years 2023 and 2024. Moreover, 20 plus students from various Bachelor and Master programmes at the University of Groningen contributed to the project (law, international relations, sociology, philosophy, and computer science). The activities undertaken as part of the project Panoptiwork included, among other things, joined discussion sessions, a seminar series called “Panoptiwork Talk”, a conference, blogposts by students, and interdisciplinary theses group meetings. An overview of all the activities of Panoptiwork can be found on the projects’ website: www.panoptiwork.eu.

3. Overarching themes.

This thematic section brings together research that has been conducted within the context of the project Panoptiwork. Initial ideas for most of the papers in this section have been presented and discussed in the series Panoptiwork Talk. Together, the collection of papers addresses a number of key research topics on work and digitalisation. In this section we present these topics and indicate how they are addressed by the various contributions.

The first Panoptiwork research topic concerns the multiple ways digitalisation is reshaping human work. This includes issues such as how digitalisation is changing the content of work,

² <https://www.rug.nl/research/young-academy/what-we-do/interdisciplinarity/seedfund?lang=en>, accessed on 28 November 2024.

³ McMullan T., *What does the panopticon mean in the age of digital surveillance?*, *The Guardian*, 23 July 2015.

⁴ Galic M., Timan T., Koops B J., *Bentham, Deleuze and Beyond: An Overview of Surveillance Theories from the Panopticon to Participation*, in *Philosophy & Technology*, 30, 2017, 9-37.

how management in the workplace is taken-up, and how it affects what work is left for human beings as a consequence of the automation of certain tasks. The research presented in this special issue shows that the changes and the consequences of digitalisation on work are not universal. The study by Cnossen and Koster on the geographical distribution of exposure to emerging technologies – robots, software, and AI – across Europe shows how regional factors like industrial structure, skills, and population density shape the integration, and therewith the impact of digitalisation, on work and the meaning of work. In addition, Been and Huisman’s research empirically examines by the use of large data sets how digitalisation impacts workers’ perceptions of the meaningfulness of their work taking into account the educational levels of workers. The results of their study show that the perception of highly educated workers is the most negatively affected when (parts of) their work activities are digitalised or digitised. Other aspects also affect the perception of the meaningfulness of work, as shown by the empirical study applying a mixed method design of digital ethnography, semi-structured interviews, and personal work experience conducted by Lee. The aim of Lee’s study is to assess worker responses to algorithmic management of food delivery workers in the Netherlands and South Korea. The results of this study shows that while applied algorithmic management tools significantly affect rider autonomy and working conditions, riders experience and respond differently to it based on work arrangements, especially part time (somewhat positive) versus full time (rather negative) and cultural contexts, in general more positive in South Korea than in the Netherlands. Together, these contributions, based in the disciplines of economic geography and sociology, show that the digitalisation (and digitisation) of work is not neutral in its effect on the meaning of work.

The studies by Been and Huisman and Lee, also engage with the second Panoptiwork research topic, namely how digitalisation feeds fundamental debates about what accounts as work. While Been and Huisman and Lee address this within the context of (the perception of) meaningful work, Rudolf-Cibien and Pencolé bring this debate to its most fundamental level with a philosophical discussion on a meta-semantic level to examine the functions of the concept of labour. To truly understand the nature of digital labour, Rudolf-Cibien and Pencolé shift the question from ‘What is labour?’ to the question ‘What should a good concept of labour do?’. They clarify this shift in conceptual analysis from an epistemological perspective which draws on the field of conceptual engineering as developed by Haslanger. They conclude that a good concept of (digital) labour should be intersubjectively-oriented grounded in recognition structures specific to the sphere of work. Together these studies, based in sociology and philosophy, show that the impact of digitalisation on work is significant and affects the concept of work at its most fundamental level.

The third Panoptiwork research topic deals with how digitalisation affects employment relations and how that has resulted in new forms of organised responses by workers to fight for and safeguard their interests and rights. Dutra and Máximo approach this issue from a decolonial perspective. Building on the framework of Faustino and Lippold, Dutra and Máximo consolidate the idea that data coloniality is part of the dynamics of capitalist/racist accumulation through the expropriation and exploitation of digital labour in the Global South. In these dynamics new forms of resistance have emerged by workers in the gig economy, including new forms of collective action, such as boycotts and hacktivism, to push

back against exploitative systems. Whereas in the Global North workers involved with such collective actions benefit from the protection of the fundamental right to strike, for workers in the Global South, Dutra and Máximo consider that it might be more beneficial to rely on data protection laws in defence of workers' intellectual property rights. The idea of seeking protection from data protection laws is also explored by Le Bonniec who addresses the European Union's legal framework on technology to identify strategies for workers' collective action. Although the Artificial Intelligence Regulation (EU Reg. 2024/1689) is recognised as the EU's primary tool for regulating AI systems, Le Bonniec argues that the EU's General Data Protection Regulation (EU Reg. 2016/679) remains central for supporting workers' demands. Within the same EU legal framework of the GDPR, Gould explores how this not only offers possibilities for individual workers to seek protection of their interests, but how it could also offer protection of collective worker interests. This leads him to propose the use of a technical solution known as "differential privacy", which is a technique for processing data that makes it harder to determine who contributed data to a dataset. This technique will enable employers to share collected data with worker representatives, such as trade unions and works councils, without compromising individual privacy and hence equalise bargaining power between employers and workers representatives. Together, these three studies conducted within the disciplines of (labour) law, social science and computer science, interestingly show that workers find new paths for collective action to protect and fight for their interests outside the labour law framework and within the framework of data protection laws.

