DIGITALIZATION AND PUBLIC SERVICES: A LABOUR PERSPECTIVE

SUMMARY OF THE PSI REPORT

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**DIGITALIZATION AND PUBLIC SERVICES: A LABOUR PERSPECTIVE**

This summary was prepared by the PSI Secretariat on the basis of the full report commissioned by PSI to Eckhard Voss, Wilke Maack GmbH in Hamburg and Raquel Rego, University of Lisbon in September 2019

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The report “Digitalisation and Public Services: a labour perspective” provides a global overview and policy guidance for public services unions to ensure digitalisation lives up to its promise to enhance public service quality, effectiveness and accessibility for users, while improving working conditions and creating decent employment opportunities.

It looks at the shapes digitalization is taking in different public service sectors worldwide; how it affects delivery, quality and access; employment, working conditions and labour rights; what public service trade unions are doing about it; and what regulatory and governance considerations can be drawn from this review.

The research is based on the review of all main PSI sectors and on an interview sample of 20 public service trade unions representatives from all continents. The findings show that much of the impact of digital technologies on public services depends on how these are regulated and used, and on whether workers and their unions have a say or not on their development and introduction at the workplace. It was commissioned by PSI with the support of the Friedrich Ebert Stiftung (FES), and elaborated by Eckhard Voss, Wilke Maack GmbH in Hamburg and Raquel Rego, University of Lisbon.
It finds that digital technologies can improve public service quality and access and contribute to democratic accountability and citizens’ trust in public institutions, while advancing workers’ occupational health and safety (OSH). At the same time, it shows those same technologies can open the door to public service privatization, create a dangerous dependency of public institutions on private digital technology providers, and deepen inequalities among public service users.

The review concludes that:

- The introduction of digital technologies in public services is frequently driven by private corporate interests.
- Corporate-led digitalisation is regularly associated with major public service user and data privacy abuse, resulting in a worsening of public service quality and efficiency.
- Cost-cutting driven digitalisation tends to replace and slash public service jobs. It often uses new technologies for worker surveillance and performance monitoring, increases working time and extends job tasks.
- It is urgent to establish an adequate regulatory framework for the introduction and use of digital technologies in public services and their workplaces. Such regulation must be developed in close dialogue with public services workers and their trade unions through meaningful participation, information and consultation, and by negotiating relevant wording in collective agreements.

Digitalisation and artificial intelligence are changing the way public services function for both users and public service workers. The way governments deal with the digitalisation process will influence those changes. Their actions will have negative outcomes if governments see digitalisation as a way to outsource functions, further abdicating their responsibilities and power. On the other hand, positive results could flow from governments leading the digitalisation process, defining rules, setting limits and implementing control procedures that can improve working conditions for public employees and make services more responsive and accessible for users.

Rosa Pavanelli
General Secretary
Public Services International
In line with its 2017 Congress Programme of Action, Public Services International (PSI) decided to prioritize work on digitalization and commissioned this report with the support of the Friedrich Ebert Stiftung (FES), with the purpose to provide a first global overview of the introduction of digital technologies in public services. The report was elaborated by Eckhard Voss, Wilke Maack GmbH in Hamburg and Raquel Rego, University of Lisbon.

The report aimed to look at:
- the shapes digitalization is taking in different public service sectors;
- how it affects delivery, quality and access;
- employment, working conditions and labour rights;
- what public service trade unions are doing about it; and
- what regulatory and governance considerations can be drawn from this review.

It was also meant to serve as a basis for debate and consultation among public service trade unions worldwide to define shared policies and prioritize joint actions to ensure digitalization lives up to its promise to enhance public service quality, effectiveness and accessibility for users, while improving working conditions and creating decent employment opportunities.

The report involved desk research, interviews and the review of materials gathered from a sample of 20 trade unions from all continents affiliated to PSI (10 from Europe, two from Latin America, three from Asia-Pacific and three from Africa). Interviews were facilitated by PSI and carried out by contracted researchers between end 2018 and early 2019. Interviews were conducted in English, French, Spanish, German, Portuguese, and Swedish and covered all main PSI sectors: central government; local and regional (municipal) government; utilities (electricity, water and waste services); health and social services; education and culture; firefighters, police and emergency services. The organisations that participated in the study are listed under annex 1 (p.19).

The report is divided in five chapters:

1. overview and sectoral analysis;
2. impact on public service quality, effectiveness;
3. impact of digitalization on employment and working conditions in public services;
4. trade union policies and initiatives to influence and shape the digital transformation processes in public services;
5. conclusions and recommendations on how to turn digitalization into a driver for better public services and jobs for all while identifying strategic areas for future research.
The introduction of new digital technologies in communication, production and administration processes has become one of the key drivers of change in economies and societies worldwide. The spread of smartphones, tablets, sensors, smart devices, chatbots, cloud computing, big data gathering and analytics, blockchain technology, Internet of Things (IoT), machine learning, artificial intelligence (AI) and virtual reality (VR) affects all sectors of the economy including public services, and changes workplaces, job profiles, employment relations and working conditions.

Digitalization in public services can be generally referred to as the whole range of consequences stemming from the interaction between public service users and workers with new digital technologies; and refers to the economic, social, employment and workplace transformations such consequences entail.

Digitalization is transforming the way public services are organised and delivered and their relationship with citizens and users. It is changing the power balance between public and private actors in the delivery and control of public services and is associated with the replacement of human work by digital processes and devices, robots, new forms of performance and behaviour control at the workplace, as well as with the unregulated collection and use of personal data. The rise of digital platforms for the online intermediation of public service work is enabling the spread of new forms of employment relationships, largely under atypical and precarious conditions. This has significant impacts and implications for labour rights and collective bargaining, social cohesion, and human and workers' rights.
Digital transformations in public services are heavily pushed by global digital tech corporations (e.g. Google, Apple, Microsoft, IBM, GE, etc.) together with global consultancy service corporations and investment banks/funds that see digitalization in public services as a lucrative opportunity and have wired large amounts of private investment into digital technology development, marketing and sale. These same actors also carry a major interest to access citizens, users and business data to further develop their activities, as data is expected to be the next fuel of economic development.

Digitalization policies are strongly supported by many national governments. Some see new technologies as an opportunity to enhance service quality and access while reducing costs and headcount, while embracing the “green and circular economy” and fighting climate change. Others view the digitalization of public services as a major avenue to attract foreign direct investment. Many governments have an entrenched interest to support digital technology corporations and businesses that are either based under their jurisdiction or have significant influence in their policy-making systems.

Digitalization policies have also been largely adopted by multilateral, regional, and financial institutions including the UN, the World Bank and the IMF, and the European Union. Digitalization in public services is often associated to “smart” and to the prefix “e-”: ‘smart administration’, ‘smart cities’, ‘smart metering’, ‘smart legislation’, e-government, e-citizenship, e-health, etc.
a) Central government

In central government, “e-government”, “smart-government” and “digital first” approaches to public services are no longer an option circumscribed to a section or function of a specific service, but have become mainstreamed across all government functions through a “whole of government” approach that cuts across and integrates administration, ministries, tax authorities and tax collection, court processes and jurisdiction, prison, border security, police and emergency services.

