The Changing Nature of Work

30 signals to consider for a sustainable future

UNDP accelerator labs

Co-building the Accelerator Labs as a joint venture with:

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As a group of explorers from six different UNDP Accelerator Labs located in Europe and Central Asia, we have benefitted from collective intelligence[2] in order to identify emerging signals of the changing nature of work. We hope that our experience will inspire readers to incorporate future-oriented and collective thinking into their daily work. We also hope that this report will generate interest in further exploring this important topic that will continue to affect us all. Should you need any help or wish to discuss your ideas, you can drop us an email.

UNDP Accelerator Labs

UNDP Accelerator Labs[3] (AccLabs) were designed to approach complex development challenges effectively using innovative principles, methods and tools. Exploration, one of the three core functions of the AccLabs, revolves around understanding problems, identifying and developing new solutions to address them, and anticipating possible outcomes in different contexts. At the heart of exploration lies the identification of emerging trends, issues, technologies and non-traditional sources of data. By examining them, we can discover evidence and insights that are crucial for informed decision-making at all stages of development work. Without such evidence and insights, intervention design and/or policymaking become more challenging, and there is a risk of developing solutions that are not suitable or sufficiently effective for the challenges at hand.

Acknowledgements

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[1] Corresponding author.
[2] Collective intelligence can be understood as the enhanced capacity that is created when people work together, often with the help of technology, to mobilize a wider range of information, ideas, and insights (NESTA). Techniques involved in collective intelligence can be used by any group irrespective of size.
[3] UNDP Accelerator Labs, https://acceleratorlabs.undp.org
[4] World Economic Forum Strategic Intelligence, https://intelligence.weforum.org

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The COVID-19 pandemic surfaced many new ideas. Around the world, skills and tools were in demand to both understand complexity and to better predict and shape the future. Responding to this demand, UNDP's Accelerator Labs facilitated rapid sense-making and solutions-mapping across the countries in which they operate. This work yielded local insights and scalable solutions. Importantly, it also showed the appetite that exists for redesigning economies and social systems to ensure that they meet the needs of people and the planet.

Work helps sustain livelihoods and largely determines quality of life. Its changing nature is at the frontier of development – a set of complex social, economic, environmental and cultural systems that evolve unevenly in various parts of the world, exacerbating inequalities and creating new ones. In other words, a perfect 'lab subject' for wide exploration.

This report is the result of a broad horizon scanning by six UNDP Accelerator Labs across Europe and the Commonwealth of Independent States: Azerbaijan, Bosnia and Herzegovina, Serbia, Turkey, Ukraine and Uzbekistan. The six Labs' Heads of Exploration joined forces to reveal 30 signals that shape the "where, who, how, and why" of the changing nature of work. From the impact of COVID-19 on the workforce to new work models and entrepreneurial ecosystems, the authors explore opportunities and threats, as well as solutions from local contexts that can be scaled up into positive answers to the challenges people around the world are facing.

The report asks critical questions. As we witness the emergence of new occupations and the decline of existing ones, which principles should be applied in designing sustainable development solutions? What opportunities should be grasped to accelerate inclusiveness in labour markets and work environments? What could be the 'new normal' in perks and social benefits offered by employers globally? What are the effects of radical technological advancements including AI? The report will help find the answers to these and other questions on the future of work.

This report is also an invitation to engage in futures thinking widely, and a call to ensure that humans stay at the centre of the work revolution. Combined with scalable solutions, the trends and signals captured in this report could become the building blocks of the new strategic development portfolio.

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Executive Summary

Social and technological change worldwide is accelerating towards a highly uncertain future. There will be many exciting opportunities that will contribute towards further developing communities, nations and regions all around the world. The need and desire for innovation have never been greater; we will need to seize new opportunities when they arise and purposefully create others even when conditions do not seem favourable. However, most of today's pressing issues such as poverty, global warming and forced migration are likely to persist. Despite all the recent technological and economic progress that has been achieved, the complex interdependencies between these problems and potential solutions will make development even more challenging than it has been in the last few decades.

Such a complex picture requires a comprehensive response that is inclusive and transformative while protecting human dignity, health and wellbeing. The current economic paradigm is based on value creation by humans who in turn earn a living through employment. The notion of work has significantly evolved in the last century, but what has not changed much is that there is still a need to organize societies to survive and prosper, and provide work, paid or unpaid.