The fourth Panoptiwork research topic addresses the development and use of AI for managerial tasks. In theory, the use of AI for managerial tasks can be considered as a positive innovation, because it has the potential to offer opportunities for a better management of work-related issues, especially for issues such as occupational health and safety, equality in knowledge, and transparency in decision making. However, depending on how it is developed, used in business models, and implemented at the workplace, AI for managerial tasks might also threaten workers' wellbeing, privacy, autonomy, and job satisfaction. Although parts of these topics are also covered by the first and third Panoptiwork research topics, and therefore covered by the contributions of Been and Huisman, Lee and Gould, the contributions by De Lombaert, Rijal, Costrasal, and Molè and Molè address these issues in more detail. More particularly, De Lombaert, Rijal, Costrasal, and Molè explore the functionalities of a Warehouse Management System (WMS) and its role in managing warehouse workers. They acknowledge that WMSs can have a positive contribution to safeguarding the wellbeing of workers, but that the implementation of WMSs hold risks of infringing the privacy rights of workers. To control this risk, De Lombaert, Rijal, Costrasal, and Molè analyse the features of one particular WMS within the regulatory frameworks of the EU's GDPR and AI Regulation and draw inspiration from the good practices of three case studies. They conclude their paper with the presentation of guidelines to ensure that an application of WMSs at the workplace that contributes to the wellbeing of workers and respects the privacy rights of the individual workers in compliance with the examined legal frameworks. In turn, Molè examines how algorithmic management systems, as "bosses-as-a-service", are used by employers. By drawing from examples of "bosses-as-a-service"

platforms, Molè shows how employer subscriptions to those platforms lead to a commodification of employer authority. One of the consequences of such commodification is that parts of the employer's authority is outsourced to the tech companies that offer the "bosses-as-a-service" platforms. By critically engaging with existing literature, Molè highlights that current regulatory approaches insufficiently address this practice. Therefore, he calls for nuanced rules to ensure accountability and protect employee rights. The last paper in this thematic section, by Ter Haar, takes a broad approach and critiques the disruptive impacts of the technological innovations of Industry 4.0 on work, workplaces and workers. By drawing on aspirational ideas and proposals of the EU's concept of Industry 5.0, she builds an argument that the latter may have the potential to alter the productivity and profit-making driving forces underpinning Industry 4.0 to an approach of technological innovation that is driven by the wellbeing of humans and the planet. Especially, since the aspirational ideas of Industry 5.0 are not isolated and can be positioned in broader socio-economic ideas such as Raworth's Doughnut Economics that already find ground in practice. Against this background, Ter Haar introduces two new foundational principles, of care and non-extractiveness, as ethical obligations for business conduct. The introduction of these principles would have the effect that the development of new technology is no longer driven by motives to increase productivity and profits, but mainly by motives to increase human and planetary wellbeing. As such, Ter Haar argues that Industry 5.0 could function as a pathway to harmonise Industry 4.0 technological innovations with human interests in a sustainable future. Together, these three contributions, based in computer science, law, and socio-economics, offer innovative regulatory solutions on how to bring out the positive promises of digitalisation, especially algorithmic management, while controlling the risks.

4. Concluding remarks.

Overall, this thematic section of the *Italian Labour Law e-Journal* features a combination of empirical and theoretical studies, which form the foundation of the multidisciplinary analysis of work and digitalisation developed within the Panoptiwork project. The empirical studies that open this thematic section explore the tangible effects of digitalisation on the content and meaning of work for workers, the tasks that remain under human responsibility, and the forms of organised responses workers develop to safeguard their interests. These findings provide a valuable starting point for reflection and deeper engagement with the theoretical discussions that follow. The theoretical contributions adopt diverse frameworks to analyse these transformations, including decolonial studies, epistemology, and legal analyses. By beginning with empirical findings and progressing to theoretical perspectives, this issue seeks to build a thorough understanding of the complex impacts of digitalisation on labour and workplaces.

Finally, what brings together this research is the acknowledgement that digitalisation holds the potential for positive impacts on labour, workplaces, and the wellbeing of workers.

Unlike much of the existing research,⁵ which often focuses on risks and problems created by new technologies, including digitalisation, these contributions explore how to harness digitalisation's potential for positive innovation at the workplace and for workers across the workforce. While the authors do not shy away from addressing the challenges and noting the negative impacts and where these might occur, they predominantly seek and explore pathways to realising the benefits of digitalisation, particularly in areas such as occupational health and safety, equality in knowledge distribution, and transparency in decision-making processes. By striking a balance between optimism and critical analysis, the contributors to this thematic section advance constructive ideas for steering digitalisation as a force for positive change.

5. Acknowledgements.

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⁵ See the literature review in the contribution by Ter Haar, nt. (1).