

ALGORITHMIC MANAGEMENT: OPPORTUNITIES FOR COLLECTIVE ACTION

A GUIDE FOR WORKERS AND TRADE UNIONS

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INTRODUCTION: UNIONS' RESPONSES TO ALGORITHMIC MANAGEMENT

In a growing number of economic sectors, employers are using algorithmic management systems (AMS) to ratchet up productivity at the expense of workers' health, privacy and wages. These systems often include extreme monitoring and constant surveillance with real-time performance feedback. Employers use them to enforce unsustainable productivity goals, and the resulting pressure puts workers' physical and mental health at risk.

However, unions are pushing back against algorithmic management's abuses and are demanding safer jobs that share the benefits of this new technology.

This report provides guidance on how unions are shaping the uses of AMS and gives guidelines for future collective bargaining on this topic.

After a global review, UNI has found that unions' primary responses to the excesses of algorithmic management broadly rely on the following four tools:

1. Data protection laws to limit employers' unfair and/or intrusive practices;
2. Fair work standards, which mandate breaks or rest periods;
3. Health and safety regulations;
4. Rules covering the obligation to bargain or consult over the introduction of new technologies or the impacts of new technologies like algorithmic management on workers.

Drawing on best practices, we have formulated recommendations on strengthening the above tools to meet the new challenges AMS present. These include: enforcing information rights; evaluating discrimination risks and impacts; building adequate health and safety structures, like independent worker committees; and putting humans in command.

We encourage UNI affiliates to contribute to this ongoing project by informing us about new collective bargaining agreements and proposals as well as new algorithmic management initiatives. Please, write to us at <https://uniglobalunion.org/contact>.



WHAT IS ALGORITHMIC MANAGEMENT AND HOW IT IS USED AGAINST WORKERS

Algorithmic management refers to the use of computer-programmed procedures to coordinate work processes and outputs within an organization. Technological advancement and increased computer processing power has allowed algorithms to be applied to a growing range of workplace activities, including real-time monitoring and analysis of performance indicators.¹

As outlined in previous UNI publications,² there are several types of algorithms:

- Recruitment algorithms, which are used at different stages of the recruitment process and have a wide range of abilities, from textual analysis of a CV to chatbot algorithms that guide candidates through the application process. If you are interested in these issues, please consult: <https://uniglobalunion.org/report/algorithmic-management-a-trade-union-guide>.
- Workplace decision algorithms are in the broadest category of algorithms and cover day-to-day workplace decisions that would typically be made by a line manager. In this system, the line manager is now either being supported, advised or entirely replaced by algorithms. For example, retail employees' scheduled hours might be decided by data rather than by a human management team.
- Performance management algorithms use surveillance tools to gather workplace data that is analysed in real-time for instantaneous feedback that is used for discipline or other forms of performance management of the workforce.

The discussion in this paper is focused on performance management, an emerging topic in the global trade union movement.

Workers in diverse occupations are increasingly under surveillance by sophisticated algorithmic surveillance systems. These systems - for example, keystroke monitoring programs; cameras that track workers' movements and interactions on the shop floor; and voice and other biometric analysing programs - monitor, record and store information about workers' performance.

Algorithmic management systems use this digital surveillance to influence workers' behaviours or alter their working conditions. This influence occurs through automated decisions or through performance reports sent to managers detailing surveillance tools' findings. One example of automated decision making, reported in UNI's The Amazon Panopticon, is that workers' "time-off-task" is monitored digitally through their barcode scanners, and Amazon has used this system to automatically terminate workers who have not met time management goals through messages sent to their scanners.³

Another lower-tech example could be a digital tracker recording an employee's time in and out. This tool alone would be surveillance, but if that tracker tells the worker when to clock out, it is an algorithmic management tool because it is influencing the worker's behaviour or alters her conditions.

With AMS, managers can have less autonomy to make disciplinary or organizational decisions. They too can be controlled by the data - often with discriminatory and inhumane results - showing the need for strong "human in command" principle.

While surveillance and monitoring have always existed in the relationship between companies and workers, algorithmic management systems give extremely granular, by-the-millisecond reporting. The development of new technologies, thanks to the ever-increasing availability of data, computing power and digital tools for data collection and analysis, has generally led to an increase in continuous worker pressure and an unsustainable definition of productivity.

Unions globally report that algorithmic surveillance of work activities is being used in more and more jobs, and for this reason, collective bargaining is vital for managing algorithmic surveillance and management throughout the broader economy.⁴

THE HUMAN COST OF ALGORITHMIC MANAGEMENT

Working at an Amazon warehouse is no easy thing. The shifts are long. The pace is super-fast. You are constantly being watched and monitored. They seem to think you are just another machine.

Jennifer Bates
Testimony before the U.S. Senate
17 March 2021⁵

The [Amazon] area managers have programs which detect daily errors, trends per hour, hourly and daily productivity. The whole day is monitored. At any time, they can see anything. They can also see how long you are standing still and count the time. Constant monitoring impacts a lot, including whether you will get a permanent contract or not.