Although we can now fully automate many tasks as a result of advanced technologies, strategic thinking and planning as well as execution still require a strong element of human judgment, morals and intelligence, which cannot yet be found in machines. This is precisely why this and similar publications are currently in circulation – to give the development community a sense of what has begun to emerge in the area of work and what lies ahead in terms of changes, whether perceived as threats or opportunities.

This report has been produced as a response to a need recognized by experts and others: **the changing nature of work requires a set of actions that is not only responsive to changes that are taking place, but is also capable of exploring possible options that may change communities in significant ways in coming years.** The development sector, with a strong sustainability focus, should play a major role in this area, and a portfolio approach used by organizations such as the United Nations Development Programme (UNDP) shows how a diverse but mutually reinforcing set of complementary interventions – from which lessons can be drawn in ways that would not be possible with isolated solutions no matter how effective – are put to the test.

Work, encompassing all areas of life, is a vast subject that needs to be examined from different angles. This report organized into five main sections covering 30 topics ('signals'), outlines emerging trends, associated challenges and opportunities. Its aim is to highlight some areas of interrelated actions for various actors in the development sector and beyond. Some of the highlights from the report include:

Section I.

The impact of the COVID-19 pandemic on the workforce and its future has been tremendous. The pandemic has been a 'perfect storm', which revealed intrinsic weaknesses in how work is organized and altered its slow-changing evolution. Reduced access to healthcare, education, public services and work have exacerbated issues related to gender, social marginalization, exclusion and inequality. The use of modern technologies in surveillance, tracking and remote work during the pandemic has raised concerns over ethical aspects, trust and the highly blurred work-life boundaries. In addition, mental health issues related to a disrupted work-life balance and stress caused by uncertain economic prospects have become serious concerns.

Building resilience to external shocks is an opportunity and a requirement, which will need strong facilitation for coordinated action. Horizon scanning and foresight tools must be embraced and used more widely. Long-term thinking and portfolio approaches must be adopted instead of 'band-aid' solutions.

We should also boost crisis response financing/resource mobilization mechanisms, especially for long-term and global threats. Studying global risks and their mitigation must be given attention rather than remain a fringe academic activity. Aspects of a well-functioning and equitable society, economy and culture depend on, among others, a robust digital infrastructure and must become a cornerstone of any revival and development plan.

Section II.

Job markets, business models and social protection mechanisms are undergoing disruptive changes driven by demographic shifts, the development of new technologies, the rise of digital workplace platforms and environmental challenges. The balance in the labour markets will be affected by dynamics both on supply and demand sides, pressing for structural reforms and adaptation to new skills paradigms. New ways of creating value in the digital economy will be more prevalent through digitally enabled platforms and business models. New technologies, including artificial intelligence (AI), the Internet of Things (IoT), automation and ubiquitous digital connectivity will accelerate occupational and skill shifts, and the rise of nascent industries. The emergence of 'superjobs', which will integrate human and machine skills to significantly broaden the scope of functions, will require treating human-machine interaction protocols and ethics as priorities rather than as afterthoughts. Environmental degradation and increased awareness of sustainability issues will drive development of the circular economy and the creation of more green jobs.

Job markets and economies must adapt to demographic changes by making job markets more inclusive, boosting productivity and proactively supporting reskilling and upskilling. Both employers and employees should be motivated to learn, develop, grow and adapt to a new reality that the changing nature of work will bring. At the same time, many companies will have to re-evaluate their business models to achieve positive social and environmental impacts, for example, by adopting impact models, revisiting standards and designing balanced human-machine systems.

Governments should not only enable such changes through legislation, but should also be ready to spearhead them by reforming themselves and setting long-term targets (e.g. full gender equality, human rights in technological age, carbon neutrality, limitation in the usage of harmful materials). These usually require new expertise and resources, which can often be found through new partnerships.

Section III.

New technological and social realities are inducing the emergence and widespread adoption of new work models with a wide spectrum of opportunities and new challenges. The number of people employed in the gig economy and digital platforms, or in other unconventional employee-employer relationships, is growing. While more flexibility and accessibility are being created for most people, as well as new ways for connecting consumers and workers, there are associated challenges related to social protection, long-term job security and blurred work-life borders. While the public sector is far behind the private sector in pioneering new standards and practices in workplaces, it can catch up by embracing new technologies and adopting new social norms. Additionally, in the future we will be able to see a convergence of current public and private models, i.e., an amalgamation of best practices and their application in workplaces.

