Data Practices and Surveillance in the World of Work

Country Analyses

by Fabio Chiusi

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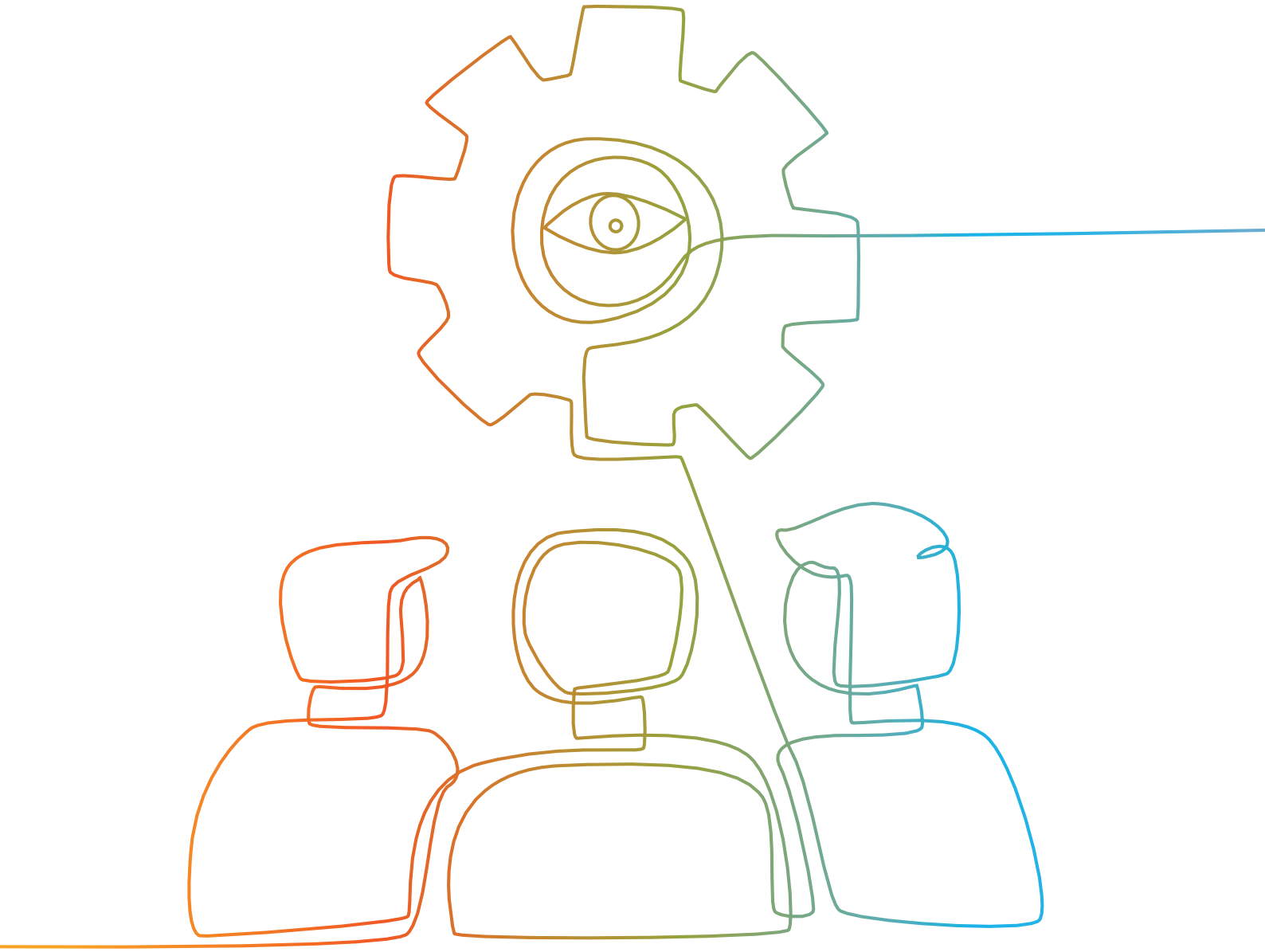

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COUNTRY ANALYSES

BY FABIO CHIUSI

/ INTRODUCTION

Workers are increasingly being digitally surveilled, datafied and algorithmically managed in Italy, Poland, Sweden and the United Kingdom, a qualitative analysis by AlgorithmWatch shows. A trend towards more digitization and automation in the workplace clearly appeared in all of the analyzed countries.

The study is based on a series of interviews with trade union representatives and academics who follow the deployment of data practices and algorithmic systems in the world of work in each of these countries. The study also includes a review of the available literature and case studies.

The specter of a contemporary reissue of Taylorism[1], often evoked by the experts and practitioners we interviewed, had traditionally been associated with the so-called "gig economy" and platform work. It now looms over many more traditional industries, leading to what the UK's Institute for the Future of Work labelled the "gigification" of work[2]. The pandemic, with its trend towards normalizing digital surveillance

both in the workplace and for remote work, further entrenched this phenomenon in the everyday lives of workers in the countries studied, our sources agreed.

This raises a whole host of issues that, in many respects, have yet to be adequately solved through appropriate regulatory safeguards and transparency requirements: how to respect a worker's "right to disconnect"; how to protect their mental well-being from constant surveillance; how to give them an actual say in decisions over the adoption of algorithms and data practices that impact their professional lives — and beyond.

As Karolina Iwańska, a lawyer at the Panoptykon Foundation, put it in the context of Poland, "we are observing the progressive algorithmization of the employee-employer relationship."[3] Even though the sophistication and degree of pervasiveness of the (known) technologies adopted vary from country to country, this is true well beyond Poland, according to our analysis.

Consistent with what AlgorithmWatch reports found over the previous years[4], individuals affected by socio-technical and automated systems — in this case, workers and employees — so far experienced more drawbacks than benefits as a result of the introduction of these systems. Awareness among trade union representatives and employees also varies between countries, and is still mostly focused on platform work in countries such as Italy and Poland.

Some progress is however being made, both in terms of advocacy and actual impact, concerning the social,

1 A system of scientific management advocated by Frederick Taylor in the late 19th Century, it aimed at increasing efficiency "by evaluating every step in a manufacturing process and breaking down production into specialized repetitive tasks" (cfr. https://www.merriam-webster.com/dictionary/Taylorism). Its contemporary reissue, discussed here, is augmented by artificial intelligence and digital technologies.

2 IFOW (2021), '*The Amazonian Era: The gigification of work*', https://www.ifow.org/publications/the-amazonian-era-the-gigification-of-work

3 https://spidersweb.pl/plus/2022/05/zwiazek-zawodowy-algorytmy-praca-kontrola-lewica

4 For example, in the 'Automating Society 2020' report (https://automatingsociety.algorithmwatch.org/) and in the 2021 Tracing the Tracers report, 'Automating COVID Responses' (https://algorithmwatch.org/en/tracing-the-tracers/2021-report/)

economic and human consequences of the rushed, opaque and too often un-negotiated introduction of such systems, both in the workplace and in working relations more broadly. For example, articulated demands are detailed in several trade union reports in the UK, going as far as to ask for the introduction of new rights for workers (a "right to human contact", a "right to designated paid time off for studying/training", and more). Co-determination practices are being (successfully) negotiated in the mining sector in Sweden. And in Italy, some important transparency requirements for algorithmic systems in the world of work have been recently introduced in the so-called "Decreto Trasparenza" (Transparency Decree) — in part, thanks to the work done by AlgorithmWatch.

However, much has yet to be done.

In fact, while provisional and far from exhaustive, these results point to an urgent need for action by policy-makers if the fundamental rights and well-being of workers are to effectively be protected in the era of "Artificial Intelligence" and automated systems.

Some broad recommendations to steer the status quo in the direction of workers' rights, as highlighted in the next section, include negotiating the algorithm, being transparent to workers, considering the far-reaching effects of pervasive surveillance, and training the negotiators.

One general trend must be immediately addressed, however, as it severely affects our results. The widespread lack of transparency around the use of such systems, together with the pervasiveness they have quickly gained in both work and non-work-related contexts, makes it factually impossible to analytically take stock of what is out there — and therefore, to properly articulate our demands.

We do know that the lives of workers are being affected on a daily basis in all the studied countries, but at the same time it is difficult to precisely understand how, as the most basic transparency requirements are lacking — at times, even to workers' representatives themselves.

A turn towards co-designing systems and co-negotiating data practices clearly emerged as a top priority from the material we could consult and the interviews we conducted. This is widely seen as a precondition to better inform the many additional demands put forward by trade union representatives, academics and civil society.

These four country analyses represent AlgorithmWatch's contribution to the "Surveillance and Digital Control at Work" project[5] led by Cracked Labs, which is supported by the Austrian Arbeiterkammer.[6]

/ POLICY RECOMMENDATIONS

To better protect workers' rights in the context of rising digital monitoring, surveillance and automation of work we recommend to:

— **Negotiate the algorithms**. Workers and their representatives should always be included in an appropriate manner in decisions involving their personal data, the digital monitoring and surveillance of work, and the use of automated systems affecting their jobs, opportunities, and rights. Co-design and participation are key to ensure that the needs and rights of workers are properly accounted for when such systems and data practices are introduced. If it emerges in these processes that the aims and priorities of the workers diverge from those of the employer, there should be an option to negotiate formally on the issue.