Andrea Faili
“Processo Produttivo e Condizioni di Lavoro nel Sito Amazon di Passo Corese,”
Edizioni Lavoro, 2022 ⁶

Amazon has led the transformation of work and workplace culture in the 21st century, and the tech, entertainment, retail and logistics giant governs workers’ day-to-day experiences primarily through workforce analytics software.⁷ Employees describe intense performance pressure, workplaces poorly adapted to human bodies and degrading treatment.⁸

The U.S.-based Strategic Organizing Center found that Amazon’s demanding, algorithmically-driven production goals are linked to an injury rate 80 per cent higher than its competitors.⁹ A

UNI survey of Amazon workers globally shows that a majority of respondents working in the company’s warehouse report negative health impacts from the company’s production systems.¹⁰ These findings were reinforced by the U.S. federal government, which inspected three Amazon fulfilment centres and found “found work processes that were designed for speed but not safety.”¹¹

But Amazon is not the only corporation using digital technology to put the squeeze on its employees. South Korean e-commerce powerhouse Coupang relies on AI systems to predict customer demand and calculate shipping deadlines. The company, known for “Rocket Delivery” that “out-Amazons Amazon” uses a unit-per-hour metric to track worker productivity and pace. Workers say they are treated like machines and often have no time even for bathroom breaks.¹²

One former Coupang employee who was injured while running to meet a deadline reported, “I realized when I started working there that the sole priority was meeting Rocket Delivery deadlines. We were just robots.”⁶

Indeed, many jobs are now governed by algorithmic management, which includes heightened surveillance, new methods of measuring productivity and even psychological manipulation.¹³ Workers’ activities are collected and logged through surveillance, and machine-learning analysis which allows employers to monitor them continuously. At the same time, who—or what—has responsibility for decisions, such as dismissals, remains hidden from workers.¹⁴



PUSHING THE PACE: ALGORITHMIC MANAGEMENT IN THE WORKPLACE

For workers, the consequences of algorithmic management systems can be largely summarized by constant digital monitoring and productivity squeeze driven by algorithmic analysis of their performance. This intensifying pressure strains workers' physical health, like in a warehouse, but also elevates psychosocial risks across our economies.¹⁵

For example, a study of 2,100 call centre employees, who often have every keystroke and syllable spoken analysed, found that 87 per cent of the workers reported high or very high-stress levels – with 50 per cent of them reporting having been prescribed medication for stress or anxiety.¹⁶

The New York Times reports that algorithmic management has bled into areas of work previously thought unimaginable. A hospice chaplain told the paper how stress around “productivity points” managed through tracking software ultimately led to her quitting her job.¹⁷

In a 2022 article for The New York Review of Books, U.S. law professor and author Zephyr Teachout described the broader effect of pervasive monitoring on workers' sense of autonomy, health and privacy – which ultimately also affects their ability to bargain collectively.

Electronic surveillance puts the body of the tracked person in a state of perpetual hypervigilance, which is particularly bad for health – and worse when accompanied by powerlessness.¹⁸

In 2019 the European Agency for Safety and Health at Work made a similar observation:

Workers [who are under constant monitoring] may feel that they will lose control over work content, pace and scheduling and the way they do their work, that they are unable to interact socially or take breaks when they want to, and that their privacy is invaded. The use of data for example to reward, penalize or even exclude workers could lead to feelings of insecurity and stress.¹⁹

Additionally, algorithmic management can provide employers with new ways to extract unpaid labour time,²⁰ giving rise to concerns over wage theft. Research in homecare showed that intensification of the pace of work is a result of digital monitoring of workers' productivity, and it increases the amount of unpaid work as workers are pushed to skip breaks to meet targets.²¹

Similarly, workplaces where employers track any “unproductive time,” such as the “time-off-task” at Amazon's warehouses, often have a more intense pace of work, and employees are pushed to shorten breaks or skip them entirely to meet production goals. Those who fall behind are punished by a loss of bonuses to their wages, discipline and even dismissals.²²

As a result of algorithmic management's spread, unions everywhere face completely new challenges and novel spins on long-existing problems. Unions are wrestling with how they can mitigate the issues around surveillance and unsafe production pressures that go hand-in-hand with algorithmic management.

STRATEGIES FOR COLLECTIVE RESISTANCE

For centuries, technology has changed our jobs. Too often, it has been deployed to force workers to work harder at the cost of privacy, health and dignity. The global labour movement has a long, rich history of fighting back to shape the use of new technology in the workplace. The pace of work has also been an issue for discussion since the very first trade unions came into existence. While AMS use technology in more all-encompassing ways than previously imagined, these systems still can – and should – be addressed at the bargaining table.

Although there are efforts to develop of new rules to expressly cover algorithms, trade unions can also rely on protections that are already in place in many countries, and under development in others.

These protections fall into four general areas:

1. Data protection and privacy laws;
2. Fair work standards which mandate rest periods;
3. Health and safety standards;
4. Collective bargaining around technology.

Trade unions and workers can use a combination of these strategies, depending on the applicable legal framework.

1. DATA PROTECTION LAWS

“There is the need to coordinate across countries, like the companies that collect and move our data globally.”

A German trade unionist in the IT sector ²³

Workers and trade unions in a growing number of countries can use data protection laws to defend their interests in the workplace. They can put breaks on monitoring and surveillance and demand that such measures must be proportionate and jus-

tified, meaning that complete surveillance at work is no longer acceptable.

Using data protection laws, trade unions can challenge the legitimacy and proportionality of the use of technologies in the workplace, and they can demand transparency and limits on data processing. Although the data protection regulation is most commonly associated with the European Union’s regulation, similar laws exist in other countries including Brazil, Canada, India,²⁴Tunisia²⁵ and the United States.

1.1 WORKERS’ DATA RIGHTS IN EUROPE

With heavy fines for violations of its standards, the General Data Protection Regulation (GDPR), adopted by the European Union in May 2018, is among the toughest privacy and security laws in the world.²⁶ The umbrella of the GDPR protects workers from decisions based solely on automated data processing intended to evaluate them.²⁷ According to the regulation, human involvement in reviewing algorithmic decision-making must be authentic, not just simply applying the decision of the algorithm.²⁸ In other words, a person must have the authority to change the outcome dictated by the machine. This enables workers to challenge algorithmic decisions, such as those put on disciplinary records, and thus protects employees from the negative consequences of non-transparent automated processes.²⁹

EU regulations recognize that unlimited, non-transparent data processing can expose workers to intrusive monitoring and violations of their rights,³⁰ such as the right to form and join a union. It may also harm workers’ health, by significantly increasing stress levels.³¹

TO COMPLY WITH THE GDPR EMPLOYERS SHOULD CONSIDER:

- Is data processing of workers necessary, and if so, what are the legal grounds?
- Is the data processing fair to employees?
- Is it proportional to the problems it seeks to solve?
- Is it transparent?³²

Simply put, the GDPR makes ensuring workers' privacy a balancing act for employers. If they want to monitor workers and process personal data, they must consider the means of monitoring, what workers' rights are restricted and their intended goals.