Enabling digital infrastructure and managing corollary social aspects will become a requirement to gain the benefits of the gig economy. Governments will need to invest in improving Internet infrastructure, better regulating labour interactions on new platforms, and implementing measures to solve a range of new ethical and legal dilemmas. New social protection nets adapted to emerging work models should be developed.

The private sector should also realign its business and social protection models. It should revisit its ways of measuring individual performance and collective success. Public-private partnerships can be promoted where needed through a results-oriented perspective, also for work process optimization, creating an environment for fusion of best practices and mutual learning.

Section IV.

Technological development, together with demographic, economic and cultural factors will necessitate more inclusive labour markets and new employee relationship practices. Narrowing the gender gap and, in general, adopting more inclusive approaches will be a key requirement in adopting new work models, at least in progressive labour markets. A shorter working week, flexible schedules, remote work and better work-life balance will be commonplace with productivity boosts, increased mobility and increased demand for high cognitive, social and emotional skills. At the same time, dynamism and sophistication of demanded skills will require faster reskilling/upskilling cycles and more effective and targeted measures to increase digital literacy.

Designing inclusive work practices requires bold action in reducing inequalities between certain groups. Some concrete actions to support this agenda are applying a gender lens to all aspects of work and formulating gender-responsive policies from recruitment to delivering results; tackling biases in effective ways; providing equal opportunities for different class/wealth/education groups; and bridging the urban-rural divide by creating mutually beneficial interactions between territories. Boosting digital literacy, especially among vulnerable and underrepresented communities, must be prioritized, given our dependence on digital tools and infrastructure, both in crises and in ordinary times.

Employers also need to enable more balanced work-life patterns by embracing various advantages brought about by remote work. Accordingly, flexible work policies, both in terms of schedule and location, should be designed and supported on an ongoing basis. Both the public and private sectors need to build enough capacity to be agile and responsive to ever-changing demands of new areas of work.

Section V.

Entrepreneurship will rise in importance to play a leading role in transforming work. Ecosystems that are conducive to innovation and entrepreneurship will, more than ever, be critical for the growth of industries and further development of an entrepreneurial mindset. Start-ups and other potentially disruptive forms of entrepreneurship will lead in adopting new organizational structures and practices. Business missions are expected to be more involved in tackling burning global and social issues. Technological and institutional developments are making capital markets more democratic and accessible, thus providing greater opportunities for more risky and disruptive ideas. In parallel, larger and more conventional companies will benefit from nurturing entrepreneurship practices within their hierarchies. This will allow them to support an innovation culture and promote the values of lateral thinking, autonomy, proactivity, market awareness and risk-taking. Mission-oriented innovation funding could become fundamental for governments that want to step up or survive in competitive international markets, considering the relative fragility and myopia of most private investments.

Governments will need to consider targeted deregulation and incentive policies to create an enabling environment for innovation and development. Encouraging entrepreneurs to engage in new areas with disruptive potential and positive social impact may pay off – this can be achieved through support to risk leveraging, easier access to capital, sectoral preferences, minimum price guarantees and the prioritization of social innovations, etc.

Creating efficient and vibrant science, research and innovation ecosystems will be even more critical for the competitiveness of countries in the coming months and years. Governments and private companies will need to ramp up entrepreneur culture and skills at the national scale and within individual companies. Education curricula will need to constantly adapt to future skills demands.

Introduction

Given that the changing nature of work is not an entirely new concept, it has been on our radar for quite some time. Indeed, we, as UNDP Accelerator Labs explorers, have continuously been observing developing trends and emerging signals on relevant issues such as work. Moreover, the crisis caused by the COVID-19 pandemic has led to significant system disruptions, including in work, where radical changes have occurred in a brief period. Therefore, in our opinion, this report and its timing are even more relevant today than ever before.

We began our work on this topic by examining how work has already changed and anticipating how it could continue to transform in 5, 10, 20 years' time, with the aim to provide valuable insights on different segments of work that await us. This report, based on collective intelligence and foresight, could be of value not only to the United Nations Development Programme (UNDP) and the whole United Nations system, but also to anyone interested in the topic or wishing to learn about work in current and future times, whether they come from fields of development, academia, or the public, private or the third sectors.