The number of countries providing online services in terms of information and communication with citizens through document exchanges and services by emails, SMS, mobile apps and downloadable forms is rising. Blockchain – originally linked to the invention of

An integral digital government strategy was launched in Singapore in the 80s, where the small population and land area, accompanied by high GDP per capita, allowed the government to develop a full suite of online services for its citizens, businesses and visitors. The government’s objectives include the launch of platforms for public private sector services, to put most government services on the “cloud” by 2023 and pilot autonomous vehicles in public transport by 2022.

The Aadhaar digital identity programme introduced in India in 2009 aimed to provide an unequivocal digital identity to all – especially the many vulnerable people without a legal identity – and to facilitate government-citizen interactions, while granting public service access to entitled right-holders fighting fraud and corruption. Aadhaar captures a biometric profile consisting of an iris scan, fingerprints and a photograph, the collection of which was outsourced to private companies. Data are stored centrally in the Unique Identification Authority of India (UIDAI) and, since 2016, registration is compulsory for access to most welfare and social services. In the future, it is planned to connect Aadhaar with individual health data.

The 2018 UN e-government Index ranks Denmark first. In 2011 the country established an Agency for Digitisation in charge of the government’s digitisation policies and has made digital government-citizen interactions mandatory by law. Each Danish citizen has his/her own electronic ID and letterbox for communication with government agencies (the so-called ebok introduced in 2001). Since 2014, public authorities are legally obliged to communicate with citizens exclusively through digital means.

In Québec (Canada) an integrated payment and invoicing management system (SAGIR) was to be introduced across all public administration sectors in 5 years but took 12 years to be set up and ended up costing 750% more than originally budgeted.

In Brazil, new digital services such as online appointment scheduling, fiscal collection and e-processes in court have brought benefits to public service efficiency and quality.

Following the “digital first” approach to government services, Kansas (USA) state authorities have eliminated any possibility to apply for social benefits elsewhere than online and removed any human relationship between the social service departments and the citizens.
the crypto currency Bitcoin - is applied today to secure transactions and authenticate or encrypt data in a wide variety of public services such as tax filing, voting, land and asset registry, health and social care, identity cards and public procurement.

According to the UN E-Government Survey 2018, 176 countries now provide digitally archived information compared to 154 in 2016: however, deep digital divides persist due to uneven access to IT infrastructures (non-electrified areas, erratic electricity services, poor cable/wireless infrastructures) and to computers and software; and due to low digital literacy and exclusion among the world population.

As new digital technologies are entering all central government functions and become in some cases the mandatory and only way to interact and access government services without a human backup, questions arise about: the digital divide and exclusion of some citizens/users from essential public service access; the dependency on private providers for digitalization technology, counselling, training and maintenance; privacy and security issues related to the control, use and ownership of the data gathered from citizens and from strategic services (e.g. justice, health) – especially when such functions are contracted out to private providers; and the difficulty for government to predict and control costs for private digitalization technology providers.

b) Local and regional government

The local and regional levels of government are on the frontline of the introduction of new digital technologies and processes in public services: although central governments play a leading role in the decision to launch and roll out digitalization programmes and initiatives, most public services are delivered at municipal, local, or regional government level. This is where digitalized public services and administrations interact and communicate the most with citizens and users, and where the largest numbers of public service workers are involved or affected by public service digitalization.

The concept of “smart city” has spread to describe an integrated approach to the digitalization of urban and local government services, largely referring to the use of digital sensors, cameras, data collection and processing devices and software to use resources more effectively (e.g. motion sensors for public lighting and water fountains). Additional smart cities’ objectives include: to optimize service routes in real time depending on specific conditions (e.g. tailored design of waste collection service routes following “smart bin” calls); to control traffic based on circulation density as detected by road sensors; to predict crime or to anticipate emergencies and disasters (e.g. anticipate flooding and landslides based on rainfall forecasts, predictive crime hot spots maps).

“Smart city” also refers to ways to enhance local public services’ quality and inclusion/participation through direct interactions between local authorities and citizens/service users, e.g. via the provision of free wi-fi services in public spaces and the use of online surveys, mobile consultations apps, and digital feedback systems over new urban, social and environmental initiatives and policies.
Some “Smart city” projects — such as India’s Smart Cities — resemble “corporate-led” digitalization plans, primarily seeking to attract corporate and private investment with limited consideration for improving citizens’/dwellers’ lives through the enhancement of service quality and access. They appear to create, instead, further inequality gaps within cities and communities contributing to forms of “digital gentrification” or “smart enclaves” where high-tech neighbourhood and services exist next to slums and poor neighbourhoods within the same metropolitan areas or territory. Others smart city projects, such in Barcelona, are rather inspired by a “public-led digitalization” approach, as they clearly aim at improving dwellers’ social, living and working conditions, pursue environmental goals, use of new digital technologies to facilitate the democratic participation and inclusion of citizens and service users, and are in favour of digital commons and digital sovereignty, attempting to establish a local governance system for the fair and ethical use of citizens’ and public service users’ data.

The Indian ‘smart city’ model creates enclaves of high investment, information and communications technologies and ‘smart’ services, including free Wi-Fi, improved traffic control, intelligent sensors, and better utilities. India’s 100 selected ‘smart cities’ have chosen to implement a retrofit and redevelopment model with a focus on attracting investment to cities. The cost of developing these ‘smart enclaves,’ is the expulsion of low-income groups to city peripheries. Source: Housing and Rights Network: India’s Smart City Mission. Smart for whom? Cities for whom.

Since 2015, the left-wing municipal council of Barcelona has been implementing the smart city concept in a way that uses new technologies and digitalization for the good of the public rather than for private commercial interests. Smart City Barcelona is about re-municipalisation (e.g. water, energy), participation and citizen involvement, affordable housing, good healthcare, sustainable mobility, green public spaces and reduced CO2 emissions. In contrast to other smart city concepts, the municipal government of Barcelona is trying to avoid selling off infrastructure management and data handling to large private companies and has developed its own systems and tools, which are characterised by transparency and the democratic control of data. According to the City’s “Ethical Digital Standards”, “all municipal digital policies give priority to the protection of citizens’ digital rights, reflect their wishes and are based on their participation.” Source: https://ajuntament.barcelona.cat/digital/ca
c) Public utilities

Water and sanitation, energy generation, transmission and distribution, waste collection and treatment are fundamental public services for all. While central and local governments struggle to get hold of the adequate resources to build, maintain and operate the infrastructures needed to provide such vital services, the introduction of new digital technologies in public utilities can open the door to new far-reaching forms of outsourcing and privatization (e.g. leasing of water pumps or of distribution networks/grid instead of direct public ownership) and enhances dependency on external private suppliers. Digital technologies in public utilities currently takes the form of comprehensive technological changes prompting the integration of the internet and wireless communication devices across all operational levels of the energy and water generation, provision, distribution, and maintenance (e.g. smart grids, smart meters, remote control predictive maintenance software). They are also changing the relations between public utilities and users by introducing automated interfaces (e.g. chatbots) replacing traditional user service call centres.