— **Be transparent to workers**. Transparency is crucial to properly inform workers around the specifics of newly introduced and already existing systems that impact their job and/or well-being. The information provided by employers needs to be easily accessible and understandable. It is also the prerequisite to empower workers and their representatives when negotiating the algorithms.

5 https://crackedlabs.org/en/data-work

6 https://wien.arbeiterkammer.at/digifonds

— **Consider the far-reaching effects of pervasive surveillance**. Working under constant digital scrutiny may severely affect workers' mental health and overall well-being. This needs to be further problematized by trade union representatives, and more carefully considered by employers and policy-makers alike.

— **Train the negotiators**. Trade union representatives urgently need training in how socio-technical automated and intelligent systems can impact the world of work, the rights of workers and their well-being. The knowledge gap between technologists and those who protect workers' rights must be filled with appropriate — and immediate — programs and interventions. Following the German model, for example, expert aid should be provided to trade union representatives whenever they do not have the necessary technical knowledge, until this gap can be closed.

/ UNITED KINGDOM

Over the last years, the United Kingdom has been at the forefront of a plethora of controversial experiments with digital surveillance technologies and automated systems: from "welfare robots"[7] and algorithms to standardize teacher assessments[8], to live facial recognition systems deployed in public places by law enforcement[9]. It is no surprise, then, to find a similar trend for the data practices and systems adopted in the world of work.

Digital surveillance and monitoring technologies and algorithmic management systems are profoundly changing the world of work in the United Kingdom, affecting all stages of employment relations in several — and often concerning — ways, trade unionists and experts in the future of work told us over a series of Zoom interviews and email exchanges.

This is documented in a growing number of studies, reports and investigations led by trade unions in the country. Taken together, these efforts portray a sophisticated picture of the impacts of digital technologies both in the workplace and in remote working environments, one that — while necessarily not exhaustive — allows us to distill some general and widely shared conclusions around the technologies currently adopted in the UK, their impact on workers' rights, attitudes and practices, and how policy-makers are — or should be — intervening to mitigate negative consequences from their deployment.

MAIN TRENDS

First of all, surveillance and algorithmic (micro-) management have now expanded well beyond the so-called "gig economy", entering a wide range of industries: logistics, retail, manufacturing, food processing, hospitality, mining and resource extraction and maintenance among them. A landmark 2021 report[10] by the Institute for the Future of Work (IFOW) calls it "gigification" of work. Head of Research Abigail Gilbert told us that this has three essential components: "First, measure and monitor work; second, set standards for performance based on that measure; and third, change behavior of the worker accordingly, through penalization or positive reinforcement."

According to the report, and consistent with other studies in the field, the COVID-19 pandemic accelerated this trend, leading to the widespread adoption of systems that "are being designed and deployed in ways that erode good work"[11], and more generally

7 https://www.theguardian.com/technology/2019/oct/14/automating-poverty-algorithms-punish-poor

8 Infamously resulting in downgrading the A-level assessments made by teachers for 40% of students in England (https://www.theguardian.com/education/2020/aug/13/almost-40-of-english-students-have-a-level-results-downgraded) and widespread protest (https://www.theguardian.com/commentisfree/2020/aug/19/ditch-the-algorithm-generation-students-a-levels-politics)

9 In ways that have been defined "unlawful" and "unethical", https://www.theguardian.com/technology/2022/oct/27/live-facial-recognition-police-study-uk

10 IFOW (2021), *'The Amazonian Era: The gigification of work'*, https://www.ifow.org/publications/the-amazonian-era-the-gigification-of-work

11 According to the following definition, adopted in the IFOW (2021) report: "Good work is more than employment. It is work that promotes dignity, autonomy, equality; work that has fair pay and conditions; work where people are properly supported to develop their talents and have a sense of community."

"create an environment in which high levels of monitoring and automated decision-making about fundamental aspects of work are normalized."

Rather than promoting human dignity and autonomy, the very notion of "work" is being "redefined in narrow terms that can be quantified by an algorithm, and the use of human judgment and skill is incrementally reduced", the IFOW claims. This translates into a race for efficiency (completing more tasks in less time), and therefore to an "intensification" of work that leads to "the treatment of humans as machines" — the true hallmark of what the authors label "the Amazonian era."

Carrie Aspin, a senior researcher at Union of Shop, Distributive and Allied Workers (USDAW), told us that the complexity of many technological systems deployed in the world of work, when coupled with their generalized opacity, results in a nefarious disconnect between employers and negotiators representing the interest of workers. "Negotiators might not be experts in algorithms, datasets, and discrimination in algorithms", she claims, and that makes it difficult to both understand the specifics of such systems and effectively protect workers from their negative impacts.

This is all the more problematic in a context in which, as a USDAW survey concluded in 2022[12], "the vast majority of employers are not talking to, and listening to, their workforce about the introduction of technology and its impacts," with a staggering nine out of ten not even consulting workers on the implementation of a new technology.

As a result, surveyed workers feel left in the dark as to which data is actually collected on them by employers (6 out of 10 do not understand data collection practices), and over half of them lament a generalized lack of training on the new systems adopted.

Another major trend resulting from the un-negotiated introduction of technological systems and practices to the workforce is the reduction of human interaction in work contexts. As more and more digital and automated systems monitor and regulate an increasing number of activities and tasks, "traditional communication channels are being replaced by workplace technologies, reducing the opportunity for constructive dialogue at work," the USDAW writes. A clear example of this can be found in the human resources sector, in which the trade unions claim to have found "a significant reduction" in human personnel over recent years.

And yet, the report argues, when technology sets shift patterns and assesses performance, it becomes "more difficult to informally resolve issues in the workplace or design individual plans for colleague development."

Equality may be hindered as well, the USDAW claims, when targets are set by computers that notably fail at considering the individual situation of each worker, thus potentially failing to take reasonable adjustments into account, and disproportionately affecting people with disabilities.

The increased stress resulting from the ever more pervasive application of this contemporary reissue of Taylorism may even be affecting the physical and mental health of workers, trade unionists increasingly warn. Workers consistently report increased anxiety linked to the adoption of wearable technologies and apps notifying workers of future shifts, all the while eroding the boundaries between work and non-work in life.

A poll conducted by the GMB trade union among more than 1,600 workers, and published in June 2022[13], found that one in three (32%) think that surveillance from their bosses is having a negative impact on their mental health — with less than one in five arguing that "technology has made their job better in the past five years." Steve Garelick, a regional officer at GMB, told us that while the surveillance technology deployed in

12 USDAW (2022), *Understanding Technology and Automation: Shaping the Future of Work*, National Executive Council Statement to 2022 ADM, https://www.usdaw.org.uk/CMSPages/GetFile.aspx?guid=ff9d6be4-675a-4842-842b-c983300dbeba

13 GMB, *Workplace surveillance affects mental health of one in three workers*, 13 Jun 2022, https://www.gmb.org.uk/news/workplace-surveillance-affects-mental-health-one-three-workers

the world of work in the UK can vary from the very basic to the very sophisticated[14], its results are consistent: unrealistic expectations (set by machines for robot-like humans) and a "persistent pressure" to meet them nonetheless. This has psychological effects. "The pressure is relentless, you cannot relieve from it," he says.

Furthermore, results obtain by GMB are consistent with another recent poll, conducted by Britain Thinks and published by the TUC in February 2022[15]. In it, it is revealed that — as the mass adoption of surveillance in the workplace expanded from the gig economy to sectors such as financial services, wholesale and retail, and utilities — "an overwhelming majority of workers (60%) believe they have been subject to some form of surveillance and monitoring at their current or most recent job," with increased monitoring of both staff devices and phone calls. This and other similarly concerning findings led the TUC to conclude that intrusive worker surveillance risks "spiraling out of control" without stronger regulation to protect workers.

Artificial Intelligence, often heralded as a savior *from* work, could actually be part of the problem, rather than the solution. While CIPD data show[16] that Machine Learning was already being used in 14% of UK organizations in 2018 with the aim of developing "people reports," a harsh, overall assessment of what this already means for the workforce can be found in a 2021 report by the All Party Parliamentary Group (APPG) on the Future of Work[17]:

"*AI offers invaluable opportunities to create new work and improve the quality of work if it is designed and deployed with this as an objective. However, we find that this potential is not currently being materialized. Instead, a growing body of evidence points to significant negative impacts on the conditions and quality of work across the country. Pervasive monitoring and target setting technologies, in particular, are associated with pronounced negative impacts on mental and physical wellbeing as workers experience the extreme pressure of constant, real-time micro-management and automated assessment.*"

CASES

"Be as specific as possible about what the technology in question is and how it works", advises a guidance published by the Georgetown Law Center on Privacy and Technology[18]. But while this is a wise suggestion, the widespread opacity of adopted algorithms and digital technologies makes it systematically difficult to understand the details of their functioning, and their precise impact on the world of work.

