

Impact of digitalization and artificial intelligence as causes and enablers of organizational change

A readiness plan for staff representatives



Guidance prepared for the Federation of International Civil Servants' Associations

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This guidance is based on and supplements the FICSA report on:
Impact of digitalization and artificial intelligence as causes and enablers of
organizational change - Implications for the International Civil Service

Executive Summary

Context

Changes fostered by the digitalization of work and application of artificial intelligence (AI), increasingly impacts the quality of work and employment in organizations and is transforming the world of work by changing who works and when, and how work is organized and managed. A well-informed staff representative body to defend the rights of staff and promoting their interests is therefore even more vital in the context of the impact of digitalization. *This guidance document, therefore, outlines the context and key considerations linked to change fostered by digitalization and AI, and provides staff representatives with an action plan to assist them in supporting their members during periods of organizational change, providing recommendations for action.*

The evidence clearly suggests that digitalization can be both an opportunity and a threat. On the positive side, it can help to improve the quality of jobs by providing autonomy and allowing staff to choose where and when to work more freely, thereby, resulting in a better work-life balance. It can also help in making work environments safer and healthier, by replacing dangerous or boring tasks with automation. On the other hand, advancements in technology also mean permanent access, control and possible blurring of work-life boundaries. Digitalization, therefore, opens the door to an increase in challenges relating to the health, safety, and well-being of the workforce, that need to be better understood and managed. Maintaining a balance between the challenges and the opportunities presented by digitalization will depend on the proper application of the technology and on how it is managed.

Key considerations

The future of work and the workforce is a complex and multi-faceted issue that both international and national civil service leaders need to be proactive about. Realising the opportunities and addressing the challenges of the digital age for the organization requires narrowing the gap between technological developments, organizational policies and the overall organizational culture, as well as multilateral cooperation and coordinated approaches/action among stakeholders. Responses to digital transformation must evolve in an inclusive and human-centred way, emphasizing the importance of life-long learning and continued skills development. The 'human-centred agenda' for the future of work proposed by the Global Commission on the Future of Work provides three pillars of actions which stakeholders, both internal and external, can take to address the challenges and maximise the opportunities presented by digitalization.

- a) increasing investment in people's capabilities, enabling them to acquire skills, reskill and upskill and supporting them through the various transitions they will face over their life course;
- b) increasing investment in the institutions of work to ensure a future of work with freedom, dignity, economic security and equality, which involves strengthening social dialogue, giving everybody a voice in shaping the changes under way and the quality of their working lives;
- c) increasing investment in decent and sustainable work and shaping rules and incentives so as to align economic and social policy and business practice with this agenda, which requires guaranteeing fundamental rights at work, ensuring that all staff are afforded adequate labour protection, and actively managing technology to ensure decent work.

There is clear evidence which indicates that digitalization, if not implemented in an inclusive and human-centred way, can pose individuals, organizations and society a number of challenges. The role of the staff associations/unions in the context of digitalization is particularly important if the human-centred agenda for the

future of work is to be implemented. It is crucial that staff associations/unions are involved in decisions that affect roles and therefore should play an instrumental role in decision-making on applications of AI and automation and the wider impact of digitalization on work and employment, and also important for staff representatives work to with a wide range of stakeholders and facilitate co-ordination across disciplinary/organizational policy silos, and levels/functions, to steer policies and action towards an inclusive and sustainable digital future.

Action Plan

A multidisciplinary approach is therefore necessary, and holistic approaches should be developed which adopt a lifelong perspective to working life with a strong well-being focus. This section proposes an action plan using the European social partner autonomous framework agreement on digitalization as its basis, since it provides an ideal multi-disciplinary framework for the governance of digitalization in the international civil service. Management and staff associations can use this action-oriented agreement to introduce digital transformation strategies in partnership in a human oriented approach at the workplace level, while enabling them to identify concrete approaches, actions and measures they can take, according to their specific needs and circumstances, to address issues across four key areas:

- a) digital skills and securing employment,
- b) modalities of connecting and disconnecting,
- c) AI and guaranteeing the human in control principle, and
- d) respect of human dignity and surveillance.

This approach recognizes that digital technologies have an impact on several, often interrelated, topics such as work content and skills, working conditions (work environment, health and safety), employment/working conditions (employment terms and conditions, work-life balance), work relations, work organization, and therefore promotes a broad multidisciplinary approach, to enable managers, staff and their representatives to devise measures and actions aimed at reaping opportunities and dealing with challenges, whilst taking into account existing initiatives, practices and collective agreements that may already be in place. The process of implementing the agreement on digitalization is based on the well-recognized and widely used organizational process of continual improvement (plan-do-check-act), which ensures that a digitalization programme would meet the needs of all concerned, align with existing/ongoing processes and activities in the organization and is sustainable over time. The framework agreement on digitalization outlines the following five stages:

1. Stage 1 - 'Joint exploration/preparation/underpinning', is about exploring, raising awareness and creating support and a climate of trust which enables open discussion of the opportunities and challenges/risks of digitalization, their impact at the workplace, and about the possible actions and solutions.
2. Stage 2 - 'Joint mapping/regular assessment/analysis', is a mapping exercise looking into the topic areas in terms of benefits and opportunities and in terms of challenges/risks. Possible measures and actions are also identified at this stage.
3. Stage 3 - 'Joint overview of situation and adoption of strategies for digital transformation', is about having a basic understanding of the opportunities and challenges/risks, the different elements and their interrelationships, as well as agreeing on digital strategies setting goals for the enterprise going forward.
4. Stage 4 - 'Adoption of appropriate measures/actions', is based on the joint overview of the situation. It includes prioritization of actions, piloting, clarifying roles/responsibility and securing resources and any support needed.
5. Stage 5 - 'Regular joint monitoring / follow-up, learning, evaluation', completes the circle with a joint assessment of the effectiveness of the actions and discussion on whether further analysis, awareness-raising, underpinning or actions are necessary.

The process, carried out with the active engagement of staff representatives, can be tailored to the needs of an organization, and the agreement recognizes that a wide range of digital tools, training-arrangements and joint procedures may have already been introduced by organizations. Its adoption would therefore be cognizant of the complexity of the UN system of agencies, recognition of agency autonomy and a desire to proactively implement what is 'right' for their agency. Based on the framework agreement, a number of immediate and long-term actions, across the four key areas, can be taken staff representatives to address the impact of digitalization.