Over the past decade, the European Court of Human Rights (ECtHR) has repeatedly dealt with the issue of surveillance in the workplace, and its rulings have enriched the regulatory framework of GDPR. Early on, jurisprudence around surveillance focused only on the use of cameras, but the ECtHR principles for employers can also apply to digital surveillance. Therefore, unions can demand that employers take the following steps to protect workers' privacy and limit algorithmic surveillance:³³

- Notify workers of surveillance;
- Assess how much surveillance intrudes into workers' private lives;
- Ask whether less intrusive measures are available;
- Be transparent about the purpose and justification of surveillance;
- Put safeguards in place to ensure workers' privacy.

To clarify, the combination of regulations and legal precedents can help unions address the unequal power dynamics between companies and workers regarding data and privacy. Specifically, these measures address the issue of workplace surveillance and require employers to respect their workers' privacy rights.

When it comes to limiting fundamental rights, such as the right to personal data protection, the principle of necessity is crucial. Any restriction on this right must be absolutely necessary and supported by objective evidence. Additionally, EU law requires a proportionate balance between the means employed and the intended outcome when restricting fundamental rights.

Below are examples of trade union actions to enforce existing data laws across Europe.

Monitoring and Enforcing Protection of Workers' Data in Europe

In the EU and other countries with regulatory bodies that oversee data protection (known as Data Protection Authorities or DPAs), unions may submit complaints and ask for investigations of legal and regulatory breaches. DPAs then may impose administrative fines on employers who breach workers' data rights.³⁴

Although data protection is generally constructed to protect individual rights, breaches of the GDPR can also lead to collective claims by workers that may result in significant financial penalties for employers.

For example, in February 2022, the Spanish Data Protection Authority (AEPD) imposed a fine of €2,000,000 on Amazon Road Transport Spain S.L. for a violation of GDPR articles prohibiting the unlawful processing of sensitive data.³⁵ The penalty was issued after union FeSMC-UGT filed a complaint.³⁶

Transnational data subject access requests of Amazon workers in Europe

In March 2022, Amazon workers from Germany, Italy, Poland, Slovakia, and the United Kingdom, assisted by UNI Global Union and privacy advocates NOYB, submitted a request regarding the right to be informed about the processing of their personal data under GDPR.³⁷ After receiving and analyzing the company's responses, NOYB and UNI found inadequate information about the data collected by Amazon, as well as unclear purposes and legal basis for the processing of workers' data. This initiative highlights the importance of transparency as a prerequisite for collective action to enforce workers' data rights.

UNI will continue to push for more information about Amazon's use of worker data, and it hopes that the GDPR action will not only help protect workers in Europe, but also be used to help expose the scale of personal data collection of Amazon workers globally.

Workers' Data Rights in Action: Italy

In Italy, trade unions have won compensation from employers who used automated profiling systems that unfairly withheld shifts or work time from platform-based workers in protected categories, such as trade unionists. Importantly, the administrative

finances that the data protection authorities imposed on employers for breaching workers' data rights were punitively high, and these punishments can be very effective, especially if there are multiple claims against employers.

For example, in 2019, under a complaint from the CGIL union confederation and its federated unions, (FILCAMS, NIDIL and FILT), a Bologna court ordered the food-delivery company Deliveroo to disclose its algorithm and suppress the elements that disregarded employment law and that made it discriminatory against workers engaged in protected activity, like union activism.³⁸

In 2021, Italy's DPA issued another order against Deliveroo, finding the company profiled workers to evaluate their reliability, availability and other details, which had an impact on workers' job opportunities and schedules. The company, according to the DPA, had breached the GDPR, among other ways, by collecting disproportionate information on riders and through non-transparent profiling without human review. For these reasons, the DPA gave Deliveroo an administrative fine of €2.5 million.³⁹

Similarly, the Italian DPA held that Foodinho infringed upon the transparency principle of GDPR Article 5 in 2021 by collecting workers' data from chats, emails and phone calls. The company had not informed workers of the automated processing of their rankings, which breached GDPR Article 13. Most importantly, the DPA agreed with trade unions that the company's "excellence system" did not guarantee to workers that the processing of their data would be reviewed by a human. The DPA imposed an administrative fine of €2.6 million.⁴⁰

1.2. WORKERS' DATA PROTECTION IN BRAZIL

Brazil's 2018 General Data Protection Law (LGPD) defends the legal interests of data rights holders, including workers, individually or collectively.⁴¹ Associations, including trade unions, can thus make collective claims on behalf of workers whose data rights were violated. Importantly, the law allows the possibility of reversing the burden of proof to the employer, if the judge finds the allegations of workers probable.⁴²



Brazilian data protection legislation also allows audits by the data protection authority if there is a risk that automated decisions at the workplace could result in unfair outcomes that amplify existing biases, such as those against protected groups and union activists. Such audits can be ordered if an employer fails to provide information about criteria used in automated processes.⁴³

A combination of these three provisions: collective action, audits and the reversed burden of proof give unions and civil society organizations the right to act to avoid unjust targeting of workers by algorithmic management.

1.3. WORKERS' DATA PROTECTION IN THE UNITED STATES

Efforts to strengthen workers' data rights continue to emerge in parts of the United States, such as Connecticut, Delaware, New York and California.