As digital technologies become more common and entrenched within public utilities, one of the evident consequences is the dependency of responsible public authorities on private suppliers and digital tech companies for the provision, maintenance and update of digital devices and services; and for providing training to utility workers. As the role of private providers becomes essential, they become “gatekeepers” between the public authorities, the utility and the users. This situation can lead to a scenario where public authorities will have to purchase data that would normally belong to them already or will have to pay a high price for routine fixes and maintenance. This raises major concerns over the ownership and use of utility users’ consumption data gathered by smart meters owned or operated by private companies. Besides, the potential bias embedded in predictive maintenance algorithms controlled by private providers could be made to require a higher number of pre-emptive maintenance interventions than necessary, boosting utility costs; while the loss of systemic control over the utility to the private digital tech provider in case of an emergency is even more worrisome. The presence of an in-house public utility capacity to fully control and operate strategic public services under any circumstance and an in-house human, manual and analogic back up option in case of digital system failure are therefore crucial for public security and safety.

According to German public service union ver.di, “Smart pumps” raise a bundle of new questions that, are often unaddressed: “Who does this pump notify when it has to be serviced, for example? Is it the (public) control room or the (private) provider/leasing? And who then decides whether the notification must be followed up or disregarded - the manufacturer or the control room colleagues? And what is stored in the algorithm that generates the notification: a sustainability or a wear and tear logic? Who defines this and who knows what is stored? Who owns the data collected by this pump: the manufacturer, the (waste) water operator or the municipality? Who may use these data and under what conditions? What does this mean for the protection of critical infrastructure?”

Source: Interview with a representative of ver.di’s water section and ver.di 2018: Digitalization in the Water Sector.
d) Health and social services

Digitalization in health and social services comes under many shapes: electronic health records (e-files); mobile phones, watches or sensors to diagnose and track pathologies in real-time (mHealth); remote and collaborative robotics for surgeries (e-surgery); quick medicine and blood bag deliveries via drones; health professionals employment platforms (tele-health); medical interactive websites and video tutorials for medical school students. Additional applications include integrated real-time medical data processing systems in hospital rooms to support medical staff decision-making; or digital medicine dispensers and pharmacy stock inventory software.

These technologies can help and support doctors, nurses, teachers and administrative staff in the delivery of health and social services and have the potential to provide added value for patients, students and workers to update and enhance their medical skills and knowledge. Digital tools and technologies can also improve health care and social service access to remote and rural areas and help fight the theft of medical supplies. The use of phone applications to track and direct social or homecare workers to their appointments can be a benefit to workers, by allowing them to optimise their routes and spend more time caring for patients.

Québec’s major current digitalization project was the introduction of the Carnet Santé Québec, an online service that provides citizens with a single health platform comprised of different information and services. It allows citizens and medical staff to consult the drugs received in pharmacies, medical sampling results or medical imaging examination reports, book or cancel appointments with a family doctor and view their appointment history. Source: SFPQ union

In Denmark, the tele-medical ulcer assessment programme operational in all Danish regions and municipalities has changed the way in which nurses communicate with the hospital when seeing ulcer patients in their homes. The nurses communicate with the hospital via a web journal accessible from a cell phone or tablet. They upload photos of the ulcers to the journal. The hospital can then assess the ulcer without seeing the patient. Municipal nurses felt positive about the introduction of this new service and felt that digitalization would lead to job enrichment and employee satisfaction. Source: Lethbridge, J.: Digitalization of local authority services in Europe.

In Burkina Faso documents and medical files are now accessible through the Internet, and digitalization has become a general trend to which a specific ministry is dedicated. The health service is now better organised and controlled too. Digitalization is also a way to fight corruption and prevent medicine theft, a common occurrence in hospitals’ pharmacy stocks. Source: Interview with Burkina Faso’s Doctors Trade Union - Syndicat des Médecins du Burkina (SYMEB)

However, health and social services digitalization and automation – especially when carried out through private providers or through their privately-owned digital applications (e.g. “free” birth control pill reminder apps owned by pharmaceutical corporations) - raise concerns for patients’ medical data confidentiality and use, especially the risk that data is grabbed by private health insurance and pharmaceutical companies for their own research and product development. Concerns exist also over the fact that robotic surgeries take longer and are much more expensive without delivering significant advantages over conventional practice. Diagnostic software can embed a profitability bias that requires unnecessary tests and exams whose extra costs are paid by the public health system.
More worryingly, medical diagnosis software seems far from foolproof and can present a threat to the lives of patients. Such technologies also carry the promise to reduce costs by cutting headcount in labour-intensive public health services. The same concerns emerged as in previous public service sectors - overreliance and dependency on digital tech companies and the need to keep a backup option in case of digital system breakdown - apply to the health and social service sector, too. In social services, the same technologies that can improve workers safety and care effectiveness, can also be used as management surveillance tools to monitor worker time and performance during each appointment to pressure workers to work faster.

In 2015 in the UK, consultants working at the Royal Free hospital trust in London approached DeepMind, a Google-owned AI firm that had no previous experience in healthcare, asking them to develop AI software based on the trust’s patient data. In 2017 the press revealed that the health records of 1.6 million identifiable patients were transferred without their knowledge to servers contracted by Google to process the data on behalf of DeepMind.

In July 2018, US medical centres reported that the world’s most prominent AI tool, IBM’s Watson supercomputer, gave unsafe recommendations for treating cancer patients. Many incidents have illustrated that the system, once touted as the future of cancer research, has frequently issued bad advice. In one case it suggested a cancer patient with severe bleeding be given a drug that could cause the bleeding to worsen.

In South Korea, hospital management tends to purchase costly high-tech medical systems that are not always necessary. As a result, for these systems to be cost-efficient, they need to run on a 24-hour basis, which may cause patients to take unnecessary tests. The ambitious targets of the Korean government’s digital healthcare strategy are closely linked to the business interests of the Samsung conglomerate, including branches such as Samsung Life Insurance, Samsung Hospital, Samsung SDS (IT services) as well as Samsung Biologics and Samsung Bioepis. For Samsung, the medical and healthcare sector is an engine of future growth that has gained massive investments. Public policy initiatives and private business interests are also closely linked in areas such as supporting the establishment of private hospitals for medical tourism, fostering big data and remote medical services. This leads to excessive examinations and diagnoses, all paid for by the public health insurance system. Source: Korean Health and Medical Workers Union (KMHU).

In 2017 a major cyber-attack on UK’s NHS affected 16 British hospitals bringing health care and doctors’ surgeries across Britain to a halt, forcing them to turn down patients and cancel appointments after the country’s computer systems were crippled.
e) Education and culture services

Digitalization has entered the realms of learning and teaching through computers, tablets, and smartphones; videoconferencing, and online and virtual video tutorials. AI and machine learning are already used for individualized learning plans. While these new technologies can promote cooperation and motivation among both students and staff and can help making learning more interactive reaching out to disadvantaged areas, they also raise several concerns.

Corporations such as Cogni, IBM, Microsoft, Google, Apple or Pearson view education and learning as “edu-business” and digitalization is an opportunity to develop and sell education related products and services to parents and communities, often bypassing teachers and public education institutions and fuelling further inequality by side-lining more traditional or disadvantaged schools. Teachers’ curricula are inevitably affected, with significant increases in workload and new tasks to perform in the same time, not enough training for the effective use of new technologies, and little time to take stock. The borders between public education and private companies are getting blurred and students’ digitally gathered cognitive data can be used to predict professional performances and affect their careers.

U.S. education trade union AFT holds that: “with advances of digital technology, AI, e-tablets and robotics becoming the focus of a global edu-business, we stand on the cusp of public education becoming a technology product that parents and their communities are forced to buy from for-profit corporations.”