Recommendations for immediate action

In the immediate/short term, staff representatives should facilitate the implementation of Stage 1 and 2 of the agreement. Actions should be taken to raise awareness of the opportunities and challenges presented by digitalization among staff and management alike. Concerns raised by staff about the impacts of digitalization on employment and working conditions should be collated and analyzed. Existing tools and procedures should be taken into account in the joint mapping/regular assessment/analysis. The following measures should be taken, by staff representatives working with relevant stakeholders, in the immediate/short term:

Digital skills and securing employment

- Develop (or modify existing) equal opportunities policy to ensure that digital technology results in benefit for all staff, which proactively seeks to address the digital divide that may exist within the organization.
- Identify clear training and development objectives on digitalization, and link with key performance indicators.
- Provide access to relevant training responding to the identified training needs of managers and staff. Train all affected staff, not just a select few, to help them make the best possible use of the digital technologies that are introduced.
- Ensure job-related training that is directly linked to the digital transformation of the enterprise, is paid by the organization, and where possible during work hours.

Modalities of connecting and disconnecting

- Develop (or modify existing) telework policy – which clearly specifies working time rules, teleworking and mobile work rules acknowledging implications for work-life balance.
- Secure commitment from management to create a culture that avoids out of hours contact.
- Provide guidance and information for managers and staff on how to respect working time rules and teleworking and mobile work rules including on how to use digital tools, e.g., emails, highlighting the risks of being overly connected particularly for health, safety and well-being.
- Help teleworkers stay connected with supervisors, colleagues, and the organization as a whole to deal with the risk of social isolation that is associated with full-time teleworking.

Artificial intelligence and guaranteeing the human in control principle

- Ensure that deployment of AI is fair, transparent, safe, and secure, and complies with all applicable laws and regulations as well as fundamental rights and non-discrimination rules. Deployment of AI system should:
 - follow the human in control principle.
 - be safe, i.e., it should prevent harm. A risk assessment, including opportunities to improve safety and prevent harm should be undertaken.
 - follow the principles of fairness, i.e., ensuring that staff groups are free from unfair bias and discrimination.
 - be transparent and explicable with effective oversight, with checks in place to prevent erroneous AI output.

Respect of human dignity and surveillance

- Always ensure that the collection of data is linked to a concrete and transparent purpose. Data should not be collected or stored simply because it is possible or for an eventual future undefined purpose.

Recommendations for future action

In the longer term, staff representatives from various agencies should lead the adaptation of the framework in their organizations tailored to its needs. Staff representatives should play a key role in agreeing digital strategies, setting goals for the organization going forward. Working with key stakeholders within their organization and the wider UN system, they should facilitate the prioritization of actions, enable piloting, clarification of roles/responsibility and any providing support needed for implementation and evaluation of actions. To meet these objectives, the following measures should be taken, by staff representatives working with relevant stakeholders, in the medium/long term:

Digital skills and securing employment

- Provide staff access to and arrangements of training, in line with diverse employment relations and training practices within member organizations, and taking into account the diversity of the workforce, such as in the forms of training funds, learning accounts, competence and career development plans etc.
- Design and implement training arrangements that provide skills by retraining and upskilling, which could support mobility between and within roles/ organizations, so that staff can transfer to new jobs or adapt to redesigned jobs within the organization.
- Ensure that the redesign of work organization takes into account changed tasks, roles or competencies, and where possible, the redesign of jobs should allow staff to remain within the organization in a new role if some of their tasks or their job are impacted due to digitalization.
- Provide staff guidance to enable them to create their own personal strategies for effective management of the boundary between paid work and personal life.

Modalities of connecting and disconnecting

- Support organizations to implement effective policies to prevent and control the various psychosocial risks at work. Work organization and workload, including the number of staff, are key aspects which need to be identified and evaluated jointly by managers and staff and/or their representatives. Effective psychosocial risk management (which takes into account the risks posed by digitalization) is crucial for ensuring a safe and healthy working environment.
- Ensure appropriate measures to ensure compliance are in place.
- Raise awareness of and facilitate staff in accessing grievance and support procedures which are based on a no-blame culture to find solutions and to guard against detriment for staff for not being contactable.
- Design measures to ensure prevention of isolation at work.

Artificial intelligence and guaranteeing the human in control principle

- In situations where AI systems are used in human-resource procedures, such as recruitment, evaluation, promotion and dismissal, performance analysis, transparency needs to be safeguarded through the provision of information. In addition, an affected staff member should be able to make a request for human intervention and/or contest the decision along with testing of the AI outcomes.
- AI systems should be designed and operated to comply with existing laws (local and international as applicable), including data protection regulations, that guarantee privacy and dignity of staff.

Respect of human dignity and surveillance

- Staff representatives are enabled and supported to address issues related to data, consent, privacy protection and surveillance.
- Staff representatives are provided with facilities and digital tools/equipment to fulfil their duties in a digital era.

Context

Technological advancement and the emergence of the internet are key drivers of organizational change and have led to many changes and innovations across all sectors and in all regions of the world. As highlighted by the ILO Global Commission on the Future of Work, and confirmed by a growing body of research, digitalization of work increasingly impacts the quality of work and employment in organizations and is transforming the world of work by changing who works and when, and how work is organized and managed. Furthermore, the impact of the Covid-19 pandemic has only accelerated the pace of digitalization.

The evidence clearly suggests that digitalization can be both an opportunity and a threat. On the positive side, it can help to improve the quality of jobs by providing autonomy and allowing staff to choose where and when to work more freely, thereby, resulting in a better work-life balance. It can also help in making work environments safer and healthier, by replacing dangerous or boring tasks with automation. On the other hand, advancements in technology also mean permanent access, control and possible blurring of work-life boundaries. New forms of work and employment have also intensified trends towards new kinds of dependency and precarious jobs as well as insecurity. Digitalization therefore opens the door to an increase in challenges relating to the health, safety, and well-being of the workforce, that need to be better understood and managed. Maintaining a balance between the challenges and the opportunities presented by digitalization will depend on the proper application of the technology and on how it is managed.