Since 2012, the Connecticut Employment Regulation limits the use of surveillance systems in the workplace.⁴⁴ Under the law, an employer who engages in any type of electronic monitoring must give prior written notice to all employees who may be affected, informing them of the types of monitoring which may occur.⁴⁵ The law provides exceptions to the notification obligation, for example in cases when an employer has reasonable grounds to believe that employees are engaged in conduct which violates the law.

Delaware law also limits employers' monitoring of workers, in particular, limiting the interception of telephone conversations, email or electronic transmissions, internet access or other employee information.⁴⁶ Monitoring is permitted only if the employer gives notice to employees.

Since May 2022, New York has had legislation that also requires employer's notice to workers prior to electronic monitoring "by any electronic device or system".⁴⁷

Under consideration in 2022, California Assembly Bill 1651 on workers' data would apply provisions similar to GDPR, including an obligation of transparency, data collection limits and a ban on the use of automated systems that profile workers and rely on facial or emotion recognition.⁴⁸

In January 2023, amendments to the California Consumer Privacy Act came into effect, which strengthen the privacy interests of employees and independent contractors working for large businesses with more than US\$25 million in annual revenue.⁴⁹ Under the law, surveillance and monitoring of workers is allowed only for legitimate and disclosed purposes.

1.4. WORKERS' DATA PROTECTION IN CANADA

In October 2022, the Canadian province Ontario amended the Employment Standards Act of 2000, which regulates the algorithmic management of companies employing more than 25 workers.⁵⁰ Under the law, such employers now must have a written policy on whether they electronically monitor workers.⁵¹ The policy must include details on how and in what circumstances the employer may electronically monitor employees and the purposes for which information obtained through electronic monitoring may be used.⁵²

Importantly, workers should be able to obtain the company's electronic monitoring policy.⁵³

2. FAIR WORK STANDARDS

“Algorithmic management is all kinds of management or surveillance where computers are drawing conclusions that have an impact on your workday, your work life.”

A European IT professional and programmer previously working for Amazon⁵⁴

The digitalized workplace is characterized by an increased pace of work as performance quotas are set and enforced through AMS.⁵⁵ This sped-up rate, rather than the algorithms themselves, is the main cause of concern for workers, because to meet the targets set by the machine, many workers find it increasingly difficult to take their legally mandated break or stop work after they have “clocked out.” In effect, they are working more hours and not getting paid for their additional labour.

For example, under algorithmic management systems, workers can be required to record any type of break, including bathroom breaks.⁵⁶ Retail workers, in particular, report skipping these breaks altogether to avoid negative performance appraisals.⁵⁷ Such workplace arrangements interfere with occupational health and safety regulations and fair work standards. Moreover, they are likely to disproportionately affect temporary agency workers, often recruited from vulnerable populations, who may fear reprisals and non-renewal of contracts if they fall behind expected productivity targets due to meal or toilet breaks.⁵⁸

Problems with bathroom breaks have been repeatedly reported by Amazon workers. In January 2023, an international survey commissioned by UNI Global Union, highlighted the impact of company's reliance on algorithms and technological monitoring on workers' ability to take bathroom breaks.⁵⁹ A warehouse worker in Australia said: "Break times are very strict and enforced. If you are over by two minutes or more, your break time will be sent to the manager. Also break times start from when you scan your last item, and end when you scan your first item after break, your break doesn't start from when you actually sit down outside, so you lose a few minutes from your break."⁶⁰

In most countries, workers have the right to meal and rest breaks that must be respected by the employer and reflected in the working arrangements,⁶¹ ⁶² and trade unions can rely on these laws that guarantee fair work protections – such as minimum wages, overtime pay, and meal and rest break – to protect workers from algorithmically powered productivity squeezes. However, these laws generally only protect employees; independent contractors or "self-employed" workers are not covered by them.⁶³

New guidance by the U.S. Department of Labor (DoL) shows how existing laws can be applied to a changing world of work. The department's decision found that employers are required to give paid breaks regardless if workers are remote or in a company's facility under the country's Fair Labor Standards Act. The DoL also requires nursing parents working remotely to have adequate break time to pump as well as a place location that is free from observation by any employer provided or required video surveillance system.

It is crucial to note, that if the working arrangements enforced by algorithmic management prevent workers from taking legally guaranteed breaks – either rest or toilet breaks – employers must be held to account. In addition to the use of traditional laws which guarantee breaks, some jurisdictions have enacted special laws to protect workers from the pressure generated by new technology.

2.1. CALIFORNIA, AB 701 PROTECTS WORKERS FROM QUOTAS THAT RESTRICT BREAKS

Lawmakers in California recognized the need to adopt a regulation that puts limits on digitally monitored productivity goals by expressly stating employers' obligation to ensure that performance quotas do not interfere with break requirements.⁶⁴

California Assembly Bill 701, which became law in January 2022,⁶⁵ regulates productivity quotas in warehouses in several ways,⁶⁶ including:

- Establishing transparency of performance quotas;⁶⁷
- Requiring compliance with health and safety regulations and break requirements;⁶⁸
- Prohibiting retaliation against employees for requesting information about quotas or complaining about the impact of quotas;⁶⁹
- Enforcing the above provisions and protecting the reporting of breaches of the law.⁷⁰

California's labour commissioner clarified that a "quota that prevents compliance with meal or rest periods, use of bathroom facilities, including reasonable travel time to and from bathroom facilities, or occupational health and safety laws in the labour code or division standards is unlawful and may not be the basis for an adverse employment action [including performance review]."⁷¹

It is not a coincidence that the commissioner emphasized the duration of bathroom breaks, which many countries leave as a general obligation of the employer. In a digitally monitored workplace where any short break is captured, vague regulation can lead to abusive practices when employers count those short breaks and use them against workers as they see fit.