According to a survey carried out by public service union confederation CSQ in Québec (Canada) in 2017 amongst 130,000 education workers with about 9,000 respondents, digital technologies are a potentially positive tool in the classroom. However, Canadian education workers are concerned about unequal access and skill development for digital technologies. They view training and upskilling education personnel – as well as defining the regulatory frameworks of digital technology use in the classroom through collective agreement negotiations - as vitally important to guarantee a fair digital transition for all education workers and for students. Source: AFT and CSQ.
f) Security, border and emergency services

Digital devices and new technologies in high risk professions such as police, security, prison work, border control, firefighting and emergency services can be lifesaving. Increasingly, workers in these services are getting packed with high-tech devices and tools: bodycams and GPS tracking can enable the quick rescue of workers under attack, while drones and robotics can help firefighters and emergency workers to carry out their rescue operations. Surveillance cameras in public spaces, crowd-monitoring drones, gunshot detection sensors and microphones, together with crime data analytics, facial recognition and crime predictive software help police generate interactive maps for rapid response to violent incidents. License plate readers and character recognition software help identify and track stolen cars; dedicated software enables the automated processing of traffic offences; iris scans, biometric applications and statistical crime risk assessment are now used in prison services, as are automated interviews with virtual guards at border control.

Yet, concerns arise in these strategic public services, notably in relation to the de-humanization and lack of analogic service backup; to the dependency of public authorities on digital tech corporate suppliers; to security and confidentiality breaches in personal data gathering and use; and to the bias issues inherent in algorithms. These digital system failures can entail severe consequences on the lives of the people concerned.

With the rise of gun violence and an increase in illegal guns in the city, police have often been one step behind when a spate of gunshots rings out in a neighbourhood. Gunshot detection technology, the most notable offering from ShotSpotter, offers a faster and more accurate response than to 911 calls, say experts. As of September 2018, 95 cities in the U.S. and South Africa were using ShotSpotter’s technology, according to the company. iBorderCtrl is a system tested in Hungary, Greece and Latvia to screen non-EU nationals at EU borders, using automated interviews with a virtual border guard, based on “deception detection technology. In Spain, VeriPol is used to indicate the probability that a complaint made to the police is false by automatically analysing calls using natural language processing and machine learning techniques. Source: Algorithm Watch 2019: Automating Society - Taking Stock of Automated Decision-Making in the EU.
2. Impact of digitalization on public services quality, efficiency and access

If used in an appropriate way, within an adapted framework geared towards reaching common goals, new digital technologies in public services can enhance public service quality and efficiency. However, this depends on the presence of adequate regulation, social conditions, and governance frameworks that oversee and redress the impacts and developments of technology whenever necessary, both prior to inception and during use.

Expectations over the impact of digitalization on public service differ widely. While in regions with poor access to public services, interviewees noted that digitalization can contribute to enhancing trust in public services (e.g. by increasing objectivity in decision-making and reducing corruption), others from countries with relatively well-developed social protection systems stressed the opposite, expressing the concern that citizens’/users’ trust in public services might erode if decisions taken by public administrations were based on automated processes or made by machines.

The introduction of new digital technologies in public services where a digital divide, lack of infrastructures, low computer literacy, income and education inequalities already exist can contribute to widen and deepen user access inequality within and across countries (e.g. poor vs. affluent neighbourhoods; urban vs. rural areas). Where national ‘digital first’ agendas or ‘digital only’ approaches prevail, public services have been de-humanized leaving the digital option as the only channel of communication between users, public administrations and services. This can cause the exclusion of older people, people with disabilities, people in low income groups as well as migrants and refugees, people affected by illiteracy and other vulnerable categories of public service users.
Digitalization-only approaches also pose a major problem when complex decision-making is necessary in public services, like in the case of mediating social benefits applications; family support and social services; medical diagnosis and treatment; or judicial rulings based on the judgements and/or decisions made by public service workers. Here citizens continue to need and expect direct, personalised communication and human decision making, while digital tools are far from reliable.

The dependency on private digital technology providers and the increasingly blurred lines between public and private space boundaries in highly digitalized public services carries an intrinsic risk for the confidentiality and control of users’ and workers’ data. It can also represent a threat that public authorities lose control over the data they normally collect and control, and end up having to pay private “gatekeepers” to which they outsource services to access users’ and citizens’ personal and consumption data.
To date, the commodification of personal data through the outsourcing of public service functions occurs on a systematic and global scale, largely serving the interests of private businesses engaged in digitalization projects. This situation remains largely unchallenged by national and international legislation, and points to more substantial issues of power, influence and conflict between the public and the private interests involved in public services.

The review found that if digital technologies in public services are to enhance public service efficiency and quality, they should not be introduced in a top-down fashion and guided by cost-cutting considerations only. Rather, to be successful, they must be designed and implemented with a careful, participative planning and prior impact assessment, that their introduction is progressive, and that implementation and impact are carefully monitored and adjusted throughout. Without these precautions and without the direct involvement and buy-in of users and workers, digital technology projects tend to lose effectiveness and fail.

The digitalization of public services has a significant impact on public finances as it represents a major investment in infrastructure, technology consultants, and workers’ training, upskilling and new qualifications, an aspect that is often neglected. Digital technology dependency on external providers without building in-house capacity can result in very high costs. And when digitalization projects are financed with private investment and PPPs, cost calculations are often unrealistic due to regular underestimation of indirect and recurring costs. The cost-cutting promises that digitalization and automation bring through staff reduction goals often end up being a bad calculation overall. The higher workload and pressure among remaining workers can lead to stress, burnout, increased sick leave and poor staff retention, which can, in turn, negatively impact the service quality and effectiveness.

The decision to outsource patients’ data processing and ICT systems of the Norwegian South Eastern Regional Health Authority to external private providers was mainly taken to cut costs. Workers and their union repeatedly warned the health authority of the risks, yet the project went ahead. As a result, privately contracted workers in Asia and Eastern Europe were wrongfully granted access to sensitive information of almost 3 million Norwegians whose confidentiality rights were compromised, and the outsourcing agreement had to be cancelled at a high cost for the health authority. Source: Norwegian Union of Municipal and General Employees, Fagforbundet.

A 2017 UK scientific paper openly criticised the deal between Google and the Royal Free Hospital in London, which allowed the use of 1.6 million patients’ NHS data to create an app that would alert clinicians in case of acute kidney injury. The paper argues that the collaboration “has suffered from a lack of clarity and openness, with issues of privacy and power”. Source: Powles/Hodson 2017: Google DeepMind and healthcare in an age of algorithms.
The system of taxation of employees in Denmark (SKAT) is one of the most automated and digitalised in the world. Tax is automatically deducted before payment of salary by the employer and reported digitally to the tax administration. The high degree of digitalization, automation, digital communication and effective digital reporting systems have made things easier for most employees and for employers. Furthermore, the system is quite reliable and very difficult to hack. However, due to the massive reduction in tax collection staff and “human” local contact points, unpaid taxes have increased significantly, tax compliance amongst businesses has fallen, and there have been several important cases of tax fraud. Overall, the public’s trust in the Danish tax administration has weakened. And independent auditors demand more personnel resources to rebuild trust and efficiency. Source: Interview with HK Kommunal.