The future of work and the workforce is a complex and multi-faceted issue that both international and national civil service leaders need to be proactive about. Responses to this digital transformation must evolve in an inclusive and human-centred way, emphasizing the importance of life-long learning and continued skills development. Multilateral cooperation and coordinated approaches/action among stakeholders is needed to both capture the opportunities offered by the growth of digitalization as well as address the challenges it poses. Digitalization will not deterministically shape the future of work, as policy choices exist over what and how technology is implemented, which would then determine what digitalization effects.

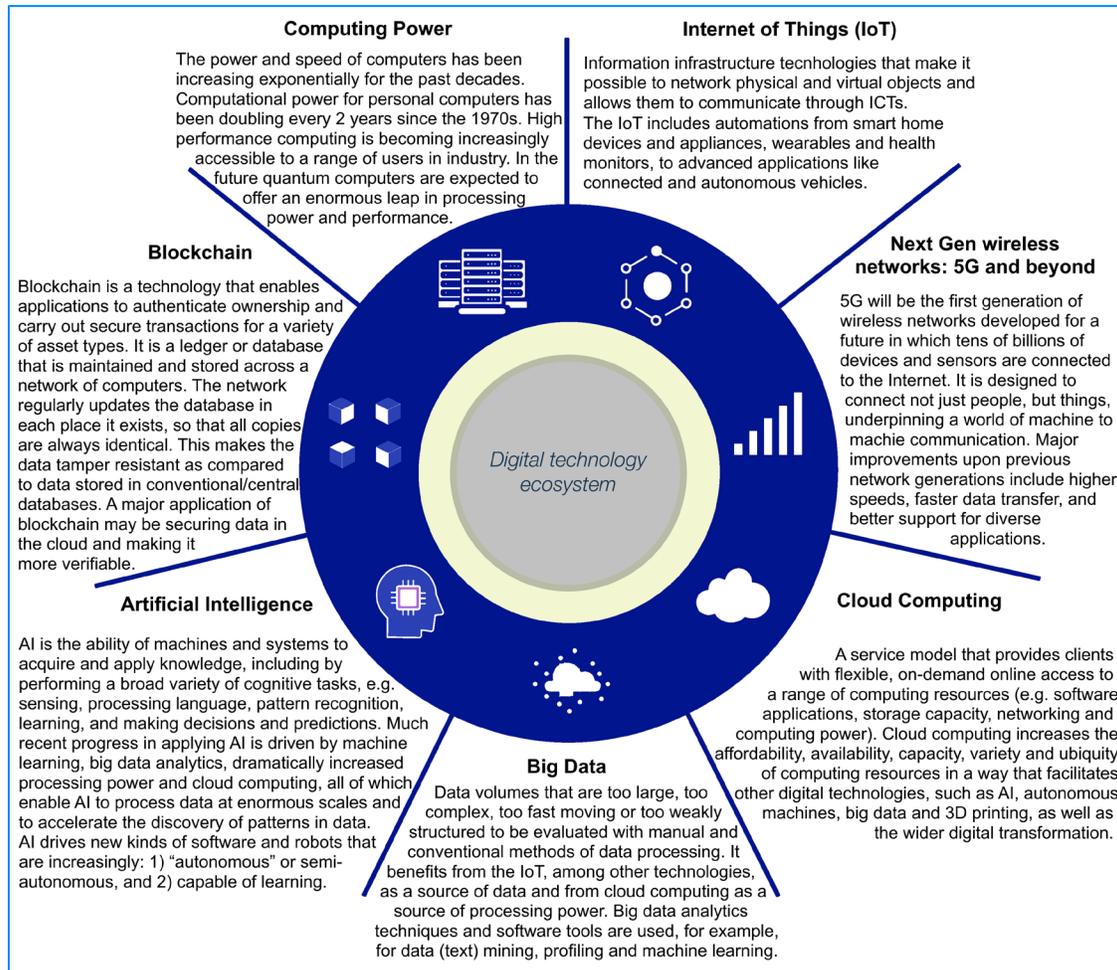
The importance of a well-informed staff representative body in defending the rights of staff and promoting their interests is even more vital in the context of the impact of digitalization. The role of the staff associations/unions in the context of digitalization is particularly important if the human-centred agenda for the future of work is to be implemented. It is crucial that staff associations/unions are involved in decisions that affect roles and therefore should play an instrumental role in decision-making on applications of artificial intelligence (AI) and automation and the wider impact of digitalization on work and employment. This guidance document therefore outlines the context and key considerations linked to change fostered by digitalization and AI, and provides staff representatives with an action plan to assist them in supporting their members during periods of organizational change, providing recommendations for action.

What is digitalization?

Digitalization emanates from information and communication technology (ICT) enabled technologies such as AI, advanced robotics, widespread connectivity, the internet of things (IoT) and big data, augmented and virtual reality, wearables, mobile devices and online-platforms that now provide essential services to all sectors of our economy and society, and moreover are likely to have major impacts on the nature and location of work over the next decades. The rapid advance of digital technologies has led to the development of an ecosystem of

interdependent digital technologies, as depicted in Figure 1, that underpins the digital transformation that will drive future economic and societal changes. It is important here to distinguish the terms digitization, digitalization, and digital transformation, which are often used interchangeably. While digitization is the conversion of analogue data and processes into a machine-readable format, digitalization is the use of digital technologies and data as well as interconnection that results in new, or changes to, existing activities. Digital transformation, on the other hand, refers to the economic and societal effects of digitization and digitalization.

Figure 1: An ecosystem of interdependent digital technologies



Source: Adapted from OCED (2019)¹, and Voss, Maack, & Rego (2019)².

AI is already being used in a range of applications and tools/machines for assisted work and data analytics, allowing the automation of increasingly complex tasks, as well as automated or semi-automated workplace decision-making and management. The applications of AI in working processes range from collaborative robots (cobots), wearable technologies and assistive tablets on production assembly lines (supporting virtual/augmented/extended reality applications), chatbots in call centres, and smart personal protective equipment, to algorithmic processes in human resource applications such as people analytics - the use of big data and digital tools to measure, report and understand employee performance, aspects of workforce planning, talent

¹ Going digital: Shaping policies, improving lives. OECD Publishing

² Digitalization and Public Services: A Labour Perspective. Report prepared for the Public Services International (PSI)

management and operational management. Developments in technology have allowed advanced communication processes such as livestreaming, video conferencing (Zoom, MS Teams etc.), enhanced document sharing and collaborative revision to facilitate the creation of virtual work environments, and virtual telework. A growing number of people are working remotely using a variety of technology-enabled tools to connect, collaborate and complete their tasks, particularly in the context of the Covid-19 pandemic, but once the pandemic ends, remote virtual work is likely to continue since teleworking can cut costs and improve organizational efficiency, which may catalyse wider adoption of teleworking practices.