2.2. ENSURING WORKERS CAN TAKE BREAKS

In most jurisdictions workers and trade unions do not have to prove that an employer expressly refuses to provide breaks, it is enough if the working arrangements effectively prevent workers from taking the breaks.

Working arrangements in sectors like retail and logistics present an increased risk of breaches of fair work standards because of real-time monitoring of driving routes, customer satisfaction metrics and performance targets. To manage these risks, trade unions can challenge such practices in courts and through complaint mechanisms to labour inspectorates and other regulatory bodies.

In 2016, a UK bus driver successfully sued his employer and claimed compensation for a failure to provide adequate rest breaks.⁷² The working day was organized in such a way that the worker was not able to take his half-hour lunch break. In his claim, the worker relied on the EU's Working Time Directive, under which the EU member states must ensure that the right to breaks at work is properly observed.⁷³

Relying on laws guaranteeing breaks, trade unions can demand information – either directly and/or through regulatory bodies – on aggregated time clock data that would show hours worked, the meal or rest breaks times in specific shifts and per specific period. It is important to discuss the data with workers as it might be the case that in certain workplaces, employees routinely start working before their break period is over but wait until the legally required time has passed to clock back in again.

3. HEALTH AND SAFETY LAWS

“Algorithmic management means that the company controls and supervises with Micro-scope management techniques by using special tools or apps resulting in workers suffering in the workplace.”

Union representative at Oracle Korea Workers Union⁷⁴

National occupational safety and health (OSH) laws mandate employers to evaluate and mitigate risks to employee health and safety. In June 2022, the International Labour Conference declared that occupational health and safety is one of only five fundamental rights for workers, which means that member states must ensure a safe and healthy work environment, regardless of whether they have ratified ILO OSH conventions.⁷⁵

Trade unions can use these OSH laws, which impose clear obligations on employers and the state, to strengthen collective agreements to limit the negative impact of fast-paced, algorithmically-managed work, and report cases of accidents and injuries to labour inspectorates. Unions can also file a complaint with occupational health and safety authorities, which have investigative powers, and in some cases can take the employer to court to ensure compliance with health and safety regulations. Under ILO Convention 81, labour inspectorates should have wide investigative powers that include access to premises, documents or removal of material for the purposes of analysis.⁷⁶ They can also impose penalties for violations of the law.⁷⁷

These cases are already emerging in relation to safety and algorithmic management.

In January 2023, the U.S. Department of Labor announced that the investigation of its Occupation Health and Safety Administration (OSHA) found serious breaches at three Amazon warehouses. The investigation followed referrals from the U.S. Attorney's Office for the Southern District of New York. It found “work processes that were designed for speed but not safety, and they resulted in serious worker

injuries.”⁷⁸ Amazon faced a total of US\$60,269 in proposed penalties for these violations.⁷⁹

In addition to recognizing that mental health is an area that requires new regulation and specific legislation on employer responsibilities, some countries have introduced legislation on psychosocial risks to address this issue, including 16 in the European Union.⁸⁰

For example, the French Labour Code requires employers to take steps to protect the safety and well-being of their workers. This includes creating a comprehensive plan to prevent occupational risks and addressing issues such as harassment and bullying in the workplace. Excessive competition among employees, as seen in gamification schemes and public benchmarking, is not allowed as it can harm employee health.^{81 82 83}

Companies with over 1,000 employees must address psychosocial risks with worker representatives.⁸⁴ By 2022, more than 600 major French companies have signed agreements on psychosocial risk prevention.⁸⁵ And these agreements can be applied to AMS.

In Canada, the 2013 National Standard on Psychological Health and Safety in the Workplace (the Standard) emphasizes the importance of worker and representative engagement in creating policies and plans for psychological health and safety in the workplace.⁸⁶ The Standard also states that employers should provide workers and representatives with the necessary resources and time to effectively participate in the development of the psychological health and safety policy. Additionally, employers should support worker participation and establish workplace health and safety committees or worker representatives.

In sum, under OSH laws employers are obliged to assess and manage risks to workers’ health and safety. As these risks increase with the use of algorithmic management, trade unions should demand an adequate risk assessment to be carried out by employers prior to the introduction of any new technology or tools. This includes surveillance and performance management tools. Workers could seek remedies for violations of their occupational health and safety rights through courts and OSH authorities, which have their own investigative powers.

4. OBLIGATION TO BARGAIN OVER ALGORITHMS

“Considering that algorithms might operate autonomously as technological entities without any human control, I don’t feel comfortable not knowing the boundaries between the responsibilities of managers, workers, and algorithms.”

Italian IT senior professional⁸⁷

For decades, unions have been consulted or engaged in bargaining to address the impacts on workers which accompany from the introduction of new technology. This is not new to the digital age. Such agreements might typically include a clause involving notice, since technology is often linked to layoffs, and discussion about other impacts, for example job security and training.

More recently, trade unions and workers are increasingly engaging in collective bargaining over algorithmic management that impacts the pace of work, occupational safety and health, remuneration and privacy.

Indeed, the requirement to inform and consult workers or their representatives on algorithmic management decisions was included in the European Commission’s Proposal for a Platform Work Directive, which was debated by the Council of the European Union at the time of writing.⁸⁸ The proposal would require companies to inform and consult platform workers and/or their representatives.⁸⁹ The purpose of this provision is to promote social dialogue on algorithmic management.

More recently, new laws have emerged in some EU member states that require employers to negotiate with workers’ representatives and erect safeguards to minimize the impacts on workers’ rights relating to algorithmic management and/or surveillance. Such regulation provides a strong opportunity for trade unions and works councils to use their collective bargaining powers to limit employers’ practices of exploitative algorithmic management.