Experts we interviewed for this analysis agree that individual cases are therefore difficult to highlight and describe in detail as well; most, however, told us that we should expect to find the same systems adopted in the most technologically advanced countries in the world.

Cases and trends related to individual industries have however been analyzed by some trade unions. Unite the Union, for example, has investigated[19] "the changing nature of surveillance in the energy sector," denouncing "an increasing trend towards excessive surveillance" through devices such as vehicle-monitoring technologies (in certain cases, in real time), dash and body cameras, and "a web-based app" to control "call outs and daily work program."

14 The TUC has a useful list of the most common forms of workplace surveillance in the UK, sorted in two main categories: "Monitoring computer and phone use", and „Tracking the movement of employees". Cfr. TUC, *I'll be watching you - What is workplace monitoring?*, https://www.tuc.org.uk/i%E2%80%99ll-be-watching-you-what-workplace-monitoring

15 TUC, *Intrusive worker surveillance tech risks "spiralling out of control" without stronger regulation*, TUC warns, 28 Feb 2022, https://www.tuc.org.uk/news/intrusive-worker-surveillance-tech-risks-spiralling-out-control-without-stronger-regulation

16 CIPD (2018), *People analytics: driving business performance with people data*, https://www.cipd.co.uk/Images/people-analytics-report_tcm18-43755.pdf

17 APPG (2021), *The New Frontier: AI at work,* https://www.ifow.org/publications/new-frontier-artificial-intelligence-work

18 Emily Tucker, *Artifice and Intelligence*, Tech Policy Press, 17 Mar 2022, https://techpolicy.press/artifice-and-intelligence

19 TUC, *Union case study: the changing nature of surveillance in the energy sector*, https://www.tuc.org.uk/workplace-guidance/case-studies/union-case-study-changing-nature-surveillance-energy-sector

The Prospect union also focused on the energy sector in its *Digital technology: guide for union reps*[20] report, highlighting both the planned use of "innovative wearable technology" by Northern Powergrid to monitor its workers' "fatigue" and "wellbeing" — and the broader feeling, reported by Atos, that "in some organizations there is a semblance of a 'Big Brother' attitude to productivity monitoring."

An interesting — and worrying — detail was also shared by Prospect in the same report, concerning the telecommunications sector:

"Vodafone, Openreach, AT&T are among hundreds of firms thought to have used an AI-powered hiring platform supplied by HireVue, which uses voice and facial recognition software and a 'proprietary algorithm to determine which candidates are ideal for a specific job by analyzing their vocabulary, speech patterns, body language, tone, and facial expressions'."

POLICY AND ADVOCACY

When it comes to policy, trade unions we spoke with in the UK agree on a fundamental conclusion: the current regulatory landscape, however sophisticated[21], is not adequate in the face of the current increasing normalization of surveillance of the workforce, both in the workplace and — especially after the pandemic — remotely. Hence, it must be urgently updated and expanded, to properly address the unique challenges posed by new technologies and automated systems in work, they claim.

But how? The complex and pervasive monitoring technologies deployed in the world of work in the UK called for a multi-faceted response by trade unions, whose campaigns and proposals centered around the actual concerns expressed by workers who became subject to digital practices and automation.

If the boundaries between work and non-work are increasingly blurred, it is only consequential to call for some kind of "right to disconnect." Prospect data show[22] that 66% of remote workers are in favor, as 32% explicitly state they struggle to switch off from work.

Also, even though it is considered a valuable option by many, remote and automatized work is too often lonely work, with the only aid and company of computers. This calls for a "right to human contact," argues the TUC, i.e., "an express statutory right to personal analogue engagement – an 'in-person engagement' – when important, high-risk decisions are made about people at work."

We've seen that workers' voices are not heard, not even when deploying new technologies that directly and profoundly affect them. Consequently, the IFOW and Community propose "partnership working" as a model approach to technology negotiations — i.e., a model in which "employers and workers (...) work together in a collaborative manner to address joint challenges for mutual benefit," and detail a guideline to help implement it[23].

Collective agreements can also help establish much needed co-governance practices and fora for the algorithmic management of work, argues the TUC in *People powered technology. Collective agreements and digital management systems*[24]. For example, a "technology forum" should be established, adds Community, to provide the "space and process for dialogue and agreement" required to implement a further request

20 Prospect (2022), '*Digital technology: guide for union reps*', https://prospect.org.uk/about/digital-technology-guide-for-union-reps/

21 Including the UK GDPR, rights derived from the Information and Consultation of Employee regulations (ICE), Health and Safety regulation, the Equality Act of 2010, the Trade Union Labour Relations Consolidation Act of 1992, the Human Rights Act of 1998. A useful summary is provided by the TUC, https://www.tuc.org.uk/resource/people-powered-technology

22 https://prospect.org.uk/future-of-work-technology-and-data/

23 IFOW and Community (2021), '*Technology agreements: A partnership approach to use of technology at work'*, https://community-tu.org/preparing-for-the-future/#d6eb7c54

24 TUC (2022), '*People powered technology. Collective agreements and digital management systems*', https://www.tuc.org.uk/resource/people-powered-technology

from trade unions: a statutory duty[25] to consult workers' representatives every time a new technology that significantly impacts on their work is introduced — *before* it is introduced — and/or its functioning and objectives are changed.

We observed that an increased number of tasks is automated: the TUC, in response, argues for a "universal right to human review of high-risk decisions made by technology."

Polls also showed that most workers are having a hard time understanding how automated systems used on them actually work, and as a result tend to distrust employers and the way they treat their data — 65% of workers for example say[26] that they are "not at all confident" when it comes to the possibility of having their data being shared with third parties by employers. That is why, beyond basic — but still missing[27] — transparency requirements, the TUC is also asking for a "right to a personalized explanation," so that each individual workers subject to an automated system will be able to actually understand how it has been applied on them.

Training and skills-building are also seen as both lacking and crucial by trade unions in the UK. The USDAW for example asks the government to "boost investment in skills over the long-term," while at the same time introducing "a right to designated paid time off for studying/training."

Lastly, according to the IFOW, it is time for a "UK Accountability for Algorithms Act"[28] that combines "overarching principles from the Data Protection Act, Health and Safety at Work Act and the Environmental Protection Act to give well-established norms in AI governance a statutory base." This would require "meaningful public consultation with stakeholders and impacted communities," thus effectively involving workers affected by automated systems in their auditing and impact assessments.

Combined with a proposed register of AI and automated systems in use, to be held by the employer and — according to the TUC — "readily accessible" to "existing employees, workers, and job applicants," these counter-measures could be instrumental in reconciling "Good Work"[29] and innovation.

/ SWEDEN

Sweden has long enjoyed a positive attitude towards new technologies and innovation, most recently including Artificial Intelligence[30]. Experts we interviewed for this country analysis claim that high levels of institutional trust, an open and transparent public administration[31], and the urge to remove — rather than build — regulatory constraints to digitization led to a substantial faith in regulatory frameworks (such as the EU's GDPR) based on the idea of "technological neutrality" — i.e., "technology-agnostic legislation that does not need to be changed with every advance in technology."[32]

All of this is being shaken to its core by the rushed, widespread and at times illegal adoption of surveil-

25 https://www.tuc.org.uk/news/intrusive-worker-surveillance-tech-risks-spiralling-out-control-without-stronger-regulation

26 https://global-uploads.webflow.com/5f57d40eb1c2ef22d8a8ca7e/61960345ea22bb1df8fe904a_IFOW%20%E2%80%93%20The%20Amazonian%20Era.pdf

27 In the UK there is currently no specific law for automated system and Artificial Intelligence in the workplace, and algorithmic impact assessments are not mandatory.

28 Stephanie Sheir, IFOW (2022), *Is it time for a UK Accountability for Algorithms Act?,* https://www.ifow.org/news-articles/time-uk-algorithmic-accountability-act

29 Cfr. TUC (2021), '*Dignity at work and the AI revolution. A TUC manifesto*', https://www.tuc.org.uk/sites/default/files/2021-03/The_AI_Revolution_20121_Manifesto_AW.pdf and Usdaw's '*Manifesto on Automation and Technology*', in the 2022 report '*Understanding Technology and Automation: Shaping the Future of Work*', https://www.usdaw.org.uk/CMSPages/GetFile.aspx?guid=ff9d6be4-675a-4842-842b-c983300dbeba

30 See for example https://www.statista.com/statistics/879826/attitude-towards-artificial-intelligence-in-sweden/

31 See '*All makt åt algoritmen, vår befriare? Rapport 2021-04-29*', Akademikerförbundet SSR, https://akademssr.se/sites/default/files/files/Rapport%20-%20All%20makt%20%C3%A5t%20algoritmen%2C%20v%C3%A5r%20befriare.pdf

32 As The Artificial Intelligence Working Group of the IBA Alternative and New Law Business Structures puts it in its 2022 '*Guidelines and Regulations to Provide Insights on Public Policies to Ensure AI's Beneficial Use as a Professional Tool' on Sweden,* https://www.ibanet.org/PPID/Constituent/Multi-displry_Pract/anlbs-ai-report

lance, monitoring and other (automating) technologies in the world of work, at least in parts of it, according to some of the most important trade unions in the country.