Prevalence and trends

Digitalization may not lead to mass unemployment, as has sometimes been reported. However, it will lead to significant changes in the nature of tasks and how work itself is undertaken. It is expected that dynamically evolving technologies will render many skills obsolete while placing a high premium on others, which will further exacerbate the digital divide that exists among employment sectors and countries. Therefore, the expansion of reskilling and upskilling initiatives, as well as new strategies for effective transitions between roles is increasingly important. The Covid-19 pandemic has radically changed the working arrangements for millions around the world, including most working in the international civil service. It is important to consider the extent to which the pandemic could exacerbate existing challenges linked to work and employment, and the extent to which these could further worsen amidst intensified technology adoption in the pandemic's aftermath.

Impact on work and employment: It has been estimated that over the next 10-20 years on average, 14% of jobs would be replaced by technology, while an estimated 32% of jobs are likely to face significant change in how they are carried out, due to automation of some tasks within these jobs. Sectors with the largest potential rates of job losses in the future due to digitalization are manufacturing, distribution, administration and support services. While the areas with the greatest potential for growth in jobs are professional, scientific and technical activities, information and communications, and repair of computers and household goods, with knowledge intensive and professional sectors expected to see most of their activity taking place virtually. Retraining and reskilling of staff is therefore crucial for maximising the benefits and minimising the threats offered by digitalization.

Skills and the future of work: Evidence shows that to keep up with digital developments, simply improving digital literacy is not enough. The importance of the type/level of training needed, is not always fully recognized by organizations or staff. Significant investments by organizations to train their workforce is therefore increasingly important, enabling individuals to meet their high or emerging skill needs, spurred by digital technologies and artificial intelligence revolutions, and counteract skills obsolescence. Organizations should focus on educational goals, lifelong learning, and developing the right skills for all staff working at all levels of the organization, not only for high-skilled and/or professional staff, as is often the case, which would widen the digital divide.

The digital divide: Efforts also must be made to address the 'digital divide' which has been characterised as the exclusion of some population/staff groups from the advancements of the digital era due to insufficient access to ICT and lack of adequate digital skills. These barriers are often related to age, gender, disability, socioeconomic status and geography. Failing to address these disparities is likely to result in a future of work with deeper social divisions, which could have negative ramifications for productivity, growth, well-being and social cohesion.

The Covid-19 pandemic: In the absence of proactive efforts, challenges posed by digitalization are likely to be exacerbated by the dual impact of technology and the pandemic. Covid-19 has lifted much of the inertia around challenging what, how, when and where people work, with organizations now more receptive to new ways of working, particularly virtual telework, benefitting from which requires not only technological change but also positive organizational change. The impact of the pandemic also re-emphasized the importance of managing the psychosocial work environment, as psychosocial factors (aspects of work organization, design and management) moderate the relationship between telework, productivity and staff well-being.

Opportunities and challenges

Digitalization offers many opportunities for creating new jobs, improving the quality of existing jobs, and bringing previously underrepresented groups into employment. Virtual work, and particularly telework or remote working confers a diverse range of benefits such as reducing operating costs, improving team effectiveness as well as the ability to attract and retain employees, and enhancing flexibility and work-life balance for employees. Remote working is seen as a way for organizations to increase job motivation, effectiveness and offer flexibility for their staff. Organizational support around remote e-working can also increase job satisfaction and reduce psychological strain. According to the ILO, telework can offer staff the flexibility to do their work at the times that are most convenient for them, while remaining contactable during the normal business hours of the organization. This flexibility is essential for making telework effective because it allows teleworkers to schedule their paid work around their personal responsibilities, such as caring for children, elderly parents, and sick family members.

AI technologies leveraging big data can also help identify and forecast skills demands, direct training resources and connect individuals with jobs. The organizational level AI-enhanced HR practices have already begun to make job matching and training more efficient. They can help better connect job seekers, including dispersed staff, with workforce development programmes. Digitalized management methods/People analytics tools can aid employers to measure, report and understand employee performance, aspects of workforce planning, talent management, distribution of work, and operational management. This also has the potential of facilitating less hierarchical and more participative management practices. New forms of AI-based monitoring of workers may also provide management access to data about workers, to allow them to tailor worker protection and enable them to prevent risks to health, safety and well-being at the individual level by reducing exposure to various risk factors, including harassment and violence, and providing early warnings of stress, health problems and fatigue. It is important to highlight here that to benefit from these opportunities, ethical decisions and effective strategies and systems are needed for handling the large quantity of sensitive personal data that can be generated. It is important to ensure transparency in collecting and using such data, and staff and their representatives should be empowered through the same access to information.

Advancements in technology, however, have also created a number of challenges. Digitalization leading to new forms of work and employment has intensified trends towards new kinds of dependency and precarious jobs as well as insecurity, and further amplified challenges relating to the health, safety, and well-being of staff. Changes in work organization have had a negative impact on working conditions, led to blurring of work-life boundaries, increased work monitoring and surveillance, and to an exacerbation of existing and creation of new inequalities emanating from the digital divide. Working in a virtual environment presents unique managerial, technical and social challenges. For instance, dispersed teams may have a negative impact on employee emotions, increase workplace conflict, negatively impact team effectiveness, and negatively impact on team members' work motivation. Remote work can also lead to staff experiencing more emotional exhaustion and feelings of social isolation, which can be detrimental to their health and well-being. Furthermore, people suffering from emotional exhaustion experience higher levels of work-life conflict and usage of communication technology can cause burnout as people often end up working longer hours. Telework can result in blurring the borders between working and private life. Work can take place outside the traditional working hours as well as at home or when travelling. Hence, it may impinge on the need for rest and recuperation or interfere with personal commitments.