In a technology-based society, the nature of work is changing dramatically. We need to rethink the concept of jobs, create a new social contract, and transform education towards faster and lifelong learning. What will the role of human beings be in a world of increasingly capable machines? Will all the practical expertise needed be available online? Tectonic changes in cultural norms and social standards facilitated by globalization and societal paradigm shifts are also shaping the future of work. How will we maintain a healthy work-life balance in the future? How will gender equality and inclusivity aspects shift the balance of job markets?

While reading several recent 'future of work' reports, we realized that the focus was largely concentrated on topics such as technology, automation, robots and jobs—at the expense of crucial social, political, cultural and environmental issues. We approached the task with the idea to address current signals of change and the emerging issues including those that have arisen during the COVID-19 pandemic. The 30 topics ('signals') that have been included in this report represent the areas that we think are the most relevant and significant in terms of UNDP's programming efforts in the region and beyond. We discuss disruptions to jobs and skills, new work models, inclusive labour markets, work practices and the entrepreneurial ecosystem. In light of current events, we also talk about the effects of COVID-19 on the workforce.

One of the decisions we had to make at the beginning was about how much depth (of detail) vs. breadth (of scope) we wanted to cover on this topic. Since the report aims to start a conversation on the changing nature of work, we thought it was important to cover as many relevant topics as possible. Although we tried to strike a balance between the two, we deliberately chose to prioritize breadth over depth. It is worth mentioning that this document is the first in a series of knowledge products that will be produced by the authors on the subject. It is a compilation rather than an entirely new statement about the future. Since some of the topics deserve further exploration, we will publish articles, blog posts and/or brief reports in the coming months.

Our hope is that this report will help our colleagues in the United Nations system, mainly UNDP country offices, to consider new programming areas aimed to solve the systemic problems of tomorrow, rather than 'putting out fires' as is so often the case in our work. Although the report covers key aspects that shape the institution of work in the future, each country will have its own specifics and development roadmaps. The UNDP Accelerator Labs (AccLabs) around the world might consider the findings and emerging issues a solid ground for further customized, in-depth analysis. Another opportunity for the AccLabs to consider is inter-agency cooperation. UNDP has recently announced partnership frameworks with the International Labour Organization (ILO), International Organization for Migration (IOM) and the Food and Agriculture Organization of the United Nations (FAO), acknowledging the urgency brought

about by the COVID-19 pandemic. The organizations prioritize innovative and people-centred solutions with the capacity to scale.

The findings provided here could also help a wide range of stakeholders in adapting to changing environments and testing new work models. These findings can also motivate them to have meaningful dialogues with a wider audience (including experts, government partners and key ecosystem players) to trigger action in this area.

Methodology

A large part of this document was written between May and August 2020. Between our weekly calls, we continued to read and generate content, and give each other feedback as much as possible. The World Economic Forum's (WEF) Strategic Intelligence Tool allowed us to explore and monitor the global issues and forces driving transformational change across economies and industries. It allowed us to create customized maps to navigate the most relevant issues and publications on the topic.

We used this online tool to identify the five main sections and the 30 topics ('signals') that have been included in the report; the sections can be read in any order. For the core content, we used a variety of sources ranging from news articles and opinion pieces to reports written by experts in various fields. We divided the 30 topics between us so that each author (working as Head of Exploration in a UNDP country office in Europe and Central Asia) would write on five topics individually, and we co-wrote the rest of the document. Each author selected their topics based on their expertise and/or interests. We and other UNDP colleagues peer-reviewed the final document.

I. The Impact of COVID-19 on the Workforce

The Impact of COVID-19 on the Workforce

A report written during a pandemic can only begin with a section that explores the phenomenon that urges us to reflect on the past and reimagine the future of all aspects of our lives. The 'new normal' is a term attributed by many to the COVID-19 and post-COVID-19 era that demonstrates that our world will never be the same again, and that we all have to adapt to the new reality. This chapter focuses on the aspects that were impacted by the pandemic and that will definitely shape the future of work differently. Prolonged lockdowns around the world hit the countries' economies, deepening inequalities at all levels, including financial well-being, gender, social protection and beyond. Even people who kept their jobs have experienced major changes in their lifestyle that affect their mental health and overall work-life balance. The disruptions and consequences caused by the pandemic should be considered by all stakeholders involved in reimagining future work models.