On the one hand, trade union researchers we spoke to agree that new technologies can, and should, be beneficial both for employers and employees; and in certain, specific cases, this potential is already being realized — for example, in the mining sector.

On the other hand, however, data and findings from the latest studies produced by trade unions in the country show a situation that is rapidly changing. And even though a systematic review encompassing the impact of new technologies on each and every field of work is missing, studies show that employees in certain sectors (for example, in sales and warehouses) mostly perceive these changes to be for the worse.

Beyond the world of work, automated decision-making systems deployed to *fully* automate the distribution of social benefits in municipalities such as Trelleborg and, more recently, Svedala were also subject to extensive critique from academia[33], civil society, journalism and unions themselves[34], therefore becoming instrumental in raising awareness around the societal and individual issues posed by an opaque digitization of public services.

As a result, a growing disconnect emerged between expectations and the actual impact of digital and automated technologies on workers and their rights. For example, while the corporate leaders in AI surveyed by Ernst & Young's Outlook for 2019 concerning its development in Sweden[35] expected Artificial Intelligence to benefit employees, and more specifically to "empower" them, a common trend identified in the studies and reports we consulted for this analysis increasingly shows the opposite.[36]

"Technologically neutral legislation? I stopped believing in it," concluded Simon Vinge, Chief Economist at the Academic Union SSR, in an interview. "The shift is big, and it made me change my mind." Our analysis indicates he is not alone.

MAIN TRENDS

Surveillance and automation are on the rise at Swedish workplaces, and have expanded well beyond the so-called "gig economy." The trade union representatives we spoke with for this analysis all agreed that it is reasonable to assume the deployment of all the forms of digital and intelligent monitoring of workers we can find in the most technologically advanced countries in the globe.

This expansive trend is apparent — and well-documented — in the commerce sector, as shown in a 2022 study[37] by Handels, the Swedish Commercial Employees' Union. In it, authors Cecilia Berggren and Jenny Wrangborg investigate the presence and perception of nine types of monitoring systems[38] in stores and warehouses in the country. What they found is the use of at least one of these systems to be "very prevalent" in both, affecting 94% of workers in stores and 97% in warehouses. In other words, this means that "anyone who is employed in a shop or in a warehouse is likely to be monitored at work"[39] by at least one system.

33 Anne Kaun (2022) Suing the algorithm: the mundanization of automated decision-making in public services through litigation, Information, Communication & Society, 25:14, 2046-2062, https://www.tandfonline.com/doi/full/10.1080/1369118X.2021.1924827

34 https://etidning.lokaltidningen.se/p/svedala/2021-03-06/a/robot-som-tar-beslut-far-kritik/2923/386935/19076071

35 The survey, conducted among "AI leaders in 277 companies, across 7 sectors and 15 countries in Europe", was commissioned by Microsoft, https://news.microsoft.com/uploads/prod/sites/153/2018/09/AI-report-Sweden.pdf

36 As a survey conducted by Kommunal, one of Sweden's largest trade unions, put it: "The results show an acute need to empower workers in relation to digitalization and threats to personal integrity at work". See 'Anna Spånt Enbuske (2019), '*Digitalization, work environment and personal integrity at work*', Transfer, Vol. 25(2) 235–242

37 Cecilia Berggren and Jenny Wrangborg (2022), '*Constant Surveillance at Work. Prevalence and Consequences of Monitoring in Commerce*', Handels

38 "CCTV, time clocks, physical exit controls, digital logging, individual sales performance monitoring, (stores only), mystery shoppers (stores only), pre-employment checks, alcohol and drug testing as well as GPS monitoring"

39 '*Ständigt övervakad på jobbet. Utbredning och konsekvenser av bevakning i handeln*', Handels Rapporter 2022:1, Kortversion

The average, however, is three, with one in four union members stating to be monitored by "five or more systems in place," Handels concluded.

Pervasive surveillance systems are rendered more insidious by the fact that they often operate without workers being aware of their deployment. Half of the 1,200 union members surveyed by Handels, in fact, claim that employers should "clearly inform" them on the personal data collected about them and on which monitoring systems are in operation — and yet they consistently fail to do so.

Even worse, "as many as 20 per cent of members in stores and 29 per cent of members in warehouses reply that real-time surveillance occurs in the workplace," writes the report, even though this is not legal.

As a result, almost four in ten consider workplace monitoring to be "intrusive," with "particularly negative effects" in their workload, their social interactions with colleagues, and their perception of the work environment. Importantly, the study found a significant correlation between lack of transparency and perceived intrusiveness of the monitoring systems adopted.

Another major trend, and established practice, is the absence of meaningful involvement of employees and trade unions in employers' decisions about the deployment and use of monitoring systems in the workplace. This is especially true of sectors with lower union presence, such as retail, sales, hospitality and parts of healthcare — German Bender, a doctoral student at the Stockholm School of Economics and Head of Investigations at Arena Idé, told us. Size matters, as "Sweden has a tradition of high density of unions and less hostility against unions by big companies."

But while the Swedish "Codetermination Act"[40] grants unions a legal right of influence over technological issues — obliging employers to consult with them when "important changes in work and employment conditions"[41] are brought about, for example by the introduction of a new monitoring system — this, in practice, ultimately rests on the employer's will, says Bender. Not an ideal situation, when "we can acknowledge that many of the employers do not seem to follow existing legislation," as argued in the 2022 Handels report.

Fredrik Söderkvist, a senior economist at Unionen — a Swedish trade union organizing white collar workers in the private sector — expressed similar thoughts in an interview: "There is a feeling that these systems are being used in unlawful ways rather than negotiated ways," he said, speaking of a "constant battle with some employers."

The same scenario is also portrayed by Akademikerförbundet SSR, a trade union whose members include "behavioral scientists, economists, public health scientists, personnel scientists, sociologists and other social scientists, but also managers and self-employed people."[42] In a 2020 survey of almost 10,000 of its members working in welfare, both in the private and public sector and in civil society, it concluded that "the large majority in all sectors have (...) had no influence on algorithms relating to the member's central duties," with civil society notably having no impact whatsoever.

This is a recipe for disaster, as data obtained from the union clearly show that implementation of new technologies at the workplace work much better when both unions and affected workers are involved, and when their deployment and goals are transparently stated and negotiated. The union goes as far as to conclude that "perhaps the most striking result of the survey is the difference in how well automation works between the employers who have involved employees and those who have not."

Another survey conducted by Kommunal, one of Sweden's largest unions, provides more nuance to

40 https://www.government.se/government-policy/labour-law-and-work-environment/1976580-employment-co-determination-in-the-workplace-act-lag-om-medbestammande-i-arbetslivet/

41 https://www.saco.se/en/lokala-webbplatser/akademikerforeningen-at-scania/about-af/trade-union-work-and-collective-agreement/Co-Determiantion_Act_MBL/

42 https://via.tt.se/pressrum/akademikerforbundet-ssr/mi?publisherId=3236019&item=image-3296983

this issue, by focusing on trade union safety representatives' involvement when employers introduce new digital systems and surveillance techniques in workplaces[43]. Their actual involvement "varied between fields," the survey found. Those in public transport were "involved in both decision-making and impact assessments" (*before* the introduction of the new system); school and day care safety representatives where "to a large extent" involved — but only in decision-making; rescue services representatives were only involved in impact assessments instead, the study claims.

This suggests that while certain trends are common to the overall Swedish context of work — increased surveillance, opaqueness of collected data, and a resulting plethora of negative effects, both physical and psychological — only a much more detailed analysis would highlight crucial differences in how they play out in the various sectors of the Swedish economy.

CASES

Opaqueness breeds distrust. Consequently, where lack of transparency is coupled with extensive surveillance, workers tend to be critical and skeptical of automated and technological solutions in the workplace. In its *All makt åt algoritmen, vår befriare?* report[44], for example, Akademikerförbundet SSR draws a discomforting conclusion: "Our responses show a widespread skepticism towards automated decisions among the public."

At the same time, authors "also see a nuanced view that whether something should be automated or not depends to a large extent on the type of decision" — and on the type of negotiation, we might add.

A clear example of this is described in a working paper by Bender and Söderkvist[45] detailing how a Swedish mining company, Boliden AB, successfully codetermined the deployment of its "Mining Automation Program"[46] together with trade union representatives.

The results we consulted are preliminary, and should therefore treated with caution (as the author themselves warn), and yet are strong enough to "provide examples of successful bargaining solutions over issues of contested terrain while highlighting the important role of institutional mechanisms that incentivizes trust building and intra-party dependence."

Through a series of in-depth, semi-structured interviews with both management and trade union representatives at Boliden, Bender and Söderkvist were able to unveil a series of virtuous codetermination processes, made possible by a pre-existing union-employer relationship based on mutual trust and cooperation[47], and at times even proactively promoted by the employer.

Here, we can observe how all the crucial elements of a good negotiating process highlighted as missing in the previous section are instead taken into careful consideration. Participation is described as a habit at Boliden, with the active inclusion of union representatives at "strategic for a." This allowed for a systematic flow of information between management and union representatives, including through "regular information meetings" — thus fostering transparency and constructive dialogue.