While, automation of tasks can result in cognitive underload and boredom, in performance pressure and intensification of work and certain risk factors, such as isolation and lack of interaction with peers, and can have a negative impact on teamwork, all of which are known psychosocial risks. AI-based technologies allow for new,

widespread, continuous and lower cost forms of worker monitoring and management based on the collection of large amounts of real-time data on workers, both during and outside working hours and in a variety of workplaces as well as outside the workplace, and sometimes beyond what is strictly necessary or legal. However, if processes of algorithmic decision-making in people analytics do not involve human intervention and ethical consideration, this human resource tool could expose workers to heightened structural, physical and psychosocial risks and negatively impact workers' mental health and well-being.

Key considerations

Realising the opportunities and addressing the challenges of the digital age for the organization requires narrowing the gap between technological developments, organizational policies and the overall organizational culture. Many organizational policies are often the legacy of the pre-digital era, and difficulties in understanding the changes underway and their implications may delay the review and adaptation of these policies. Such an understanding is imperative as digital transformation not only affects organizations, but also has an impact on individual staff. Some key considerations linked to change fostered by digitalization and AI are presented in Table 1. It is important that appropriate action is taken at policy and practice levels to address these challenges in a proactive manner, based on a continuous assessment of new and emerging risks. While organizational policies need to be updated to address the changing nature of work and emerging risks linked to digitalization and AI, other initiatives (such as training, guidelines, collective agreements and awareness raising campaigns) can also help employers clarify and implement good practices.

Table 1: Considerations linked to change fostered by digitalization and AI

| | |
|----------------------|---|
| Policy | How to achieve a good balance between regulation and other types of policy in order to address new and emerging risks in new forms of work while not hindering rapid progress, both within the organization and beyond. |
| Responsibility | How to define employer and staff responsibility in relation to risk management while working in new digitalized work contexts and conditions (e.g. remote virtual work; virtual work from home; working with AI-enabled machines). How can social protection, and employee welfare be ensured even for non-staff? |
| Autonomy and control | How to balance flexibility with staff autonomy and control over their work. How can staff participation and collective bargaining be supported? |
| Privacy | How to protect staff privacy in a digital work environment while using algorithmic monitoring and surveillance. How can ethical hiring, appraisal and evaluation processes be developed maintaining human dignity? |
| Technology interface | How to incorporate new technological interfaces (e.g., enhanced sensory stimulation, AI and robotics) in virtual work processes while ensuring human sensitive and human-in-control design? |
| Productivity | How to balance organizational economic performance against social performance. How can health, safety and well-being be addressed in a preventative way in the context of digitalization? |
| Workforce diversity | How to support more participation of diverse groups (e.g. female, older, younger, migrant, low educated staff, other marginalized groups) in virtual work while developing their skills and providing appropriate support. How can a lifelong perspective to the development of the workforce be promoted? |

Source: Adapted from Leka (2021)³.

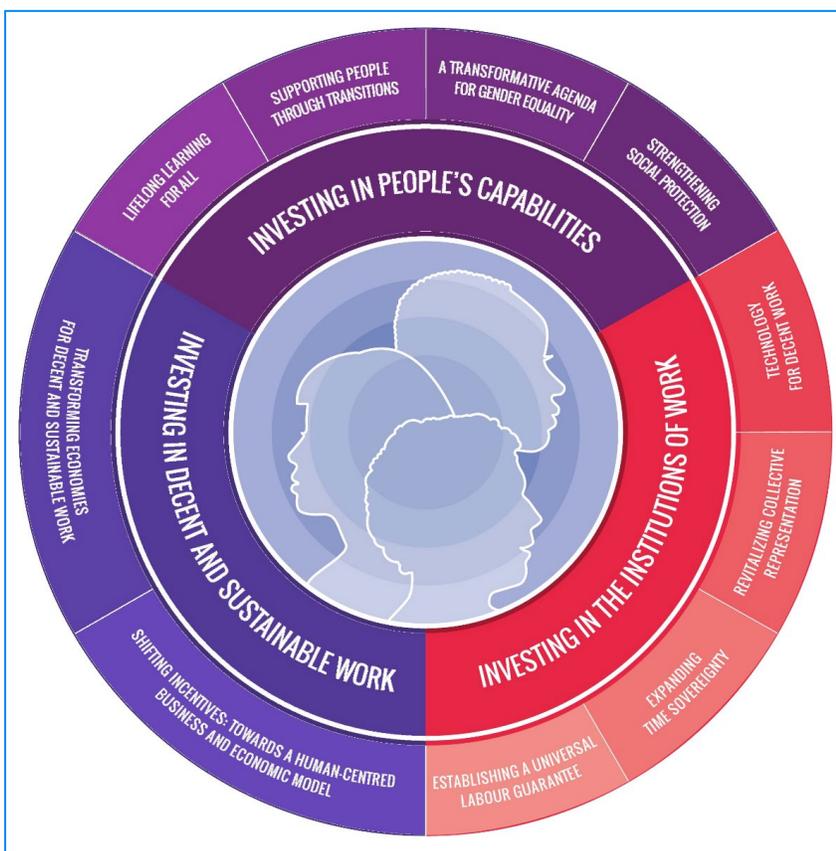
³ The future of working in a virtual environment and OSH. EU-OSHA Discussion Paper

Digitalization presents opportunities to rethink risk assessment and management processes which should aim at continual improvement. New and emerging risks, e.g. psychosocial risks associated with virtual telework and a strong focus on well-being and adopting and supporting a lifelong perspective to working lives should be prioritized. Furthermore, a strong ‘prevention through design’ approach should be taken. Lack of knowledge and skills represents one of the key challenges that need to be addressed, especially if the accelerated move towards more virtual work is considered in light of the pandemic. Therefore, appropriate training should be developed and provided that it is frequently updated to address technological developments and associated challenges. While providing such training, accessibility issues should also be considered across organizations and dispersed staff across countries as well as across workforce characteristics. Finally, issues in relation to privacy, security and ethics should be carefully considered in the development and implementation of these strategies.

The ‘human-centred agenda’

There is clear evidence which indicates that digitalization, if not implemented in an inclusive and human-centred way, can pose individuals, organizations and society a number of challenges. The ‘human-centred agenda’ for the future of work proposed by the Global Commission on the Future of Work⁴ provides the guiding principles on the basis of which stakeholders, both internal and external, can start a dialogue on these key considerations, examining interconnections between them and create a context within which actions to address the challenges and maximise the opportunities can be discussed.