4.1. SPAIN: COLLECTIVE BARGAINING OVER DETAILS OF ALGORITHMIC MANAGEMENT

In 2021, Spain adopted an amendment to its Workers' Statute, known as the "Riders' Law," which empowers trade unions to challenge algorithmic management. Employers must inform workers' representatives about how algorithms will be used as well as the algorithmic rules and instructions that affect working conditions,⁹⁰ including:⁹¹

- The name of the program developer and implementer of the system;
- A description of the system and its objectives;
- Specific information about the training data and variables used in the system.

Spanish law recognizes that algorithmic management is a matter of workers' collective interest.⁹² Consequently, the union federation Unión General de Trabajadores (UGT) has developed protocols for its affiliated unions negotiating personal data and digital rights issues,⁹³ such as:

- Workers' representatives should establish whether the intended use of technologies is necessary before negotiating on algorithmic management issues. Justifications such as "because we can" and "because everybody else is doing it" should be rejected.
- A human review of decisions made by algorithms and machines must always be available.
- Any financial benefits resulting from algorithmic management, such as increased productivity, should be shared fairly with the workforce.⁹⁴

In December 2021, relying on the provisions of the "Riders' Law," the union federations UGT and Comisiones Obreras (CCOO) signed an agreement with Just Eat that includes detailed provisions on the digital rights of workers. It guarantees workers the right to privacy and limits the company's access to workers' data.

The agreement also requires the company to inform trade unions and workers before implementing any video or sound recording systems. Just Eat uses geolocation systems to manage the work, and, under the agreement, the company must provide workers with all the relevant information about the characteristics of the geolocation system. Whenever the company uses algorithms for workplace-related decisions, including worker profiling, it must inform the workers or their representatives. In line with the law, the agreement requires that the company to ensure a human review of any decisions made by automated systems.

The agreement also establishes the formation of an algorithm committee, with an equal number of representatives from workers and the employer. The committee will be informed of any changes in the algorithmic systems used at the workplace, and importantly, workers, and the committee will be informed of any health risks associated with the use of digital technology in the workplace.

4.2. GERMANY: LEVERAGING THE POWER OF WORKS COUNCILS

Under German law, works councils⁹⁵ can seek agreements with employers on using devices that monitor employee behaviour or performance. Employers are also required to inform the council about technologies that may impact employee privacy.⁹⁶ If the works council is not satisfied with the information provided, it may appoint an external IT expert.⁹⁷

In early 2019, the works council at Amazon Alexa's Berlin office asked the company to stop using data on worker performance for evaluations. When talks between the council and the company failed in May, the dispute was brought before an arbitration board. In December 2020, the company signed an agreement to limit data usage, which means that the company can no longer use algorithmically generated performance feedback of individual workers and cannot use data for making HR decisions such as promotions or dismissals.⁹⁸

4.3. ITALY: LIMIT THE SURVEILLANCE OF WORKERS THROUGH BARGAINING

Under Italy's Workers' Statute, employers are not allowed to use equipment to monitor worker activities without the consent of their representatives, such as trade unions or works councils. Furthermore, under the law, the company must "clearly and fully explain how the work equipment will be used, what information will be obtained and for what purpose."⁹⁹

In 2018, the Italian unions FILCAMS-CGIL and FISASCAT-CISL signed an agreement with Partesa, a member of the Heineken Group, on the use of smartphone app Telematics, which monitors drivers' compliance with rules and increases safety by responding to drivers' behaviours and emotions. Under the law, monitoring equipment can only be used for specific reasons such as meeting productivity goals, ensuring safety, and protecting company assets, and must be approved by the relevant union or works council before installation.¹⁰⁰

The unions' agreement with Partesa limited the use of the app to monitoring and feedback purposes only, including the following uses:

- To collect data on the speed and acceleration of individual vehicles;
- To provide immediate feedback to a driver regarding unsafe driving behaviour;
- To ask the driver automatically generated yes/no questions related to road safety and remind the drivers of the best practice.

They also agreed to specific limit on the use of the app and that the app would only use aggregated data on the overall workforce. The company also agreed that it will not use data generated by the app for performance monitoring of drivers or in disciplinary actions against them.

Trade unions in Italy signed an agreement with several call centre companies limiting their use of Afiniti,¹⁰¹ an advanced software that uses algorithms to perform predictions. Under the agreement, these companies cannot use the software to monitor individual performance data or to be used as a surveillance tool. It can only monitor the overall business performance and the quality perceived by the customer.

4.4. CANADA: BARGAINING OVER SURVEILLANCE AND ANY TECHNOLOGICAL CHANGES

For several years now, Canadian trade unions have successfully negotiated limits to electronic worker surveillance, such as workload statistics that cannot be used to measure productivity for disciplinary purposes against any member of the bargaining unit unless substantiated by other evidence.¹⁰² A similar provision limiting the scope and purpose of surveillance is part of an agreement between Enterprise Rent-A-Car Canada and MOVEUP, Canadian Office and Professional Employees Union 2019.¹⁰³ In 2015, the Canadian Union of Public Employees signed a collective agreement with Continuing Education Students' Association of Ryerson, which binds the employer to notify all employees, and the union, six weeks before the introduction of any technological changes that affect the rights of workers, conditions of employment, wage rates or workloads. Any such change can be made only after the union and the employer have reached an agreement.¹⁰⁴

4.5. UNITED STATES: NOTICE, THE COLLECTION OF DATA AND SURVEILLANCE

In the United States, unions began regularly negotiating around the introduction of new technology in the 1980s. Most of these technology clauses in collective agreements require notice to the union with a period to assess and address its impact. In an in-depth look at bargaining over technology, the Berkely Labor Center¹⁰⁵ points out that "unions have successfully negotiated provisions that provide the union with sufficient warning, information and voice to help mitigate the effects of technological change."