1. New forms of inequality

The COVID-19 pandemic, which led to global health and economic crises, has shed new light on pre-existing inequalities. It has had a significant effect on direct and indirect inequalities between and within countries [1]. In addition to the short-term effects, increased inequalities will have extended consequences on social, political and economic aspects [2] of life, further compounding the impact of the pandemic. The aggravated impact of the pandemic took the form of decreased access to healthcare, education, public services and work, which are affecting gender-related issues, social inclusion and economic activities. The pandemic is putting the "*Leave no one behind*" principle to the greatest test, since it could significantly set back progress in achieving the Sustainable Development Goals (SDGs), especially SDG 10 ("Reduced inequalities") by 2030.

When observing the pandemic through the gender lens, women are on the front lines of the COVID-19 crisis, serving as first responders, finding solutions as innovators, and fighting the pandemic as political leaders [3]. Women across the globe make up nearly 60 percent of the informal economy [4], and by earning less, they are at more risk of falling into poverty. Working from home with an increased informal work burden can lead to negative coping strategies, further affecting children and households [5]. There is an evident increase in violence against women and girls [6].

Socially marginalized and excluded people, including refugees and stateless persons, were already less likely to participate equally in all spheres of life in normal circumstances, and the pandemic has made things even worse. The most marginalized people lack access to public health facilities and information, education and paid work [7], and the ability to participate equally in their communities, often facing significant barriers to adopting basic hygiene measures due to inadequate infrastructures.

Due to the COVID-19 pandemic, agricultural production has decreased, negatively affecting [8] the food supply chain, and millions of people have been put out of work mainly due to the problems with food processing, wholesale and retail. As a consequence, all economies are heading towards a COVID-19

recession [9]. The lockdown measures have hit the highly labour-intensive and the service sectors the most. Currently, with a certain number of restrictive measures being eased, the question is raised of how effectively, for example, could small and medium-sized enterprises (SMEs) recover and prepare for an anticipated new wave, and what the full impact of the pandemic will be.

A vast number of employees started to work from home. To some extent, this seems to be a successful experiment resulting in people being more productive, spending less time commuting and more working, and cost savings for some companies (e.g., office rent and utilities). However, remote work has also had some adverse effects on the work-life balance, further especially taking a toll on women. A new inequality has emerged from a rapid shift from working in an office environment to working at home where the boundaries of work time and private time are often very blurred, further leading to time poverty for workers and their increased anxiety, and affecting workers' overall well-being.

When observing countries individually, inequality in wealth is often linked to inequality in opportunities. Since wealth is linked to location, there are also evident inequalities between people from urban and rural areas; rural people and particularly the poor have less access to adequate sanitation, health services, job opportunities, education, the Internet, social protection and public infrastructure, etc. [10].

Although inequalities at various levels were very much present before the COVID-19 crisis (BC) [11], the further increase of the inequalities [12] after the domestication (AD) should be addressed by national institutions, politics and policies during the adjustment to the new normal so that all can be built forward better.

2. Sectoral differences

The COVID-19 crisis has been a colossal stress test, not least for the national economies. It has impacted all sectors of the economy. Due to a globalized world economy and intertwined international trade and supply chains, even the countries that were not at the epicentre of the pandemic have experienced a significant burden through economic disruption. According to the International Labour Organization (ILO), in 2020, there was an estimated 4.8 percent drop in working hours in Q1 and a 10.7 percent drop in Q2; and for Europe and Central Asia region, there was a 3 percent drop in Q1 and a 12.9 percent drop in Q2 [13].

The scale and depth of the impact have been different for businesses depending on the sector, ownership type, size and informality level. The most directly hit sectors included service sector activities that cannot be digitalized, non-essential construction and smaller manufacturing [14]. The private sector, especially small and medium-sized enterprises (SMEs) with limited resources, are in a more disadvantaged position than larger organizations. The informal sector, which is prevalent in developing economies, faces even greater challenges; it operates in saturated markets with very limited profits and poor chances of survival, and are often outside the purview of common government policies and programmes [15].

The diverse and multifaceted impact of COVID-19 raises complex issues relating to resilience and flexibility, social protection, inequality, occupational safety measures, etc., which manifest differently in different settings. In addition to the usual drivers of change, these issues will also influence how the future of work will be shaped.

