

Surveillance and Monitoring of Remote Workers: Implications for Occupational Safety and Health

Executive Summary

Author: Annarosa Pesole

Project Management: Maurizio Curtarelli and Emmanuelle Brun (EU-OSHA)

This publication was commissioned by the European Agency for Safety and Health at Work (EU-OSHA). Its contents, including any opinions and/or conclusions expressed, are those of the authors alone and do not necessarily reflect the views of EU-OSHA.

Neither the European Agency for Safety and Health at Work nor any person acting on behalf of the agency is responsible for the use that might be made of the following information.

© European Agency for Safety and Health at Work, 2023

Reproduction is authorised provided the source is acknowledged.

For any use or reproduction of photos or other material that is not under the copyright of the European Agency for Safety and Health at Work, permission must be sought directly from the copyright holders.

More information on the European Union is available on the Internet (<http://europa.eu>).

Executive Summary

The aim of this study is to analyse the OSH implications of surveillance and monitoring practices on remote workers. Although supervisors and forms of surveillance had always existed in workplaces, the advent of datafication of work processes and digitalisation of workplaces have spurred attention on how new technologies can affect workers' wellbeing and deteriorate working conditions.

The use of algorithms, artificial intelligence and digital tools is changing the way tasks are carried out, the relationships in workplaces and is modifying the chain of command and the role of middle-management. Digital technologies and algorithms may allocate tasks, control the workforce, measure productivity, and define working conditions. They may support and, in some cases, even replace management in the decision-making process as well as in monitoring activities. These empowered functionalities, however, many times come at the expense of workers' discretion and autonomy and are generally accompanied by intrusive technologies that may increase the psychosocial risks of workers and worsen their health outcomes, particularly of remote workers.

The use of data analytics and the automation process have transformed the workplace in data-driven spaces and gave rise to digital data-driven management models to assist management in the decision-making process and to improve efficiency. Although forms of scientific management are not a novelty, the scale and pervasiveness of new digital surveillance tools is such that large amount of data may be collected in real-time and surpass the work-related activities intruding eventually into workers' private sphere. Furthermore, most of these technologies may operate silently leaving workers unaware of being monitored or about the type and amount of data collected and for which purposes. This amplified use of surveillance and the constant feel of monitoring have also wide repercussions for job quality leading to reduced work autonomy, work intensification, increased level of stress and anxiety and reciprocal mistrust between workers and management. Remote workers, defined as workers who use digital technologies and work away from the employers' premises, are at the forefront of the intensification of surveillance.

This study, using data from the EU-OSHA OSH Pulse survey, investigates how the adoption of different degrees of surveillance practices in the business model is associated with the presence of safety and health or psychosocial risks in the workplace. Secondly, it assesses the effects of preventive occupational safety and health (OSH) measures in mitigating the risks for workers under surveillance. Thirdly, it checks the impact of the embedded monitoring and surveillance practices in data-driven worker management on remote workers.

By using information on technology adoption and monitoring and surveillance practices, the study defines 'surveillance organisational models' those organisations that employ at least one digital technology to control workers' behaviour, performance, or physiology, and measures their impact on specific psychosocial risks and health outcomes, as well as analyses the mitigating effects of OSH preventive measures.

According to the findings, 78% of the total workers interviewed declared to be under some form of digital data-driven management and surveillance organisational models. That is, they report to either having digital technologies determining their speed of work, or monitoring and surveilling their work, or assigning them tasks or shifts, or evaluating their work or, finally, monitoring their vital signs.

Looking at the impact of surveillance organisational models on perceived psychosocial risks, workers reported that an increase of the use of surveillance digital tools corresponds to a higher perceived psychosocial risk.

When controlling for additional workers' characteristics, the findings show that workers in clerical occupations and skilled workers are worse off than professionals and administrators while workers in sales and services are better off. Indeed, the adoption of technology may lead to reduced work autonomy and severe time pressure and work overload, which may be more severe for clerical occupations than professionals, while it reduces the risks of harassment and verbal abuse to which sales and services workers are more exposed. Furthermore, clerical and skilled workers may be more exposed to cognitive tasks' automation and to procedures that allow for a deeper monitoring of the work performed, both in terms of speed and steps to follow, generating higher psychosocial risks for them.

Looking at workplaces, working at the clients' premises increases work stress while, working from home reduces the psychosocial risks. This latter finding contrasts with previous research that finds a worsening of psychosocial risks for remote workers who work from home. A potential explanation for these contrasting findings could be that about half of the remote workers in the sample work from home and are professional, administrator or clerical workers. These workers may benefit from a greater autonomy and the possibility of work from home could, indeed, alleviate their work–life balance, reduce the commuting time and generally improve their life quality and mental health.

Looking at organisational and structural factors, being self-employed reduces the psychosocial risks associated with surveillance organisational models but only when OSH preventive measures are factored into the equation, which is a bit at odds, as normally OSH preventive measures do not directly target self-employed workers. Two issues may be considered here. First is that there are spill-over effects of the implementation of OSH-related awareness-raising activities that may produce indirect outcomes by increasing workers' awareness, particularly for the solo self-employed. Secondly, the majority of the self-employed are entrepreneurs who are most likely reporting about the OSH measures they apply in their workplace. When looking at companies' size, working for bigger firms gradually increases the psychosocial risks associated with surveillance organisational models, confirming that surveillance organisational models are mostly implemented by larger enterprises.

Finally, the introduction of OSH measures has a mitigating effect on psychosocial risks, except for measures involving counselling and psychological support. This result, however, may hint at a prejudice towards the use of counselling and therapy in the workplace more than a real inefficiency of the measure. Indeed, a majority of workers in 11 Member States 'strongly agree' or 'agree' that disclosing a mental health condition would have a negative impact on one's career.

When looking at the impact of surveillance on health outcomes the findings show that a surveillance organisational model increases the volume of health issues reported. In particular for unskilled workers who reported higher negative health outcomes. This may be explained by the fact that many unskilled workers generally perform physical work and tend to report more frequently bone, joint and muscle pains, that may aggravate with work intensification.

Working away from the employers' premises increases the average health reported outcomes almost for all workplaces except for the case of home-based workplaces. As found for psychosocial risks, remote workers who work from home report on average better health. When considering the effects of OSH preventive measures, only working from a public space and at the clients' premises report worse health outcomes, which is consistent with the fact that those are the two working environments where OSH preventive measures cannot be (entirely) implemented.

The results of this study clearly point towards an increasing adoption of digital data-driven worker management and surveillance technologies, for both remote and in-place workers. Similarly, the mitigating effects of OSH preventive measures have been confirmed by the empirical analysis. The use of algorithmic management and surveillance technologies at work affects workers' privacy and data rights, may hamper their freedom of association and worsen their working conditions as well as affect their mental and physical health. Intrusive and non-transparent surveillance practices could be addressed specifically within the regulatory framework on algorithmic management at work, currently in the policy debate at EU level and in some EU member states.

The European Agency for Safety and Health at Work (EU-OSHA) contributes to making Europe a safer, healthier and more productive place to work. The Agency researches, develops, and distributes reliable, balanced, and impartial safety and health information and organises pan-European awareness raising campaigns. Set up by the European Union in 1994 and based in Bilbao, Spain, the Agency brings together representatives from the European Commission, Member State governments, employers' and workers' organisations, as well as leading experts in each of the EU Member States and beyond.

European Agency for Safety and Health at Work

Santiago de Compostela 12, 5th floor

48003 Bilbao, Spain

E-mail: information@osha.europa.eu

<http://osha.europa.eu>