UNI affiliates SEIU, CWA, Teamsters, NALC and UNITE HERE, along with the player associations in basketball, baseball and football (the NBAPA, MLBPA and NFLPA, respectively) all have negotiated innovative protections, such as requiring the company fund a coordinator around new technology impacts or provide resources for a person in a "new technology" team.

Collective agreements have also protected workers against invasive surveillance for decades. The Communications Workers of America (CWA) have been negotiating to stop abusive monitoring of call

centre workers since the early 1980s. Since then, they have secured a number of collective bargaining agreements that restrict how employers can record workers, how the data can be used and how much data employers can gather.¹⁰⁶

The CWA has also negotiated provisions to ensure that call center workers have a “right to know” when calls are monitored, and which specifies that this monitoring is not for purposes of discipline. This kind of provision has become even more important in the recent context in which the software enables non-stop monitoring and evaluation. The CWA’s organizing campaigns have even changed a non-union employer’s use of algorithmic management. After an intense push by Santander workers in Texas, the company first modified, and as of January 2018, stopped the use of Call Miner, a program that automatically rated workers’ tone of voice, as the main evaluation tool.¹⁰⁷

In the world of sport, the National Basketball Players Association (NBPA), the National Football League Players Association (NFLPA) and the Major League Baseball Players Association (MLBPA) have nego-

tiated cutting-edge protections regarding the collection of personal data, and rights to privacy and compensation.

In 2020, the NFLPA signed a collective agreement¹⁰⁸ that regulates the NFL’s use of sensors that collect data on players’ health and performance. Under the agreement, the player association and the NFL shall establish a “Joint Sensors Committee” to review and approve the use of sensors. This committee is responsible, for instance, for reviewing all uses of sensors for purposes of collecting any player bio-data, e.g., heart rate, blood pressure, skin temperature, blood oxygen levels, and any data about player performance and movement during practices. The committee will also retain experts necessary to conduct its work, including but not limited to engineers, data scientists, and cybersecurity. To ensure compliance, the agreement includes dedicated grievance mechanisms through independent labour arbitration and sanctions, including significant fines. Any commercialization of the obtained data is subject to the agreement of the player association, and any generated revenue is considered in calculating the salary cap.

TELEPERFORMANCE FRAMEWORK AGREEMENT

Teleperformance is a leading business process outsourcing company with a global workforce of over 410,000 employees in 91 countries. In December 2022, Teleperformance and UNI Global Union entered into a comprehensive global agreement that covers several critical issues such as the application of freedom of association, health and safety, and employee monitoring.

The agreement facilitates the implementation of health and safety structures in the workplace, in collaboration with trade unions, and ensures that these issues are included in national social dialogue structures. The part of the agreement that deals with surveillance strives to balance the employer’s ability to monitor staff with the principles of non-excessiveness and proportionality.



RECOMMENDATIONS FOR COLLECTIVE BARGAINING ON ALGORITHMIC MANAGEMENT

UNI Global Union has identified significant issues and potential harm for workers in the increasing use of algorithmic management in workplaces worldwide. However, collective bargaining is a time-tested tool to address these new challenges to dignity, privacy and safe work. Indeed, there is already a precedent for many of these issues to be a subject for the bargaining table or social dialogue in some form.

While there are very few examples of unions which have excluded algorithmic management altogether, there are many ways to address the impacts of technology.

UNI suggests that unions negotiate provisions within collective bargaining agreements to cover the topics below. Some topics are not relevant to all occupations, as the problems to be addressed will differ depending on the sector and the job. For example, call centres have different forms of monitoring than warehouse workers or basketball players. Players may be more interested to monetize their personal data whereas others will refuse to allow the collection of personal data. And drivers will have a different set of issues altogether.

These are intended as general and non-exclusive topics for bargaining:

General principle

To maintain safety and transparency, algorithmic management systems must be created with input from workers, be transparent in their operation and have significant human oversight at all times. Effective communication between workers, employers, and social partners is necessary for designing these systems in a responsible and innovative manner.

Notice and assessment period

Employers must give unions sufficient notice – minimum of 90 days – before the introduction of new technology involving algorithmic management. This

allows for an assessment of the impacts of the technology on employees. In lieu of this notice period, or in addition to it, some unions have negotiated a trial period during which assessments can take place. Adequate notification means:

The notification will explain to the unions and workers the expected timeline for the implementation of new technology, along with outlining the skills that may be affected by the change and any relevant training programs associated with those impacts. Confidentiality should not preclude trade unions to seek the assistance of technical experts, should the trade unions deem such support necessary for negotiations.

During the notification period, the employer should provide the union with the rationale for introducing the technology, changed productivity expectations, if any, and the level and types of surveillance or other forms of data collection which will be involved. This includes all the technical details related to the tools and software used. The parties will also assess the impacts on health and safety, including psychosocial stress, and the ability to take breaks. If these impacts are considered unsafe or unreasonable, the union, or other decision-making body, shall have the right to challenge the implementation of the technology or demand adjustments to eliminate the hazard or unreasonable demands.

If workers' data processing will be done by automated systems or new technologies, the employer must demonstrate the necessity and proportionality of the data processing and note any risks to workers' rights. The union and company should assess whether other, less intrusive methods are available for accomplishing the goals of the technology.

In Europe, European Works Councils are entitled to be informed of transnational issues that affect workers' conditions.

Decision making

Many unions have established some form of union data committee or joint decision-making body to develop expertise in data and technology and to assess, on an ongoing basis, whether these management tools are implemented in a fair and reasonable manner that respects workers' rights. Examples include the NFLPA's "Joint Sensors Com-

mittee” or the Spanish union algorithm committee with JustEat.