Figure 2: Delivering the social contract: A human-centred agenda



Source: Global Commission on the Future of Work, ILO (2019)

As presented in Figure 2, this agenda consists of three pillars of action, a) increasing investment in people’s capabilities, enabling them to acquire skills, reskill and upskill and supporting them through the various transitions they will face over their life course; b) increasing investment in the institutions of work to ensure a future of work with freedom, dignity, economic security and equality, which involves strengthening social dialogue, giving everybody a voice in shaping the changes under way and the quality of their working lives; c) increasing investment in decent and sustainable work and shaping rules and incentives so as to align economic and social policy and business practice with this agenda, which requires guaranteeing fundamental rights at work, ensuring that all staff are afforded adequate labour protection, and actively managing technology to ensure decent work.

⁴ Work for a brighter future – Global Commission on the Future of Work. ILO

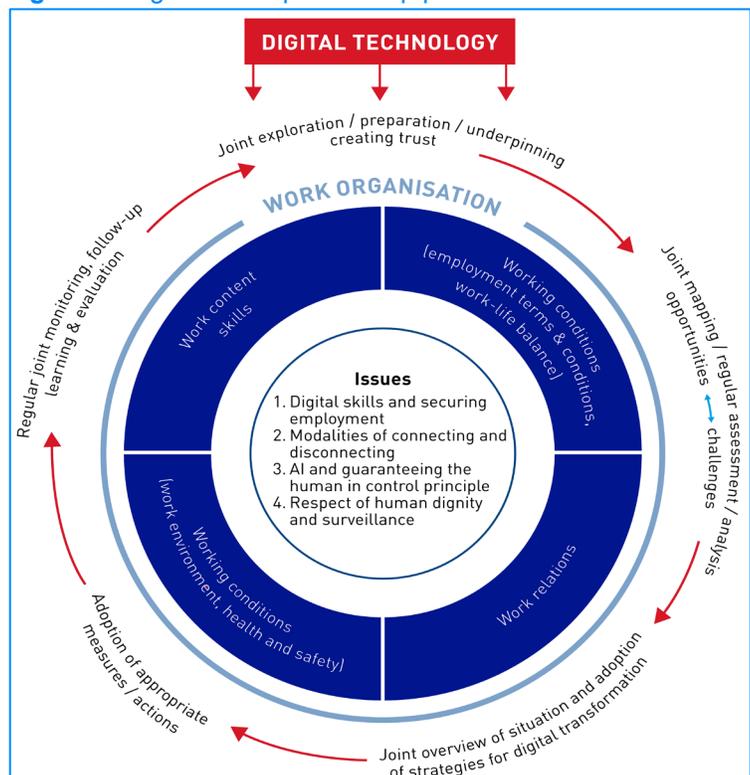
Recommendations

Technology in isolation does not create benefits or risks, it is instead the implementation of technologies that creates negative or positive conditions. The impact of technology on work and staff should be considered as a process that occurs over time and decisions must increasingly be made under uncertainty about future digital and other developments, while taking forward the ‘human-centred agenda’ for the future of work. The future of work will largely depend on the decisions that organizations make. It is therefore important that the future of work and the workforce must be seen against the backdrop of technological change and working life, not just at the level of a single job or task. Digitalization will continue to impact all work and nonwork periods over the working life. Hence, health, safety and well-being and other organizational policies should address not only hazards in a single job but also hazards along the whole working-life continuum. This requires organizations to develop ethical frameworks for digitalization, codes of conduct and proper governance, which are aligned with holistic health, safety and well-being policies, in addition to significant efforts to upskill and reskill staff, while decreasing the divide between organizations, and staff in terms of job level, content, education and pay.

Staff representatives need to be well-informed about the opportunities and challenges presented by digitalization, which will allow them to defend the rights of staff and promote their interests in this rapidly changing world of work. It is crucial that staff associations play an instrumental role in decision-making on applications of virtual work, artificial intelligence and automation and the wider impact of digitalization on work and employment. It is important that staff representatives work with a wide range of stakeholders and facilitate co-ordination across disciplinary/organizational policy silos, and levels/functions, to steer policies and action towards an inclusive and sustainable digital future. Multiple interlinked topics play a role in the context of digitalization and should not be dealt with in isolation. A multidisciplinary approach is therefore necessary, and holistic approaches should be developed which adopt a lifelong perspective to working life with a strong well-being focus.

The European social partner (2020) autonomous framework agreement on digitalization⁵, Figure 3, provides an ideal multi-disciplinary framework for the governance of digitalization in the international civil service. The agreement supports the successful integration of digital technologies at the workplace, investment in digital skills, skills updating and the continuous employability of the workforce. The agreement can be used by management and staff associations to introduce digital transformation strategies in partnership in a human oriented approach at the workplace level.

Figure 3: Digitalization partnership process



Source: European social partners (2020)

⁵ Autonomous Framework Agreement on Digitalisation. European Social partners - BusinessEurope, ETUC, CEEP and SMEunited.

This action-oriented agreement aims to raise awareness and improve understanding of managers, staff and their representatives of the opportunities and challenges in the world of work resulting from digital transformation and encourage a partnership approach between them while enabling them to identify concrete approaches, actions and measures they can take, according to their specific needs and circumstances, to address issues across four key areas:

- e) digital skills and securing employment,
- f) modalities of connecting and disconnecting,
- g) AI and guaranteeing the human in control principle, and
- h) respect of human dignity and surveillance.

It recognizes that digital technologies have an impact on several, often interrelated, topics such as (Table 2) work content and skills, working conditions (work environment, health and safety), employment/working conditions (employment terms and conditions, work-life balance), work relations, work organization, and therefore promotes a broad multidisciplinary approach, to enable managers, staff and their representatives to devise measures and actions aimed at reaping opportunities and dealing with challenges, whilst taking into account existing initiatives, practices and collective agreements that may already be in place.