In 2002 in the UK, the NHS introduced a digitalization project involving companies such as Accenture, CSC, Fujitsu and British Telecom to set up the NHS Care Records Service so that health professionals could access patient records, X-rays, prescriptions and electronic booking. Deemed the world’s largest civil IT programme with an initial budget of £6.2 billion, it became a flagship disaster case. By 2006, several milestones had not been met and the cost of the project had nearly doubled. In 2008, the UK Public Accounts Committee found that the new system did not include any clinical functions, meaning that the needs of the clinical staff had not been met. In fact, there was a wide lack of commitment on the part of NHS staff because the project was introduced in a centralised and strictly top-down decision-making process without enough worker participation and user engagement. In October 2011, the Department of Health abandoned the project, causing a loss of several billion £. Source: Lethbrigde 2016: Public Services, democracy and digitalization and Taghreed 2016: The UK’s National Programme for IT: Why was it dismantled?

Québec’s public sector’s dependency on private IT and digital tech companies has increased and entailed a failure to develop in-house expertise and knowledge. Many reports by Québec’s Auditor General proved, time and time again since the beginning of the 2000s, that government is paying 50% more for an equal IT staff in the private sector than for its own equivalent staff, that the billing is over the contracted price per hour, and that the ratio of internal versus external staff is way over the ratio observed in other public administrations. Source: SFPQ

In an official position paper by the union’s national board, the Yunion of Austria public service union holds: “digitalization must not become synonymous with outsourcing, privatisation and public-private partnerships (PPPs), which threaten the functioning of our public services. There is no evidence that digitalization or automation of public services leads to more cost-effective public services or to a reduction in the administrative burden per se. If new information and communication technologies (ICT) are introduced without adequate financial or human resources, it will result not only in poorer services, but also higher costs in the long run.” Source: Yunion

Finally, the precarization of public service staff that new forms of digital employment intermediation services enable has a potential to undermine public finances by eroding income tax and social security contributions.
Digitalization affects public service employment and labour markets in five main ways:

1. **creating jobs and new professions** related to new digital technologies (e.g. big data analysts, app designers, cybersecurity specialists, digital device and maintenance experts, digital research and development engineers, etc.);

2. **destroying jobs and tasks that can be digitalized**, automatized or robotized especially low value-added and low skill, simple cases, repetitive tasks, or dangerous, tedious or strenuous work (e.g. invoice handling and processing, database management, administrative tasks, security and surveillance patrolling, routing medical testing, etc.);

3. **changing employment content** (e.g. complexity with more skills and tasks required to perform the same job), blurring the workplace and work/life boundaries (combining mobile work, office work and telework), and bringing in new forms of digitally-enabled management (e.g. digital check on working time and performance, digital office sharing and teamwork software etc.);

4. **changing the relation with citizens/service users**, notably reducing human contact and interface (e.g. intelligent machine interfaces, chatbots and digital user services and care; phone conversations replaced by computerized user handling; online interfaces for service access and self-service digital facilities such as in registry services and libraries; smart meters and automated consumption sensors, etc.);

5. **shifting the employment relationship**, following the rise of digital employment services and platform work, typically for outsourced, privatized (e.g. in health and social services), which is associated with the spread of non-standard, precarious...
forms of employment, including “bogus” self-employed with no formal employment contract and “zero-hours” contracts with partial or no social protection and security coverage.

When it comes to working conditions, digitalization promises to reduce working time on low value, tedious tasks and to enhance productivity by releasing workers to spend more time on more complex, higher value cases, developing into new roles and functions. However, digitalization can also cause higher levels of working time, excessive workload, work intensification and stress, and increased management surveillance, especially if the introduction of new technologies is not properly prepared, implemented and monitored with the active participation of workers and their representatives. In addition, the over-reliance on computer-based services can be demeaning for workers and lead to a loss of motivation as their professional and social skills and their decision-making power become redundant or are undermined.

The critical factor for working conditions relates to workers’ empowerment and trust that they can take an active role in digitalization processes and be in control of the technology, and not be passive recipients or be enslaved to it. The bottom-up participation of workers and their representatives in the definition of digitalization goals (cost/headcount reduction vs. service quality and access), of the areas in which it should occur, and their meaningful involvement in prior impact assessment is critical to secure workers’ ownership and buy-in for any technological change and to increase the odds that digitalization will have a positive impact on working conditions. Additional critical factors for “successful” digitalization include the provision of adequate worker training out of working time; a progressive pace for the introduction of technology; and the good quality management of the implementation of digitalization programmes.
In Denmark, some municipalities have successfully reduced monotonous tasks and jobs, such as paying invoices or handling simple cases, by delegating simple tasks to eight machines/robots. This has led to working time reductions of around 30%, allowing employees to spend more time on more complicated cases and develop into new roles and functions. This process was carried out with the participation of workers: an HK Kommunal worker and union representative was appointed “employee process automation officer” and was directly involved in the automation project group in the municipality. This was critical to consider workers interests, reducing concerns amongst employees about the future of their jobs and creating trust and confidence in the process. Source: Interview with HK Kommunal.

In Germany, a survey commissioned by ver.di involving 6,600 public service employees shows the effects of digitalization are felt more strongly by public service employees who carry out highly complex and managerial tasks, more commonly in public administration rather than in education or health and social work. This may indicate that digitisation processes in public administration are more advanced. The survey results on working conditions were worrying: nearly half of the respondents reported an increase in work intensity due to digitalization (only 8% reported a decrease) linked to a higher workload (56% vs 4% lower). Stress and time pressure were reported as increased by 59% respondents, and 47% mentioned that management surveillance and control had increased because of digitalization. Source: ver.di

Digitalization increases job complexity and the skill requirements workers need to perform the same work. As the most simple and repetitive tasks are replaced by software, computers and robots, employers place new multiple demands on workers, expecting them to be more qualified, multitask and to master intellectual, social and high-tech skills, often without providing matching training. Skills that are increasingly needed within a digitized context include problem-solving, creativity, communication skills or the ability to think in a comprehensive and networked manner.

Workers are now expected to be able to continuously “learn to learn” as technology cycles at the workplace are increasingly shorter. At the same time, a systemic understanding of the service and related process, including a full mastery of manual intervention, remain critical for any public service worker, and especially for those employed in strategic services (e.g. water, electricity, health, security, emergencies etc.) to ensure a backup option in case of digital system failure. Such a high bar for skills and professional complexity requires adequate policies and investments to ensure a “fair digital transition” for all public service workers, including those who are losing their jobs to digitalization and urgently need retraining to stay in or re-enter the labour market. Trade unions have a specific role to ensure that the principle that every worker has a right to lifelong, continuous training and upskilling is met and they must begin to identify and anticipate sectoral skill needs and training requirements, co-designing relevant programmes and curricula.
The net impact of digitalization on public service workers’ occupational health and safety (OSH) is hard to measure. On the one hand, flexible telework enables workers to work without being in the same place at the same time, lowering the risks of travel and road accidents. New technologies also remove people from hazardous environments or better protect them by automating dangerous and/or monotonous and repetitive tasks. However, digitalization is correlated with higher psychosocial risks linked to flexible working patterns and to a hyper connectivity prompted by a 24/7 economy which needs public services to run.