43 Anna Spånt Enbuske (2019), ibid.

44 *'All power to the algorithm, our savior?, Rapport 2021-04-29'*, Akademikerförbundet SSR, https://akademssr.se/sites/default/files/files/Rapport%20-%20All%20makt%20%C3%A5t%20algoritmen%2C%20v%C3%A5r%20befriare.pdf

45 *'Human centered or biorobotized automation? Codetermining algorithmic systems at an innovative mining company'*, Working Paper shared with us by the authors in its July 7, 2022 draft

46 "Examples of technologies in connected mines include autonomous or semi-autonomous (remotely operated) vehicles and equipment, active ventilation systems that adapt air flows according to real-time demand, and digital control rooms from which workers can oversee all of the mine's processes and communicate with others from distant locations".

47 "The union-management relationship at Boliden is self-described in our data as collaborative, productive, and mostly non-confrontational", the authors write.

Ultimately, this resulted in trust — and benefits for all parties involved. When, for example, Boliden approached Mobilaris, a supplier of an underground positioning system to help rescuing operations, it also "anticipated that there would be concerns regarding integrity and excessive surveillance among workers and their unions," according to the working paper. Consequently, the employer involved them in a round of discussions that resulted in the development of an anonymization feature.

"Based on this compromise," write the authors, "the employer and local unions signed collective agreements (formally codetermination protocols) for every mining site where the system is used, stipulating that the system can only to be used as a safety feature."

POLICY AND ADVOCACY

There is "no comprehensive legislation around personal privacy in working life," wrote Berggren and Wrangborg in their 2022 report. However, the monitoring of employees is regulated in labor law — such as the Work Environment Act[48] and the Co-Determination in the Workplace Act[49] — and in privacy regulations[50].

Consequently, the General Data Protection Regulation (GDPR) is "by far the most important piece of legislation" concerning new technologies in the workplace in Sweden, Bender told us in an interview. But is it enough?

The findings highlighted in the previous paragraphs — in terms of lack of participation and consultation of workers and trade unions as well as the widespread opacity around deployed systems — point to the opposite conclusion. Berggren and Wrangborg, for example, distilled a clear warning from their findings:

"The fact that the absence of comprehensive legislation makes the regulatory framework around privacy issues in working life difficult to understand and interpret for the individual employee is clear in our survey."

Whether this means that new legislation — including the EU's AI Act — should therefore fill the gaps in the existing normative framework is debated among the experts we interviewed. While all agree that Sweden already enjoys a sophisticated array of regulatory instruments, ideas diverge on what to do next — with some arguing that a better application of existing rules would suffice, and others calling for more specific measures concerning new and automated technologies in the world of work, especially concerning basic transparency requirements for automated decision-making systems (e.g., "see the code").

Berggren and Wrangborg, however, also detail some "Measures for a Better Work Environment and Privacy Protection in Working Life," entirely based on the application of existing — but disregarded — safeguards. According to them, employers should conceive monitoring as a last measure, avoid shifts in purpose, inform and involve employees and negotiate with trade unions.

As Vinge puts it in our conversation: "The more bargaining power you have the better the algorithms work for you."

/ ITALY

In Italy, the rise of remote monitoring tools in the context of work is met with strong legal protections — in fact, "the most advanced in the world," as a CGIL trade union member told us in one of the 11 interviews with labor experts, academics and workers' representatives conducted for this country analysis.

This is thanks to a mixture of old and new regulatory efforts. Since 1970, article 4 of the so-called "Workers' Statute" (law No. 300/1970)[51] has protected workers

48 https://www.government.se/government-policy/labour-law-and-work-environment/19771160-work-environment-act-arbetsmiljolagen/

49 https://www.government.se/government-policy/labour-law-and-work-environment/1976580-employment-co-determination-in-the-workplace-act-lag-om-medbestammande-i-arbetslivet/

50 Cfr. Berggren and Wrangborg (2022) for a more detailed overview.

51 https://www.altalex.com/documents/codici-altalex/2014/10/30/statuto-dei-lavoratori

from both the direct and indirect monitoring of their activities and, even though watered down in the 2015 "Jobs Act" reform, most of its safeguards are still in place[52].

Now, additional protections can be found in emerging — and again, internationally significant — jurisprudence on platform work (first and foremost, the June 2021 ruling by the Bologna tribunal against food delivery company Deliveroo[53]), and the proactive role of the Data Protection Authority on platform work (e.g., by dealing an unprecedented 2,6 million euros fine to another food delivery company, Foodinho[54]).

In 2022, transparency and accountability requirements have also been introduced[55] for algorithmic management in the workplace thanks to Italian reception of the EU's "Transparency Directive", with the "Decreto Trasparenza" (D. Lgs. 104/2022)[56] .

While there is a general agreement around the urgent need to better train trade union representatives on the complex issues raised by the introduction of new technologies and data practices in the world of work, awareness of such issues has also increased among workers' representatives in the country.

At the same time, however, this is still mostly limited to platform work and "the Amazon Panoptycon"[57] — and therefore to the tip of the monitoring iceberg, surveyed experts agree. Public debate and extensive research on the plethora of devices adopted in Italian workplaces are also missing, even though an increasing number of studies — at times produced by trade unions themselves — is rapidly filling gaps in how Artificial Intelligence, the Internet of Things, automation and digitization more broadly are impacting workers' rights[58] and social dialogue in specific sectors of economic activity: transport[59], construction[60], banking, logistics and manufacturing[61], among others.

This does not however mean that algorithms are always deployed carefully in the context of work in Italy. On the contrary, not even the spectacular failure

52 After the reform, collective agreements or administrative authorization are still required to introduce "technological tools and monitoring technologies which only indirectly lead to the remote control of workers' activities (Article 4, paragraph 1)", write researchers Ilaria Armaroli and Emanuele Dagnino, "but they do not apply to the introduction of working tools and systems for registering the access and presence of employees at work (Article 4, paragraph 2). Moreover, the employer can now make use of the information collected from lawfully introduced monitoring technologies, from work equipment and from the working tools used by the employee «for any purpose related to the employment relation»", including for disciplinary measures. From Ilaria Armaroli and Emanuele Dagnino (2019), *A Seat at the Table: Negotiating Data Processing in the Workplace. A National Case Study and Comparative Insights*, Forthcoming, A Special Issue of the Comparative Labor Law & Policy Journal on „Automation, Artificial Intelligence, and Labour Protection" guest-edited by Valerio De Stefano, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3403729 For a more detailed legal explanation: https://www.albeeassociati.it/i-controlli-a-distanza-la-riforma-dellart-4-dello-statuto-dei-lavoratori/

53 https://www.wikilabour.it/wp-content/uploads/2021/07/20210630_Trib-Bologna.pdf

54 https://www.garanteprivacy.it/home/docweb/-/docweb-display/docweb/9677377

55 In part, thanks to AlgorithmWatch's contributions to the 'Working Group on Algorithmic Governance and the Future of Work' created by the Labour Ministry of Mario Draghi's administration, https://www.lavoro.gov.it/notizie/Pagine/Digitalizzazione-una-governance-dei-dati-piu-democratica-e-che-tuteli-le-persone.aspx

56 https://www.lavoro.gov.it/temi-e-priorita/rapporti-di-lavoro-e-relazioni-industriali/focus-on/Lavoro-trasparente-D-lgs-n-104-2022/Pagine/default.aspx

57 Cfr. '*La vita nel Panopticon Amazon. Un'indagine internazionale sui lavoratori Amazon*', UNI Global Union, 2023, https://uniglobalunion.org/wp-content/uploads/UNIAMZN_Public_Report_IT.pdf

58 A current example is the '*GDPiR: Managing Data Processing in the Workplace through Industrial Relations*' project. Co-funded by the European Commission, coordinated by the FIM-CISL trade union, and conducted together with ADAPT (a non-profit research organization founded by prominent jurist Marco Biagi in 2000) and several academic institutions, the project aims at providing trade unionists "with adequate information and training in order to manage the dynamics connected to workers' data processing and to data processing in the workplace in the broad sense", https://moodle.adaptland.it/course/view.php?id=458

59 Cfr. '*Trasporti 4.0. Innovazione, qualità del lavoro e azione sindacale: tendenze e prospettive sulla base di casi di studio*', Fondazione Di Vittorio and FILT-CGIL, 2023, https://www.fondazionedivittorio.it/it/trasporti-40-innovazione-qualit%C3%A0-del-lavoro-e-azione-sindacale

60 Daniele Di Nunzio and Serena Rugiero (2021), *Digitalization and industrial relations in the Construction sector: national case studies in six European Countries*, Discus Project Report, https://www.academia.edu/59892218/Digitalisation_and_industrial_relations_in_the_Construction_sector_national_case_studies_in_six_European_Countries

61 '*Digitalization and Restructuring: Which Social Dialogue? Lessons from the DIRESOC project*, DIRESOC, https://orbi.uliege.be/bitstream/2268/255127/1/Diresoc-WP4%20Synthesis%20Report%20VF.pdf

of the "Buona Scuola" algorithm for teachers' mobility[62] during the Renzi administration could prevent another algorithmic disaster from happening, over the last months, for education workers — this time, affecting substitute teaching rankings, and therefore thousands of precarious teachers[63].