Table 2: Key topic areas to be considered during the digitalization partnership process

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| Work Organization | Work organization is the distribution and coordination of work tasks and authority in an organization and the ways in which these are then coordinated to achieve the final product or service. It provides the structure of who is doing what, be it in teams or not, and who is responsible for what. |
| Work Content and Skills | Work content is about looking into the impact of digital technology/tools on the content of the job and the skills needed to perform the work and to (digitally) interact with others (co-workers, management, clients, intermediaries). It takes into account aspects such as autonomy, coherence, variation, workload, information, clarity of the role. |
| Employment and Working Conditions | Working conditions refers to the working environment (e.g. health, safety, well-being, physical and mental demands, climate, comfort, sanitary provisions, work equipment) and aspects of a workers' terms and conditions of employment. The latter covers matters such as: working time (schemes), rest periods, work location(s), work-life balance, leave systems, training and learning opportunities, evaluation mechanisms. |
| Work Relations | Work relations or interpersonal relations have an impact on the performance and the well-being of staff. These encompass the social interaction between staff members themselves and between staff and the organization (formal and informal relations with the direct supervisor, HR and management). Relations with clients and other third parties are also part of this. It is important to take into account the quality of the relations (collaboration, integration, contact moments and possibilities, communication, work atmosphere), the management style, the occurrence of violence or harassment, conflict management, support procedures and mechanisms. |

Source: Adapted from *European social partners (2020)*

The process of implementing the agreement on digitalization is based on the well-recognized and widely used organizational process of continual improvement, which ensures that a digitalization programme would meet the needs of all concerned, align with existing/ongoing processes and activities in the organization and is sustainable over time. Several risk management systems/processes in place in UN agencies and developed by organizations in the UN system such as the 'WHO Healthy Workplace Model', the 'ILO Guidelines on Occupational Safety and Health Management Systems' and ToRs of the implementation board of the UN System mental health and well-being strategy 'A healthy workforce for a better world', are based on the same process. Therefore, the adoption of the framework agreement on digitalization potentially offers several synergies with exiting systems already in use, thereby avoiding the need to introduce entirely new systems and processes.

The framework agreement on digitalization outlines the following five stages or steps:

1. The first stage, **'joint exploration/preparation/underpinning'**, is about exploring, raising awareness and creating the right support base and climate of trust to be able to openly discuss the opportunities and challenges/risks of digitalization, their impact at the workplace, and about the possible actions and solutions.
2. The second stage, **'joint mapping/regular assessment/analysis'**, is a mapping exercise looking into the topic areas in terms of benefits and opportunities (how successful integration of digital technology can benefit the staff and the organization) and in terms of challenges/risks. Possible measures and actions are also identified at this stage.
3. The third stage, **'joint overview of situation and adoption of strategies for digital transformation'**, is about having a basic understanding of the opportunities and challenges/risks, the different elements and their interrelationships, as well as agreeing on digital strategies setting goals for the enterprise going forward.
4. The fourth stage, **'adoption of appropriate measures/actions'**, is based on the joint overview of the situation. It includes prioritization of actions, piloting, clarifying roles/responsibility and securing resources and any support needed.
5. The fifth stage, **'regular joint monitoring / follow-up, learning, evaluation'**, comes full circle to a joint assessment of the effectiveness of the actions and discussion on whether further analysis, awareness-raising, underpinning or actions are necessary.

The process, carried out with the active engagement of staff representatives, can be tailored to the needs of an organization, and the agreement recognizes that a wide range of digital tools, training-arrangements and joint procedures may have already been introduced by organizations. Its adoption would therefore be cognizant of the complexity of the UN system of agencies, recognition of agency autonomy and a desire to proactively implement what is 'right' for their agency. Based on the framework agreement, the next sections provide a number of immediate and long-term actions, across the four key areas identified in the framework agreement, which staff representatives can take to address the impact of digitalization.

Recommendations for immediate action

In the immediate/short term, staff representatives should facilitate the implementation of Stage 1 and 2 of the agreement. Actions should be taken to raise awareness of the opportunities and challenges presented by digitalization among staff and management alike. Concerns raised by staff about the impacts of digitalization on employment and working conditions should be collated and analyzed. Existing tools and procedures should be taken into account in the joint mapping/regular assessment/analysis. It is in the interest of managers and staff to adapt work organization, where needed, to the ongoing transformation of work deriving from the use of digital work devices. Action to promote health, safety and well-being, and training of staff should be prioritized by staff representatives.

Digital skills and securing employment: A shared analysis and joint commitment to action should be supported by organizational social dialogue structures, comprising management and staff representatives, to assess and identify training needs linked to digitalization for the organization and its workforce. It is critical that digital technology is introduced in timely consultation with staff, and their representatives, so that trust in the process can be built. The following measures should be taken, by staff representatives working with relevant stakeholders, in the immediate/short term:

- Develop (or modify existing) equal opportunities policy to ensure that digital technology results in benefit for all staff, which proactively seeks to address the digital divide that may exist within the organization.
- Identify clear training and development objectives relating to digitalization, and link with key performance indicators.

- Focus on quality and effective training: This means to provide access to relevant training responding to the identified training needs of managers and staff. A key aspect of this in the context of digital transformation is to train all affected staff, not just a select few, to help them make the best possible use of the digital technologies that are introduced.
- Ensure that where the organization requests staff to participate in job-related training that is directly linked to the digital transformation of the enterprise, the training is paid by the organization and takes place at an agreed time by both the manager and staff member, and where possible during work hours.

Modalities of connecting and disconnecting: According to the WHO, a healthy job is one where the pressures on employees are appropriate in relation to their abilities and resources, to the amount of control they have over their work, and to the support they receive. Creating a healthy work environment (both physical and virtual) becomes increasingly important in the context of digitalization. It is in the interest of managers and staff to adapt work organization, where needed, to the ongoing transformation of work deriving from the use of digital work devices, thereby creating a positive psychosocial work environment. Achieving clarity on the legitimate expectations that can be placed on staff when using such devices can be supported by collective bargaining at the appropriate levels in member organizations. The following measures should be taken, by staff representatives working with relevant stakeholders, in the immediate/short term:

- Develop (or modify existing) telework policy – which clearly specifies working time rules, teleworking and mobile work rules acknowledging implications for work-life balance.
- Secure commitment from management to create a culture that avoids out of hours contact.
- Provide guidance and information for managers and staff on how to respect working time rules and teleworking and mobile work rules including on how to use digital tools, e.g., emails, highlighting the risks of being overly connected particularly for health, safety and well-being.
- Help teleworkers stay connected with supervisors, colleagues, and the organization as a whole to deal with the risk of social isolation that is associated with full-time teleworking.
- Ensure the policies and/or the agreed rules on the use of digital tools for private purposes during working time are clear.