Among the digitalization-related OSH risks are faster work pace; increased workload, task complexity, and multitasking; excessive working hours; and feelings of isolation due to the loss of interpersonal relations replaced by virtual or remote contacts. Eyesight issues due to excessive screen times, sleep disruption problems, stress, anxiety, depression and ‘burn-out’ are also on the rise, due to an “always on” work culture, hyper-connectivity and constant digital availability, together with worker monitoring and performance-oriented management. Musculoskeletal disorders (MSDs) and ergonomic problems including postural issues and carpal tunnel syndrome are widely spread from the use of mobile digital devices such as phones and tablets that are less ergonomic than desk-top computers. Furthermore, digitalization favours physical inactivity and is associated with coronary heart disease, overweight or obesity, certain types of cancer and other chronic diseases.

In 2016, the public service trade union SFPQ of Québec published a report on “Changes in work and service delivery in the era of new public management” including digitalization, which sampled almost 500 responses from different ministries, finding a strong trend of standardization of tasks and functions, as well as the application of quantitative performance indicators and an increase in tight worker monitoring and control by managers. Overall working conditions had worsened while health and psychosocial issues had increased. In response to this, the SFPQ organized a platform for employees to address critical issues related to working conditions in call centres and to promote improvements and better quality services. Source: SFPQ.

The working time and work/private time balance issues that arise from the widespread practice of staying online at all times have prompted trade unions to introduce the “right to disconnect” in company and sectoral collective agreements as well as in national legislations, such as in the case of France (2017 El Khomri law) and Italy (art. 19 Law 81/2017).

If the spread of telework is blurring the boundaries of the workplace getting it into people’s private spaces and lives, it is also a way for employers to reduce office running and rental costs. Ultimately, unless introduced in a well thought through, inclusive manner and with clear goals other than mere cost-cutting, digitalization can well entail a significant shift of health risks and costs onto workers.
In the state of **Tennessee (United States)** public administration workers are actively invited to work from home under the Alternative Workplace Solutions (AWS) programme whose main motivation is to cut office rental costs. In some departments up to 72% of the workforce now teleworks. In exchange for giving up their desk or office, participating workers can work remotely full- or part-time. When they go to the office, they can select from a variety of seating options—standing desks, lounge areas, conference rooms. They have lockers for personal possessions. The best schedule for each person is evaluated individually. The state estimates that the average employee is saving $1,800 a year on car fuel. By the end of 2019, Tennessee says it will have likely cut its real-estate rental costs by $6.5 million. Next year, it plans to sell one of its downtown Nashville office buildings, which is no longer needed. That could generate an extra $40 to $60 million for the state. However, no figures are available on the other costs borne by workers. **Sources:** AFT and [https://www.governing.com/topics/workforce/gov-tennessee-government-telework.html](https://www.governing.com/topics/workforce/gov-tennessee-government-telework.html)

Digitalization provides an opportunity and new tools for management (e.g. GPS tracking, random screen capture, typing rate software, digital wristbands, etc.) to enhance **worker surveillance and monitoring** over arrival/departure times, movements, productivity, schedules and toilet breaks. Taken to the extreme, workers’ performance tracking and consequent data processing via algorithms can end up dictating workload, schedules, targets and ultimately defining pay and informing decisions on employment retention or dismissal. Such practices increase the psychosocial risks and stress in workers as work targets are automatically set by software and work schedules become rigid because of the elimination of human intermediation. Within this context, “privacy by design” and “privacy by default” software – a build-in option that limits or eliminates the possibility to access and analyse worker-related data – should be made a default choice by legislation. Companies and institutions must be made aware and held accountable for their responsibility over worker data protection and must ensure that sensitive worker information is collected and handled in a way that is consistent with human and labour rights.

While digitalization polarises inequalities and widens existing gaps among public service users (e.g. digital divide), it does so also on the labour market, putting especially **women and minorities** at a disadvantage as they are overwhelmingly found among low-digital skilled and precarious, part-time positions, which are also the most at risk of digitalization and automation and less likely to get training. Digitalization is not gender neutral and
can exacerbate the gender divide by deepening horizontal and vertical gender-based employment segregation. More than 200 million women worldwide lack access to the internet because of social and cultural stereotypes; over 1.7 billion do not own a mobile phone, even when 80% of the population in developing countries has one; only 13% of ICT workers are women and out of that percentage, only 10% occupy managerial positions within the sector\textsuperscript{20}. The adverse and disproportionate impact of digitalization on existing inequalities is not only affecting women in the labour market but also other disadvantaged groups such as disabled, black and LGBTQI workers.

The largest sector employing black and minority ethnic (BME) workers in the UK is the public sector, largely because the levels of discrimination in the private sector are higher and because the public sector is seen as having better equality policies and being more accessible to BME workers. However, this is the area that has faced the deepest cuts to jobs, adversely impacting BME people as they are more likely to work in front-line and administrative roles, those bearing the brunt of cuts. Referring to the UK government’s austerity programme, the union member noted that these include cutting front-line services. Nearly 25,000 administrative roles in public services were made ‘redundant’ and many have been cut already. Source: EPSU

Digital technologies are also enabling the emergence of a digitally intermediated labour market involving online labour platforms in public services, and especially in labour intensive services such as health and social care, teachers, doctors, public space management, gardening or public transport. Digital labour platforms do not regard themselves as employers and fail to assume related responsibilities and duties. They consider themselves only as intermediaries, leading to a substitution of formal employment relationships with dependent precarious, sometimes “bogus” forms self-employment not covered by labour regulation and social protection. These trends – referred by some as “digital-Taylorism” – are exacerbated when digitalization strategies are matched with fiscal austerity policies and mainly aim to cut costs by reducing public service staff. □
Public service trade unions around the world are actively engaged in addressing the challenges posed by digitalization. They are doing so in six main ways.

1. **Building knowledge, research and in-house expertise** - including by surveying workers and users – about the impact of digitalization on public services to anticipate and inform policies;

   The Argentinian Association of Legal Workers (Asociación del PersonalLegislativo, or APL) launched an observatory on the future of work—the Observatorio del Futuro del Trabajo—and is carrying out some research on digitalization. Considering the lack of worker involvement and the many promises made in the context of new ‘intelligent’ technologies and automation, APL also strongly requests an “institutionalization of employee participation” through collective bargaining and the tight monitoring of the implementation of digitalization projects and programmes in public services.

   Studies and surveys from Vision of Sweden show that early employee involvement in the introduction of digitalization and IT systems leads to staff and management improving cooperation, independence, quality, efficiency and security within the systems. Early involvement also leads to a better OSH and work environment and lowers levels of IT-related stress. *Source: interviews with union representatives.*

2. **Influencing national and international public policies, legislation and the public opinion** by getting them involved in public debates and lobbying policy makers to shape the governance systems underpinning the introduction and management of digital technologies;

   In Argentina, the Confederation of Municipal Workers (Confederación de Trabajadores Municipales, CTM) launched a position paper in 2018 on the “The Future of Work in Municipal Services (El Futuro del Trabajo en el Sector Servicios Municipales)” where they acknowledge the positive impact that digital technologies can have on public service employees’ working conditions and public service quality. The CTM demands that workers’ voices are recognized and that trade unions be allowed to take part in the development of technological modernization and digital innovation programmes in public services at national and local levels. It stresses the right to training and upskilling for all workers so that no-one is left behind and indicated that collective bargaining was the best possible mechanism to ensure such participation and to guarantee a positive outcome.
In Germany, the ver.di union is investing significantly to inform and contribute to public opinion and debates about digitalization. It repeatedly criticized - in public statements, positions papers, public conferences and dedicated websites - the government approach to public service digitalization programmes and legislation, which are exclusively technology-oriented and leave behind the critical question of how digital technologies can improve the provision of public services in the public interest, while the role of workers was virtually not addressed. It is also working with digitalization experts to issue opinions and recommendations on proposed legislation and is actively lobbying legislative and policy bodies. The union won a space in the discussions held in Federal Government commissions on digitalization and is contributing to political discussions that are relevant for public services, such as the ethics commission and the commission on the future of work launched by the German government in 2015. Source: interviews with union representatives.