Much has still to be done to fully understand the use and impacts of monitoring technologies in the Italian world of work.

MAIN TRENDS

Monitoring technologies are increasingly widespread in Italy, even though they are still rudimentary in most working sectors, experts we spoke with for this country analysis argue.

Antonio Aloisi, an assistant professor of European and Comparative Labour Law at IE Law School, Madrid, who is currently researching their impact in industries such as consultancy, banking, logistics and commerce, told us that "the adoption of algorithmic management technologies is still in its infancy." Collaborative tools such as Microsoft 365 look, for example, ever more common in white-collar jobs, but their algorithmic management capabilities are still mostly unexplored by employers.

At the same time, however, Aloisi warned that this does not necessarily prevent employers from establishing sophisticated tasks and practices through simpler technological devices.

Some of the legacy tools in use concern badge entry systems for registering the access and presence of employees at work, systems to monitor working hours, and systems for storage management. To the list, ADAPT researcher Diletta Porcheddu added geolocation technologies implemented for workers' safety, and data loss prevention systems, aimed at protecting the personal data of both clients and suppliers. These tools are typically subject to collective negotiation, she claims.

Porcheddu also concurs with Aloisi in saying that the most advanced monitoring systems — such as keystroke logging systems, and systems to rate the performance of remote workers — are still not widely adopted, "except for in big companies, which are usually more technologically advanced." A systematic review of "1,161 workplace-level collective agreements included in the ADAPT database and signed between September 23, 2015 (the day the Legislative Decree No. 151/2015 came into force) and December 31, 2018" by Ilaria Armaroli and Emanuele Dagnino[64] provides some analytical weight to it, concluding that just 6,6% of the agreements concerned "employee data protection and processing," and only 20 of them regarded "modern technologies."

Advanced digital monitoring and algorithmic management of work are notoriously more prominent in contexts such as call centers, the gig economy, and Amazon warehouses, with a concerning acceleration in remote education[65] and work due to the COVID-19 pandemic — and Italy provides no exception.

For example, even though the Italian Labor Inspectorate (Ispettorato Nazionale del Lavoro, INL) stated in a 2017 pronunciation[66] that software adopted in call centers to monitor telephone activity and operators' performance would amount to a "constant and continuous individualized monitoring of all operators," and therefore should not to be authorized for use, pervasive surveillance technologies have been deployed in such environments nonetheless — even

62 https://algorithmwatch.org/en/automating-society-2019/italy

63 https://www.avvenire.it/attualita/pagine/lalgoritmo-non-funziona-prof-precari-assegnati-a-caso

64 Armaroli and Dagnino (2019), *ibid*.

65 For example, in September 2021 the Italian Data Protection Authority issued a 200,000 euros fine to the Luigi Bocconi University for using proctoring software from Respondus. The (private) University had been using it over the COVID-19 pandemic to monitor students during remote exams, but failed to sufficiently inform them about the processing of their personal data and even processed their biometric data without a legal basis — as written by EDRi, https://edri.org/our-work/no-biometric-surveillance-for-italian-students-during-exams/

66 Circolare INL 4/2017, https://www.ispettorato.gov.it/it-it/orientamentiispettivi/Documents/Circolari/INL-circolare-4-2017-call-center-e-videosorveglianza.pdf

adopting technologies to monitor and assess the tone, empathy and posture of phone operators, the experts we interviewed claim.

But while the rapid automatization of many aspects of working life and environments can bring about several foundational issues for workers and work in general — as most apparent in the heated debates (and court litigations) stimulated by the rise of the "gig economy" in the country —, it can also lead to more nuanced trade-offs. In a 2023 report by FILT-CGIL and Fondazione Di Vittorio, for example, one of the most striking findings is that the introduction of AI and automation technologies in transport work simultaneously implied new potential challenges for workers' rights and clear opportunities to (significantly) better protect their safety — at least, for some of them[67].

In general, our interviews showed that the potential benefits of these technologies are more easily produced when workers' representatives are proactively and collaboratively involved not just in defending employees' data privacy, but also — or first and foremost — when they can participate in defining the very goals, scope, and organizational impact of the new technologies that are being discussed for implementation.

This signals a broader tension between defensive (i.e., focused on data protection) and proactive (focused on participation and co-determination) approaches to the protection of workers' rights, one that has clearly emerged over the course of our investigation — and can be more easily shown in some of the specific use cases that follow.

CASES

Transparency and participation can make a difference in how the introduction of new technologies is perceived, negotiated and implemented in an organization. An example of this comes from 2022, when Santander Consumer Bank decided to adopt a data loss prevention (DLP) system to "identify and prevent the illicit distribution" of the workers' personal data managed by the bank. In particular, the company not only scrupulously respected art. 4 of Workers' Statute, thus involving workers' representatives in the decision from start to finish; it also made an exception to the provision, introduced with its 2015 reform, that would have allowed the employer to make use of data collected by the new DLP system for the assessment of workers performance and disciplinary measures. Both negotiating parties agreed that this would not be the case, at least for the first three months of deployment. The bank also respected GDPR obligations, and expressed a commitment to inform workers' representatives of the actual functioning of the system and the specific ways in which it would treat the personal data of employees. Lastly, both parties agreed on an annual meeting in which to jointly verify and discuss the impact of the system on the organization and on workers themselves. The ability to reach such an agreement, signed in October 2022 with FABI and Fisac-CGIL "is not banal," argues an ADAPT Bulletin[68], showing the value and importance of "social dialogue" in achieving optimal "collective solutions."

On the other side of the spectrum, that of opacity and exclusion, sits the example of the so-called "GPS algorithm"[69] adopted to more efficiently sort and assign some 850,000 substitute teaching requests all over Italy. Thousands of mistakes ensued instead. Why? Details are still shrouded in mystery, and it took freedom of information requests by Wired Italy journalists[70] to get even the most basic functioning criteria and standards included in the algorithm. While many questions around its failure are left unanswered, it is interesting to find that its developers — a consortium led by Enterprise Services Italia and Leonardo — trialed the algorithm and considered its results good

67 *'Trasporti 4.0. Innovazione, qualità del lavoro e azione sindacale: tendenze e prospettive sulla base di casi di studio'*, FILT-CGIL and Fondazione Di Vittorio, Edited by Daniele Di Nunzio, Cecilia Casula, and Chiara Mancini' (2023), https://www.fondazionedivittorio.it/it/trasporti-40-innovazione-qualit%C3%A0-del-lavoro-e-azione-sindacale-tendenze-e-prospettive-sulla-base

68 https://farecontrattazione.adapt.it/per-una-storia-della-contrattazione-collettiva-in-italia-123-la-tutela-dei-dati-dei-lavoratori-e-non-solo-in-santander-consumer-bank-s-p-a/

69 https://algorithmwatch.org/en/algorithm-school-system-italy/

70 https://www.wired.it/article/algoritmo-scuola-supplenze-ministero-istruzione-sindacati/

enough to proceed to deployment without further stress tests.

POLICY AND ADVOCACY

Important transparency requirements for algorithmic management tools have been introduced in the Italian world of work with the so-called "Decreto Trasparenza" (D. Lgs. 104/2022). These came, at least in part, as the result of a dialogue between the Labor Ministry — then led by minister Andrea Orlando within the Draghi government — and a group of experts gathered in the "Working Group on Algorithmic Governance and the Future of Work." The transparency requirements were developed over remote calls and a constant exchange of ideas and documents[71].

According to the new legislation[72], employers who adopt automated decision-making and monitoring systems are first of all obliged to inform workers of their adoption, when used in hiring and layoffs, tasks assignment, surveillance[73], and performance assessment (art. 1-bis, comma 1). More specifically (comma 2), this information should concern 1) which aspects of the employment relationships are affected by the introduction of the system, 2) its scope and goals, 3) its logics and functioning, 4) which categories of data and parameters were used to program or train the system, 5) which safeguards are in place for wrong automated decisions, 6) its accuracy, robustness and cybersecurity. Workers have a right to access these data, either directly or through their representatives (comma 3), and these should be communicated transparently, in structured form and in machine-readable formats[74].

A separate, but crucial, policy development concerns platform work. As a result of a legal action brought by the local trade unions of Federazione Italiana Lavoratori dei Trasporti (Filt CGIL of Bologna, Filcams CGIL of Bologna and Nidil CGIL of Bologna), the Court of Bologna ascertained[75] — in July 2021 — the discriminatory nature of the "FRANK" algorithm used by Deliveroo to elaborate the booking of work sections through a score based on two parameters: reliability and participation[76]. According to this system, higher scores translated into a priority in choosing working shifts. However, the algorithm failed to distinguish legitimate and illegitimate reasons for abstaining from work, and therefore "if the worker was, for any reason including for illness, obliged to waive his/her availability less than 24 hours prior to the shift, he/she would be downgraded and have to build up his/her ranking again."[77] This affected for example a worker's right to strike, which is a Constitutional right.