Artificial intelligence and guaranteeing the human in control principle: While AI systems and solutions have the valuable potential to increase the productivity of the organization and the well-being of the workforce, it is also important to make sure that AI systems and solutions do not jeopardise but augment human involvement and capacities at work. The potential tensions between respect for human autonomy, prevention of harm, fairness and explicability of decision making should be acknowledged and addressed by emphasizing the importance of the ‘human in control principle’, control of humans over machines and artificial intelligence should be guaranteed in the workplace and should underpin the use of robotics and artificial intelligence applications whilst respecting and complying with safety and security controls. Staff representatives working with relevant stakeholders, in the immediate/short term should:

- Ensure that deployment of AI is fair, transparent, safe, and secure, and complies with all applicable laws and regulations as well as fundamental rights and non-discrimination rules. Deployment of AI system should:
 - follow the human in control principle.
 - be safe, i.e., it should prevent harm. A risk assessment, including opportunities to improve safety and prevent harm such as for human physical integrity, psychological safety, confirmation bias or cognitive fatigue should be undertaken.
 - follow the principles of fairness, i.e., ensuring that staff and groups are free from unfair bias and discrimination.
 - be transparent and explicable with effective oversight, with checks in place to prevent erroneous AI output.

Respect of human dignity and surveillance: Digital technology and AI surveillance systems, along with data processing, offer the possibility of ensuring healthy and safe working conditions and improving organizational efficiency. However, at the same time, they raise the risk of compromising the dignity of the human being, particularly in cases of personal monitoring. This could lead to deterioration of working conditions and well-being of workers. Staff representatives should therefore work with relevant stakeholders towards data minimization where possible, and seek to improve transparency by clarifying rules on the processing of personal data, thereby limiting the risk of intrusive monitoring and misuse of personal data. The following measures should be implemented in the immediate/short term:

- Always ensure that the collection of data is linked to a concrete and transparent purpose. Data should not be collected or stored simply because it is possible or for an eventual future undefined purpose.

Recommendations for future action

In the longer term, staff representatives from various agencies should lead the adaptation of the framework in their organizations tailored to its needs. Staff representatives should play a key role in agreeing digital strategies, setting goals for the organization going forward. Working with key stakeholders within their organization and the wider UN system, they should facilitate the prioritization of actions, enable piloting, clarification of roles/responsibility and any providing support needed for implementation and evaluation of actions.

Digital skills and securing employment: Social partners at the organizational level (management and staff representatives) have a shared interest in facilitating access to quality and effective training and skills development while respecting the diversity and flexibility of training systems to create a learning-oriented culture within the organization. For staff and their representatives, it entails staff commitment to support the growth and success of the organization and to recognize the potential role of digitalization to improve quality and efficiency. To create a positive learning culture, which will allow organizations to maximise the benefits of digitalization and mitigate the challenges it poses, the following measures should be taken, by staff representatives working with relevant stakeholders, in the medium/long term:

- Provide staff access to and arrangements of training, in line with diverse employment relations and training practices within member organizations, and taking into account the diversity of the workforce, such as in the forms of training funds, learning accounts, competence and career development plans etc.
- Design and implement training arrangements that provide skills by retraining and upskilling, which could support mobility between and within roles/ organizations, so that staff can transfer to new jobs or adapt to redesigned jobs within the organization.
- Ensure that the redesign of work organization takes into account changed tasks, roles or competencies, and where possible, the redesign of jobs should allow staff to remain within the organization in a new role if some of their tasks or their job are impacted due to digitalization.
- Provide staff guidance to enable them to create their own personal strategies for effective management of the boundary between paid work and personal life.

Modalities of connecting and disconnecting: To mitigate the negative impacts of digitalization on the health, safety and well-being of staff and on the functioning of the organization, the focus should be on prevention. Creating a prevention culture is important in the long-term where managers, staff and their representatives actively participate in securing a safe and healthy work environment through a system of defined rights, responsibilities, and duties, and where the principle of prevention is accorded the highest priority. Effective prevention requires the implementation of multiple strategies for all United Nations staff that address the constellation of risk and protective factors associated with poor mental health and well-being, as highlighted in the United Nations system mental health and well-being strategy. To meet these objectives, the following measures should be taken, by staff representatives working with relevant stakeholders, in the medium/long term:

- Support organizations to implement effective policies to prevent and control the various psychosocial risks at work. Work organization and workload, including the number of staff, are key aspects which need to

be identified and evaluated jointly by managers and staff and/or their representatives. Effective psychosocial risk management (which takes into account the risks posed by digitalization) is crucial for ensuring a safe and healthy working environment.

- Ensure appropriate measures to ensure compliance are in place.
- Raise awareness of and facilitate staff in accessing grievance and support procedures which are based on a no-blame culture to find solutions and to guard against detriment for staff for not being contactable.
- Design measures to ensure prevention of isolation at work.

Artificial intelligence and guaranteeing the human in control principle: AI systems and solutions should follow agreed ethical standards, ensuring adherence to fundamental human rights, equality, and other ethical principles and, should be robust and sustainable, both from a technical and social perspective since, even with good intentions, AI systems can cause unintentional harm. To ensure this, the following measures should be taken by staff representatives working with relevant stakeholders, in the medium/long term:

- In situations where AI systems are used in human-resource procedures, such as recruitment, evaluation, promotion and dismissal, performance analysis, transparency needs to be safeguarded through the provision of information. In addition, an affected staff member should be able to make a request for human intervention and/or contest the decision along with testing of the AI outcomes.
- AI systems should be designed and operated to comply with existing laws (local and international as applicable), including data protection regulations, that guarantee privacy and dignity of staff.

Respect of human dignity and surveillance: Since the monitoring of work effort in virtual teleworking requires a higher level of trust, the increase of virtual telework will require a shift in cultural and organizational norms that will be more difficult to achieve in organizations with more traditional work arrangements. There is also the danger that organizations respond to this challenge by using intrusive digital tools for remote monitoring work effort, which will have implications in terms of job quality, privacy, and autonomy. In the medium/long term measures should therefore be taken to ensure that:

- Staff representatives are enabled and supported to address issues related to data, consent, privacy protection and surveillance.
- Staff representatives are provided with facilities and (digital) tools/equipment to fulfil their duties in a digital era.