3. developing model collective agreement, blueprints and training guides for shop stewards and members to deal with digital change at the workplace

In 2017, UK trade union UNITE the union published a “Draft New Technology Agreement” to equip its shop stewards with an agreement blueprint and key shared principles to address the issues arising from introduction of new technologies at the workplace and in collective bargaining negotiations. The draft agreement covers training, health and safety, working time, monitoring and surveillance issues and encompasses the creation of a specific information, consultation and bargaining structure (New Technology Subcommittee) supported by adequate funding to address digital change-related issues at the workplace; jointly with the appointment of “New Technology Representatives” on the shop floor. The principles underpinning the agreements include: new technologies should promote employment; reduce working time (but not pay); digital projects must be participative and include workers and their unions from their onset; training should be an integral part of the digital transformation plan; the acquisition of new skills should be compensated; OSH and worker surveillance risks should be priorly assessed and evaluated. Source: UNITE

UK public service union UNISON has also elaborated a guide (“Bargaining on monitoring and surveillance workplace policies”) for local union branches providing tools and recommendations to address worker monitoring and surveillance issues in collective agreements. Similar initiatives were adopted by France’s CGT, which produced produced bargaining guidelines in 2017, and Germany’s ver.di, with a “Model agreement on e-government” and an “IT Framework Agreements” for its local works councils on the use of mobile devices such as smartphones and tablet PCs. Source: UNISON, CGT, ver.di
4. negotiating digitalization-specific language in collective bargaining frameworks and provisions with employers at company, sector, national, and international level (e.g. in European works councils and global framework agreements with multinational corporations). Negotiated provisions include wording on: the right to disconnect and working time, worker data protection, no worker surveillance, OSH including psychosocial risks, right to training and continuous learning, and the inclusion of union representatives in service/workplace management committee overseeing the introduction of the new technologies.

**National level agreements**: In September 2017, Fagforbundet representing municipal workers in Norway, negotiated a national tripartite cooperation agreement with the Ministry of Local Government and Modernisation and the Norwegian Association of Local and Regional Authorities - the municipality’s employer association. The agreement engages three municipality-level parties (heads of municipal administration, local politicians and local government trade unions) in a tripartite dialogue to pilot and manage the effects of the introduction of digitalization and digital competence in municipal public services. The project is financed by the Ministry, involving more than 70 municipalities from the whole country, and runs until end of 2019. The participating municipalities are involved through national conferences and smaller regional workshops, which representatives from all three municipality-level parties must attend. The objective is to support the transformation that new technologies and digitalization bring to the municipal sector, create better understanding, support organizational development and provide a digital platform (a website) to share examples of good practice and the challenges faced by participating municipalities.

Source: Fagforbundet

In 2018, in Italy, the FP-CGIL public sector federation negotiated a collective agreement covering central government functions that includes the provision to set up a joint employer-union body on innovation (“Organismo paritetico per l’Innovazione”) to address issues stemming from the use of digital technologies, notably on OSH (work-life balance, well-being and to prevent and address psycho-social risks, notably stress and burnout). Source: CGIL FP Contratto Collettivo di Lavoro. Comparto Funzioni Centrali

**Subnational level agreements**: In Québec (Canada) the public service collective agreement (Convention collective des fonctionnaires, 2015-2020) addresses digitalization through the promotion of cooperation and dialogue between employers and staff representatives. Digitalization and ‘technological change’ are defined as an operational change caused by the introduction or additional use of machinery, equipment or tools resulting in significant workplace and employment change. The agreement stipulates that in such cases, within 30 days from the entry into force of the agreement, a joint industrial relations committee is established in the affected department to discuss potential problems and identify solutions. The challenge for union representatives is the knowledge imbalance with management and consultants, given the high IT specialization required to correctly evaluate, anticipate and address the potential adverse impacts of digital technologies at the workplace and identify workers’ training needs. Source: SPFQ

**Local level agreements**: the municipality of Drammen (Norway) has involved workers in the digitalization of its healthcare services, setting up a steering committee where the local trade union representative has a permanent seat. Workers are appointed as “digital agents” with a special responsibility to test and decide on the relevance and use of new digital devices. There are currently 55 appointed “digital agents” in the workplaces of the Drammen’s Health and Social Services division. Their responsibilities also involve selecting which technologies and devices makes practical sense to use or disregard, sharing their digital knowledge and supporting their co-workers and identifying training needs. They provide feedback to management on practical aspects, recommend corrective measures, and raise workers’ concerns (e.g. low battery capacity of social care workers’ devices and worker privacy-related concerns). Source: Fagforbundet
5. **anticipating workplace digital change and skill needs, informing and training shop-stewards, members and users** on the challenges posed by digitalization and supporting them in negotiating a “fair digital transition”.

6. **building their own digital tools and solutions** with the objective of enhancing shared, common benefit for all (users and workers):

   In the **US**, **AFT** has developed its own web-based learning platform ('Share My Lesson') that is very popular, demonstrating that technology, when properly used by qualified teachers, can enhance the learning process. **Source: AFT**

Public service unions are especially pushing to win space and a voice at national, local and workplace level to play an active role in shaping digitalization processes and multi-level governance systems, with meaningful worker and trade union involvement and participation from the onset of digitalization processes, strongly asserting workers’ right to keep control over these new technologies.

In their actions and initiatives on digitalization, unions have especially focussed on defending and winning better workers’ conditions and safeguards in OSH (including psycho-social risks), working time, training and upskilling rights, workers’ protection from digital surveillance and personal data misuse, as well as employment security (“fair digital transition”).

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**Working time and work-life balance:** In **2017 in France**, the strong public pressure organised by major trade union federations resulted in the passing of the 2017 El Khomri law on the “right to disconnect”. The then Minister of Labour had commissioned a national research report on labour and digital transformation in which five major French national trade unions were involved. The ‘right to disconnect’ was included in the report as part of a series of recommendations and was finally turned into law in 2017. Key aspects of the law include: the right to not respond to emails outside defined working hours and the trade union involvement in the assessment of the application of the law.

**Worker monitoring and surveillance:** To ensure that digital tools such as GPS are used in a way that protects the safety and health of public service employees and are not used in a malicious way by the employer, **AFT** in the **US** has negotiated agreements with private providers involved in public service delivery - such as childcare services - establishing clear rules and conditions for the disclosure and use by the provider of worker GPS tracking data generated in the fulfilment of their professional duties (e.g. failure to reply to phone, absence, suspicion of false statement, risk of user abuse or neglect, etc.). **Source: AFT**

**Right to training:** **Singapore’s AUPE** union is involved in the government’s “smart nation” project for the public sector. The union has secured that several thousand public employees receive training on data analytics, coding, and a “Skills Future Digital Workplace (SFDW)” course, all implemented with AUPE’s active participation. The union also won new training rights. Every public employee now has the right to 4 hours of digital training every month as part of an annual 100-hour training plan to be delivered during working time and paid by the employer. A mobile app called “Learn” has also been launched to provide a mobile platform for public officials to learn new skills anytime and anywhere. **Source: AUPE**
At stake for public service users and workers going through the digitalization transition is the power to shape and control digital technologies that are already impacting their lives, and the power to define how they want them to be used and for what purposes. This power struggle is at the very heart of whether public services will soon be run for all in the common interest, or for the few, for corporate and private profit.