It is recommended that unions pursue this option where algorithmic management is deployed. Algorithms change over time and the impacts will need to be assessed on a regular basis.

The Right to Know

Workers have the right to know what data is collected and how it is stored and used, including when they are being monitored. The right to know includes the right of explanation related to the underlying logic of the algorithm if used for decisions affecting working conditions, including evaluations of workers’ performance and decisions on their careers.

Algorithms must not be black boxes and their decisions should be explained in clear understandable language, not technical jargon.

Discrimination

Employers using algorithmic management systems or applications must carry out a risk assessment and undertake reasonable steps to ensure their use does not result in discrimination.

Unions should be involved in the risk assessment and work with workers to detect and challenge any forms of discrimination on the basis of a protected status such as gender, race, ethnicity, religion, age, ability, sexual orientation or union membership.

Discipline

No employee will be disciplined solely as a result of monitoring or data collection of any kind, unless gross misconduct or unlawful behaviour is involved. Workers should always have the right to appeal any decision driven by an algorithm to a human with the power to override this decision. Companies should keep records of any algorithmic decisions and why they were made.

Health and Safety

After the initial assessment, the employer and union should regularly perform OSH risk assessments that include the effects of algorithmic management due to its embedded unpredictability as these sys-

tems rely on complex data processing and have a tendency to reduce human involvement in the decisions. These assessments should involve the union’s health and safety committee and should be linked to processes that will ensure any concerns of risks are promptly addressed by the employer.

The assessment of risks must encompass all work-related elements and be performed in collaboration with algorithm programming specialists to address any uncertainties and identified risks due to the specific nature of this topic.

The analysis should take a comprehensive approach, considering the potential impact of algorithmic management on health and safety at different levels, according to the specific job, organization or sector.

Workers and unions should have access to support systems to address any issues related to AI and its effects on occupational health and safety. For example, content moderators for social media may need extra resources for mental health.

Data Collection and access

Any collection of data must take place in compliance with the principle of relevance, non-excessiveness and proportionality between the means employed and the purposes pursued.

In general, unions should demand that the employer: collects less data; periodically deletes data; enhances cybersecurity standards; and prohibits the use of biometric data.

Personal or sensitive data such as the content of emails, conversations and location tracking, physical health or psychological or emotional well-being or trade union membership should not be collected. Workers’ data should not be sold. There may be exceptions to the rule about selling data with consent from all parties. However, individual consent is not sufficient.

Workers should have access to any data collected about them at work and any algorithmic assessments of their performance. When they leave employment, they should have a right to request that any personally identifiable data still held about them be deleted.

Monitoring and surveillance

Monitoring should be based on the premise that the work environment is based on mutual trust and respect and enhance job satisfaction. The need for occasional monitoring must be balanced with the worker's need for autonomy and privacy in order to reduce any work-related psychosocial or safety risks. Monitoring, including through oral recording, webcams or other technical means such as wearables, should only be for the purpose of evaluating the needs for coaching and development or quality assurance. The employee shall be given notice when this monitoring is taking place.

Monitoring shall not be disproportionate to business needs and in no circumstance shall be continuous.

The results of workplace monitoring must not be used for discipline unless there is an egregious violation of conduct. Nor will they be used for individual productivity targets.

Sharing the Benefits

Any benefits that accrue to the employer from the use of algorithmic management, in terms of greater productivity, greater flexibility or more information and insight, should be shared with the workforce on equitable terms.

Some unions may propose to either monetize and share the increased productivity from the application of algorithmic management among workers or, alternatively, reduce working hours for the same salary.

Training

Training is crucial to increase workers' awareness and spread knowledge about the use of AI for worker management; its potential impact on occupational safety and health; and on organizational choices. Training should be provided to understand the risks of AM and how to prevent them. This instruction should go beyond just technical knowledge and focus on providing a comprehensive understanding of AI, and its potential impact on employees' tasks as well as their health. It must stress how to work safely with AI.

With the introduction of new or updated technology, it is the responsibility of the employer to provide necessary and ongoing training to employees who will be directly affected. This training will cover health and safety implications and address any new risks that the use of algorithmic management poses or exacerbates.



CONCLUSION

The need to negotiate over new technologies dates back to the beginning of the Industrial Revolution. However, algorithmic management systems pose new challenges for workers, who are now facing unprecedented levels of surveillance and a productivity squeeze without comparison. This new challenge offers new opportunities for trade unions to mobilize more workers, including those of migrant and ethnic minority backgrounds, who are often at the forefront of new technology-powered forms of exploitation.

Trade unions are uniquely placed to demand safer and more humane working conditions through the enforcement of existing laws to regulate health and safety, to uphold data and privacy protection, and to ensure the right to compensation for breaks. They can also channel growing worker dissatisfaction into strong demands at the bargaining table.

Unions around the world have already begun to fight for the fair implementation of algorithms in the workplace. In the future, this will be an increasingly important fight for everyone, which will be strengthened through cross-border coordination and using the organizing, advocacy and litigation tools available to us.

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94. Lombarte, 2016, section 6.1.4 Note that Spanish AEPD inspectors have strong investigative power and may require data controllers to share documents, may inspect equipment and exercise their powers in a variety of other ways.
95. Works council (Betriebsrat) is a statutory mechanism of workers' representation on a company level. Under the Works Constitution Act of 25 September 2001, works councils can be

elected by staff in an entity with have five or more permanent employees. The purpose of works councils is to represent the interests of the employees. To do so, they have the co-determination rights (Mitbestimmung) on matters that affect the working environment (Article 67).

96. (BetrVG), (BGB1. I S.2518), para 81.4. <https://www.gesetze-im-internet.de/betrvg/BJNR000130972.html>.

97. Section 80, para. 3.

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