Silvia Simoncini, a trade unionist at Nidil CGIL, told us that "while this ruling has not yet been replicated in any other European countries, it is significant at European level — and will be used as a model for further rulings." Interestingly, the ruling produced some corrective effects on actual practices in platform work — these ranking systems have effectively disappeared from the Italian food delivery scenario, she told us —, even as the debate on the subordinate versus freelancing nature of the riders' working relationship with the platforms is still raging in the country.

All of these developments point to further reasons for advocacy. Di Nunzio for example vehemently posed the issue of "getting the data" from such platforms, which could now be more readily enacted. Furthermore, ADAPT researchers now look at Germany as a role model for the future of algorithmic accountabil-

71 I was included in the 'Working Group', representing AlgorithmWatch's positions on these matters.

72 https://www.normattiva.it/atto/caricaDettaglioAtto?atto.dataPubblicazioneGazzetta=2022-07-29&atto.codiceRedazionale=22G00113&atto.articolo.numero=0&atto.articolo.sottoArticolo=1&atto.articolo.sottoArticolo1=10&qId=602471bb-12fb-4b55-9e43-c3253a0b67dc&tabID=0.2904989883535549&title=lbl.dettaglioAtto

73 Wearable devices, facial recognition technology, geolocation, ranking and rating systems are explicitly included in an explanatory note published by the Labour Ministry, https://www.lavoro.gov.it/documenti-e-norme/normative/Documents/2022/Circolare-19-del-20-09-22.pdf

74 https://www.ispettorato.gov.it/it-it/notizie/Documents/INL-circolare-4-2022-chiarimenti-decreto-trasparenza.pdf

75 https://www.cgil.it/la-cgil/aree-politiche/contrattazione-e-mercato-del-lavoro/2021/07/02/news/rider_cgil_grande_rilevanza_sentenza_tribunale_di_bologna_che_condanna_deliveroo-1420450/

76 https://irel.fmb.unimore.it/italy-order-of-the-court-of-bologna-frank-is-a-discriminatory-algorithm/

77 https://industrialrelationsnews.ioe-emp.org/industrial-relations-and-labour-law-february-2021/news/article/italy-bologna-labour-court-held-a-previously-used-algorithm-of-a-platform-company-as-discriminatory

ity — asking for example for the possibility of external expert help to trade unions to better co-design algorithmic management practices[78].

/ POLAND

In Poland, studies and activities concerning the algorithmic management of work mostly concentrate on gig work, call centers and warehouses, where it is notoriously pervasive. However, the experts we interviewed for this country analysis agree on the increasing normalization of digital monitoring and surveillance of workers in a much broader set of working environments.

"Across all domains there is a lot of classic time and task management, often coming from the West and through BPO/SSC (Business Process Outsourcing and Shared Services Centers, ndr) sector which is booming", claimed Jan Zygmuntowski, a lecturer at the Kozminski University and Director at CoopTech Hub, the first center for platform cooperatives in Poland, in a written response. "Surveillance is the harshest in IT, including software for taking pictures of screen, mouse and keyboard movements, and more," he added, while task and time management tools are deployed in other high-skill professions, especially for zero-hour contracts — called "trash (*śmieciówki*) contracts" in Poland.

The general trend is clear: "We are observing the progressive algorithmization of the employee-employer relationship", as Karolina Iwańska, a former lawyer and policy analyst at the Panoptykon Foundation, put it, and this — similarly to other countries — "has been especially intensified by the pandemic."

As a result, the algorithmic supervision of work and automated task assignments have effectively become "the everyday reality of a growing group of employees" in the country[79], leading Zygmuntoswki to claim that "digital Taylorism" is "increasingly common" in Poland[80].

Think tanks and the digital rights community are considered "first movers in this field", whereas Polish "unions are still weak," added Joanna Bronowicka, a leading expert and co-author of an important 2020 report on workplace surveillance in Germany and Poland[81]. But while their activism in the area of algorithmic management is commonly defined as "minimal" in our interviews[82], some initiatives have been put forward — for example, by the National Trade Union Inicjatywa Pracownicza against Amazon[83], accused of illegally profiling its employees. This was based on EU data protection legislation (GDPR), thus providing an exception to the general feeling, shared by some of the experts we consulted, that its introduction had no tangible effects on the Polish world of work.

Trade unions also started experimenting with — and, since July 2022, successfully deploying — the use of digital technologies to provide immediate assistance to Polish workers on matters related to labor law — in particular, by developing the pracujdogni.pl ("Work with Dignity") platform and the Nadzieja ("Hope") chatbot[84].

Most recently, Polish researchers have also been producing literature that aims to better inform and

78 https://www.bollettinoadapt.it/in-germania-un-nuovo-progetto-di-legge-punta-a-rafforzare-la-codeterminazione/

79 https://panoptykon.org/wiadomosc/ai-w-pracy-kto-chce-uregulowac-niewidzialnego-szefa

80 https://spidersweb.pl/plus/2022/05/zwiazek-zawodowy-algorytmy-praca-kontrola-lewica

81 Joanna Bronowicka, Mirela Ivanova, Wojciech Klicki, Seán King, Eva Kocher, Julia Kubisa, and Justyna Zielińska (2020), *'Game that you can't win?' Workplace surveillance in Germany and Poland*, Frankfurt (Oder): European University Viadrina, https://opus4.kobv.de/opus4-euv/frontdoor/deliver/index/docId/494/file/Workplace_Surveillance.pdf

82 Bronowicka et al. (2020) argue that not even the "changes in the Labour Code that came in 2018" were enough to "provoke a broader public debate on the privacy and monitoring of workers. Significantly, trade unions did not spur or engage strongly in a public discourse about the acceptability, pros and cons of workplace monitoring"; furthermore, trade unions and the national labour inspectorate "are not active on the national level in creating and engaging in a discourse about the monitoring of workers".

83 https://krytykapolityczna.pl/swiat/ue/zarzadzanie-algorytmiczne-w-magazynach-amazona-w-europie-srodkowej/

84 https://www.hub.coop/nadzieja/

promote further and more effective interventions by trade union representatives in the country[85], properly address the issue of AI subjectivity in employment relations[86], and adopt the notion of "autonomous subordination" developed in Polish jurisprudence to amend labor law in such a way that it better addresses the use of AI-based performance metrics on employees[87].

As University of Lodz researcher and assistant professor Marta Otto wrote in her forthcoming "Privacy @ Work", which we could consult in draft, specific provisions concerning the electronic monitoring of workers — more specifically, via camera surveillance, e-mail, Internet and social media monitoring — and the collection and treatment of their biometric data were implemented in 2018, with the introduction of Art. 22 of the Labor Code.

Strikes and protests by gig workers — for example, in Gdańsk and Białystok against a non-negotiated change in the algorithm determining remuneration[88]—, together with the publication of surveys that problematize algorithmic surveillance in platform work, could further complicate the generally positive attitude that, according to interviews, the country long held towards business-driven innovation.

As the head of the Human-Machine Interaction Research Center at Kozminski University and the Leader of the AI in Management Program, Aleksandra Przegalinska, put it in a Zoom interview, "attitudes towards innovation are now fuzzy, chaotic, and dependent on the sector."

MAIN TRENDS

Trends on data practices and algorithmic management in Poland can only be partially detailed due to limited focus of available data and studies in the field, and to the fact that these mostly concern platform work, call centers, logistics and warehouses.

The normalization of surveillance technologies at work has been investigated in the specific setting of call centers in Bronowicka et al. (2020). Through a series of in-depth interviews with 11 staffers at different hierarchical levels in the same Polish company, the researchers have been able to draw some preliminary conclusions about their general work experience, the monitoring practices adopted, and their attitudes towards surveillance in the workplace.

Interestingly, the study found that monitoring is not directly brought up as a "significant source of discontent"[89], and is mostly portrayed positively or in neutral terms[90] instead — even though, at the same time, "workers claim that their work is monitored 'to the second'", and that "they are under surveillance from the moment they enter the building". This can result in significant distress, as shown by the direct experience of other call centre workers[91]. Participants in senior management position even claimed to expect the introduction of emotion recognition technologies within the next 2-3 years.

85 Cfr. Paweł Novik (2022), *New Challenges for Trade Unions in the Face of Algorithmic Management in the Work Environment*, Studies in Labor Law and Social Policy, Vol. 29, 2, pp. 121-143

86 Krzysztof Stefański (2022), *The Issue of the Subjectivity of Artificial Intelligence Acting for an Employer*, Studies on Labour Law and Social Policy, Vol. 29, 2, pp. 95–103. In the context of the Polish Labour Law, argues the author, AI cannot be considered an employer — and yet, several tasks that were typically performed by human employers are now automated. This warrants a more sophisticated conclusion: while "conferring full subjectivity on Artificial Intelligence with regard to employment relations and granting it the right to employ workers is not only premature, but even seems to fall under the category of futurology", wrote Stefański in his concluding remarks, "it is worth reflecting on the possible episodic or partial subjectification of AI."