The overall impact of digitalization on public services is complex and multifaceted. On the positive side, digital technologies can improve public service quality and access; contribute to improve democratic accountability and citizens'/users trust in public institutions; while advancing workers’ OSH and safety and positive flexibility to work remotely.

On the negative side, the same technologies can open the door to public service privatization; create a dangerous dependency of public institutions on private digital technology providers; and deepen inequalities among public service users. Cost-cutting driven digitalization tends to replace and slash public service jobs; uses digitalization technologies for worker surveillance and performance monitoring; and takes a high toll on workers’ OSH and work-life balance. Corporate-led digitalization is regularly associated with major public service user and data privacy abuse and it is enhancing the trend towards shallow workplace relations and more precarious and informal employment in public services.

What emerges as the key factor making a difference between a digitalization that works for public service users and workers and one for private interests is the power to control and decide whether and how to use new digital technologies. Such power must not be left uniquely in the hands of employers and global corporate actors: the introduction and application of digital technologies must be regulated and monitored in the public interest, with clear rules that respect human and workers’ rights and involve the public service users. Workers and their representatives have a critical role in defining the purpose, area of application and prior and ex-post impact assessments of such technologies as a way to keep control over the technology and how it is used.

Collective bargaining negotiations at local, national and company level are a critical tool for the establishment of effective multi-level governance systems of digital technologies in public services. Regulatory good practices need to be scaled up and advanced at a global level. Although local, national and regional level governance systems are emerging, regulation overall remains patchy, fragmented and uncoordinated; whereas the digitalization agenda of multinational corporations and large private investors is a global one and therefore requires effective global regulation as a response.

Through collective bargaining and other initiatives, public service unions worldwide are paying special attention to anticipating and addressing any worker abuse arising from the use of new digital technologies (e.g. workers’ data privacy, surveillance and monitoring, OSH psycho-social risks and work-life balance) aiming to ensure that technological change respects human and workers’ rights and improves – not deteriorates – their quality of life.
## ANNEX: Trade unions participating in the study

<table>
<thead>
<tr>
<th>Trade Union</th>
<th>Country</th>
<th>Sector</th>
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<tbody>
<tr>
<td>1. Confederacion de Trabajadores Municipales (CTM)</td>
<td>Argentina</td>
<td>LRG</td>
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<tr>
<td>2. Asociacion del Personal Legislativo (APL)</td>
<td>Argentina</td>
<td>Central Government</td>
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<td>3. Younion</td>
<td>Austria</td>
<td>Public Services in general</td>
</tr>
<tr>
<td>4. Confederacion Nacional de Trabajadores de Seguridad Social CUT (CNTSS)</td>
<td>Brazil</td>
<td>Social Services / Health</td>
</tr>
<tr>
<td>5. SFPQ-Syndicat de la Fonction Publique et Parapublique du Québec</td>
<td>Québec (Canada)</td>
<td>Regional administration</td>
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<td>6. HK Kommunal</td>
<td>Denmark</td>
<td>LRG (Haderslev council)</td>
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<td>7. HK Kommunal</td>
<td>Denmark</td>
<td>LRG (National perspective)</td>
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<td>8. CFDT - Health</td>
<td>France</td>
<td>Health care</td>
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<td>9. CGT FMNE</td>
<td>France</td>
<td>Energy</td>
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<td>10. Ver.di</td>
<td>Germany</td>
<td>LRG / public services in general</td>
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<td>11. Ver.di</td>
<td>Germany</td>
<td>Water Section</td>
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<td>12. Nagpur Municipal Corporation Employees Union (NMCEU)</td>
<td>India</td>
<td>LRG /Smart Cities</td>
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<td>13. Fagforbundet – Norwegian Union of Municipal and General Employees</td>
<td>Norway</td>
<td>Municipal and Central Government</td>
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<td>14. AUPE Amalgamated Union of Public Employees</td>
<td>Singapore</td>
<td>Public administration / Civil Servants</td>
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<td>15. KHMU</td>
<td>South Korea</td>
<td>Public Administration / Health</td>
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<td>16. FSC CC.OO</td>
<td>Spain</td>
<td>Central administration, water and sanitation, LRG</td>
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<tr>
<td>17. UNISON</td>
<td>UK</td>
<td>Public Services in general, focus health care, female employees</td>
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<tr>
<td>18. UNITE</td>
<td>UK</td>
<td>Public Services in general</td>
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<tr>
<td>19. AFT American Federation of Teachers</td>
<td>USA</td>
<td>Central, federal and local administration, health and social services, emergency services</td>
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<tr>
<td>20. Syndicat des Medicins du Burkina Faso</td>
<td>Burkina Faso</td>
<td>Health Services</td>
</tr>
</tbody>
</table>
Endnotes

1. Wmp consult, Hambourg
2. University of Lisbon
4. Public Services International brings together more than 30 million workers, represented by over 700 affiliated trade union organizations in 154 countries and territories. It is the global trade union federation dedicated to representing and promoting quality public services for all. PSI members, two-thirds of whom are women, work in social services, healthcare, municipal and community services, central government, and public utilities such as water and electricity. We bring the voice of public service workers to the regional and global levels, through our work within the UN system and other international organisations. https://publicservices.international/
6. During 2012 and 2015 the Danish Government made it mandatory for Danish citizens to use digital self-service for a wide range of public service areas. Also, under the Danish Digital Post Act, it became mandatory to be able to receive Digital Post from public authorities from November 2014. For further details see the website of the Danish Governments’ Agency of Digitisation: https://en.digst.dk/policy-and-strategy/mandatory-digitisation/. 
7. For the complete story of this example see: https://www.journaldemontreal.com/enquetes/sagir
12. AFT 2018: Resolution “Future of Teaching and Technology”.
14. See: Powell 2016: PPPs and the SDGs: Don’t believe the hype. See also various documents and news articles in the online library People over Profits: https://peopleoverprof.it/
17. Younion: Arbeiten 4.0: Den digitalen Wandel fair gestalten!
18. Younion: Arbeiten 4.0: Den digitalen Wandel fair gestalten!
20. UNI Global 2017: Digitalization from a Gender Perspective


22. Interview with a representative of APL in November 2018.

23. For example, VISION: “IT i Välfärden Tjänst (IT in the Service of Welfare)”, 2014.


25. See for example: https://www.verdi.de/themen/digitalisierung.


30. For further information see: https://www.verdi.de/themen/digitalisierung

31. In the Norwegian context, collective agreements usually consist of two parts: A basic agreement that governs the relationship between organisations and predominant rules. This national tripartite dialogue programme can be seen as an extension of the basic agreement. The other part of the collective agreement is a national agreement regulating wages and working conditions for a certain industry or a sector. The national tripartite cooperation agreement on digitalization is not concerned with bargaining or negotiations. It is social dialogue at national and local level.


33. The website created and edited by the three parties on national level: www.komdigi.no.