87 Michał Barański (2022), *Initial Remarks on Artificial Intelligence and Axiological Foundations of Labour Law*, Studies on Labour Law and Social Policy 2022, Vol. 29, 2, pp. 85–93, in which "autonomous subordination" is characterized as "the assignment of tasks by the employer to the employee without interfering in the way these tasks are performed"

88 https://spidersweb.pl/plus/2021/05/kurierzy-glovo-strajk-protest-aplikacja-black-mirror

89 Except for the monitoring of breaks

90 "Here are some examples of the responses we heard after asking interviewees how they felt about monitoring in their workplace: 'it enables work, makes work easier'; 'it is indispensable in this industry'; 'we do not pay attention to it'; 'I do not talk about it and do not think about it'; 'I am used to being monitored'; 'thanks to it is easy to catch people who avoid work' ; 'without monitoring there would be no commitment'; 'it is good for employees because it gives a sense of equality'"; in Bronowicka et al. (2020), *ibid*.

91 See for example https://spidersweb.pl/plus/2021/09/algorytm-infolinia-praca-zarzadzanie-sztuczna-inteligencja

Participants also showed a general lack of awareness concerning their privacy rights in the context of workplace monitoring. Actually, "nothing was said about what the GDPR means for the employees and whether it has changed something in their situation at work. When we asked the operators about it," wrote the researchers, "they said that the GDPR has changed nothing and has no impact on their situation in their workplace."

Surveillance seems to be perceived as "a normal workplace technology" in the studied company, and mostly framed in solutionist terms — i.e., "as a technological issue, rather than a social one," the authors concluded.

Similar methods have been adopted in Poland to survey gig workers in different respects that are related to algorithmic management: on the precarization of work for Uber drivers[92], on the impact of the COVID-19 pandemic on Glovo couriers[93] and on the job quality gaps between migrant and native gig workers[94].

Results are at times contradictory, possibly due to the very limited size of the samples[95]: for example, while "preliminary conclusions do not confirm the precarity of the work of bicycle couriers" (Bronowicka, 2020), "the results of the study" on Uber drivers (Bronowicka, 2019) "show that the work they perform can be characterized as precarious."

A bigger sample (372 respondents[96], 1/3 of which migrants) is included in Kowalik et al (2022), which documents how the gig economy might have very different consequences on migrant and native gig workers. In fact, "migrants work longer hours and are less satisfied with their jobs than otherwise similar native platform workers", the authors wrote. "They also endure more deprivations and a low multidimensional job quality significantly more often than native workers."

Recent migrants are even more disproportionately affected: "Working conditions of recent migrants seem to be particularly concerning, as they work 28% longer and earn 37% less than Pole," the researchers found. And while more than half of the Poles (56,2%) are satisfied with platform work, this is only true of 41,4% of migrants — and just 28% of recent migrants.

CASES

Polish researchers provided important contributions in designing chatbots that might be used collaboratively in workplace environments. Konrad Sowa, Aleksandra Przegalinska, and Leon Ciechanowski for example investigated in a 2021 paper[97] the possibility of designing enterprise bots that can operate like "cobots": instead of competing with human skills — and jobs —, they could instead be used "to collaborate with humans on shared tasks", potentially leading to productivity increases.

More specific to Poland, and in direct response to workers' needs, is the design and deployment of the pracujgodnie.pl ("Work with Dignity") platform and the Nadzieja ("Hope") chatbot to "convey knowledge about employee rights in the most effective form",

92 Dominika Polkowska (2019), *'Does the App Contribute to the Precarization of Work? The Case of Uber Drivers in Poland'*, PACO, The Open Journal of Sociopolitical Studies, Issue 12(3), pp. 717-741, http://siba-ese.unisalento.it/index.php/paco/article/view/21275

93 Dominika Polkowska (2020), *'Platform work during the COVID-19 pandemic: a case study of Glovo couriers in Poland'*, European Societies, Vol. 23, https://www.tandfonline.com/doi/abs/10.1080/14616696.2020.1826554

94 Zuzanna Kowalik, Piotr Lewandowski, and Paweł Kaczmarczyk (2022), *Job quality gaps between migrant and native gig workers: evidence from Poland*, IBS Working Paper, Institute for Structural Research, University of Warsaw, https://ibs.org.pl/en/publications/job-quality-gaps-between-migrant-and-native-gig-workers-evidence-from-poland/

95 Ten Uber drivers, 20 Glovo riders in Polkowska's studies.

96 Interestingly, the authors write that "The primary method used to recruit respondents to complete the survey was Facebook advertising targeted at delivery and ride-hailing workers". This is how they explain the rationale for their methodological choice: "Facebook allows targeting ads by age, gender, location/log-in and language used in the app by the ad recipient so that the survey invitation reaches a diverse group of people providing platform work".

97 Konrad Sowa , Aleksandra Przegalinska, Leon Ciechanowski (2021), *Cobots in knowledge work. Human – AI collaboration in managerial professions,* Journal of Business Research 125, pp. 135-142

that of "individual conversation."[98] The stated aim of the initiative by the National Alliance of Trade Unions (OPZZ) is that of supporting workers not just from Poland, but also from Ukraine and Belarus, by streamlining the voluntary work of trade unions through a set of predetermined answers ("decision tree" model). No Artificial Intelligence is involved, told us Zygmuntowski, program director at CoopTech Hub, the cooperative technology centre in charge of implementing these digital solutions. Even though the use of large language models (LLMs) was considered, it was in the end rejected: "All the tests with LLMs that we did," argues Zygmuntowski in a written reply to our questions, "convinced us that the current state of AI produces well-sounding, but inherently useless advice when it comes to keeping it strictly within the confines of Polish law and having some common sense."

A different route was picked instead: "We opted to build a small working group across industry unions and activists, and probe the typical issues they are confronted with. We then worked with them on ideal solutions and advice. We also translated the conversations to Ukrainian and Russian to help refugees seeking jobs avoid illegal practices. Overall, it amounted to about 315 pages of conversation choices," writes Zygmuntowski, which were then implemented in an off-the-shelf chatbot maintained by the Tidio SaaS provider — good enough for the needs of most employees.

Were further assistance needed, then a human operator could also be reached through the platform — even though Zygmuntowski admits that "we have about 100 messages in the mail box, which should be taken up by live operators because the bot wasn't enough, and the user requested more help. But so far OPZZ didn't have the funds and capacity to look into them, and only recently they had one person to sift through."

According to Tidio data provided to us by Zygmuntowski, the chatbot received some 147,000 visits in its first six months of operation.

98 Which is assumed as more effective than mere access to labour law, https://www.hub.coop/nadzieja/

POLICY AND ADVOCACY

A first step towards greater transparency and accountability in algorithmic management practices in Poland has been proposed in May 2022 by the country's Left, in draft amendments to the Labor Code that came as a result of the work of the parliamentary subcommittee on digital algorithms[99]. Panoptykon reported that the drafts included granting unions the right to access "parameters, rules and instructions on which algorithms or Artificial Intelligence systems are based, which affect decision-making that may impact working conditions, access to and retention of employment, including profiling."

According to one of the co-leaders of Left Together and member of the Sejm, Adrian Zandberg, the main idea behind the proposal is "to give employees an insight into the principles by which they are assessed. If the work is driven by software, the union would be given access to its assumptions. Then employees will be able to check what labor standards actually apply to them." To Zandberg, this is necessary "to improve the situation in industries such as logistics."[100]

While applauding the initiative as a welcomed step in the right direction — showing that "problems raised by employees managed by algorithms are increasingly penetrating the awareness of Polish politicians" — the Panoptykon Foundation however noted that it would only represent "an absolute minimum" safeguard against monitoring algorithms. Consequently, it argued for a wider scope: "taking into account the fact that in Poland we are dealing with a low level of unionization," the Foundation wrote, "it would seem reasonable that all employees — not only those associated in unions — could obtain information about the functioning of algorithms affecting their working conditions."

Also, as "the lack of consultation before introducing changes to algorithms, e.g., organizing work or cal-

99 https://panoptykon.org/wiadomosc/ai-w-pracy-kto-chce-uregulowac-niewidzialnego-szefa

100 https://spidersweb.pl/plus/2022/05/zwiazek-zawodowy-algorytmy-praca-kontrola-lewica

culating remuneration, is one of the main problems reported by people subjected to the algorithm," an obligation on the part of the employer to consult employees and jointly assess the impact of the proposed algorithmic solution before its deployment should be added, according to Panoptykon.

This call for stricter transparency requirements and regulation is shared by many in Poland. Bronowicka et al. (2020) for example concluded that "experts from both" Germany and Poland "still consider current legislation on workplace monitoring as too imprecise," and that the weight of the GDPR still has to be felt. Barański (2022) argued that "some fundamental legislative changes in labor law, (...) in the case of an employee's performance of AI-dependent work, are necessary, and this necessity will grow with further technological development."

Even more fundamentally, Kowalik et al. (2022) noted that "in Poland, as in other CEE[101] countries, there is no legal definition of online/digital labor platforms. No legislation nor policy framework indicates whether gig workers should be recognized as employees or self-employed. No court cases have challenged their status, there have been no examples of collective bargaining, and no important mass strikes that would attract the public's attention."

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