3. Increasing awareness of the fragility of mental health

The COVID-19 pandemic has elevated the number of risks to a significantly higher level. Social anxieties and mental health issues have also been on the radar since the beginning of the pandemic. On 13 May

2020, United Nations Secretary-General António Guterres called on governments to urgently address the mental health dimension of this pandemic [16]. The number of publications calling for more attention to the issue is rising as fragile mental health has long-lasting negative effects.

In April 2020, a survey was conducted [17] in the United Kingdom to understand the population's concerns about mental health; it showed that 21 percent were concerned about isolation and about mental issues during the pandemic. It is also important to note the gender differences highlighted by the survey: a higher percentage of women were concerned about mental illness during the pandemic than men. In its recent COVID-19 Risks Outlook report [18], the WEF provides another set of sobering figures: "Early lockdown studies found that up to 45 percent of adults felt adverse effects on mental health, up to 37 percent showed signs of psychological distress and up to 70 percent felt this period was the most stressful of their careers." A study in Ukraine finds higher levels of all emotional distress among women than among men (e.g. depression, anxiety, sleep disorders). In the early months of the pandemic (during March–April 2020), women considerably reduced their level of anxiety – they adapted better and got used to the changes. However, among men, there were increases in depression and sleep disorders. Interestingly, recent online surveys in Ukraine showed that there was a drop in levels of stress: in May 2020, 48 percent of respondents said that COVID-19 was one of the causes of stress, and in July, only 22 percent. But the anxiety due to the worsening of the financial situation increased significantly: from 44 percent in April 2020 to 58 percent in September 2020.

While some groups might face mental health risks due to the disruption of how they work, others are put at higher risk of being infected and of suffering greater economic consequences. Both of these groups may suffer from increased stress and anxiety, which might lead to a much greater need for psychological support, and it may take a long time to return to normal.

As in other areas, the digital transformation of mental health services can help address this issue with a range of technological tools such as telehealth [19]. However, countries should be mindful of the risk of widening digital gaps: while some groups will enjoy the benefits of telehealth, others are at risk of missing out due to limited access to digital technologies.

As we all adapt to the new normal, employees and employers need to consider how such a short-term transition can be made smoothly, how they could create ecosystems and cultures of work in which staff can be physically and mentally resilient. These measures will come at a cost and might not even be implemented with the next great recession looming, which would further exacerbate the risks of fragile mental health. Some organizations have started to invest in caring for the mental health of their employees: Starbucks is supporting employees with 20 free counselling sessions per year; PricewaterhouseCoopers (PwC) is providing wellbeing coaches for staff; and UNDP has invested in increased support for its staff in this regard. Although this is far from being a trend, this service is becoming a standard social benefit in some cases organizations since they are investing more in the mental wellbeing of their employees.

4. Wellbeing and the life-work balance

Physical distancing and lockdowns imposed by the pandemic have made remote work arrangements a necessity for many organizations. This short-term measure has the potential to turn into a new normal, blurring the line between work and leisure, making it harder for many people to manage their daily lives.

According to research conducted in the United States, the United Kingdom and the European Union, before the pandemic, up to 80 percent of employees experienced work-related stress regularly. There are additional stress factors associated with COVID-19: uncertainty overall, the urgency of establishing a new set-up, fluid lines between working and non-working hours, e.g., e-mails and urgent requests from colleagues and/or management late in the day, and lack of time for adaptation. Organizations and team leaders are being pushed to help their employees to adapt to the new conditions and to increase resilience and maintain wellbeing within the new reality [20].

The disruption caused by the recent pandemic, specifically the shift to remote work, has boosted discussions around the work-life balance. While such a balance was previously seen as a set of measures aimed to regulate two distinct areas of life, the COVID-19 situation has urged people and organizations to revise this approach and focus on the holistic integration of various aspects of life [21]. For instance, organizations that had been practicing flexible working arrangements and that introduced technological solutions and virtual teams prior to the pandemic reported increased team productivity during the pandemic. According to Deloitte's survey [22] of companies in Switzerland, 70 percent of workers acknowledged the effectiveness of remote work. Also, employees indicated that due to the extreme situation, there was not always enough time to make proper home arrangements such as creating suitable desk space and reconciling children's needs with the demands of work and other necessities, which is a real cause of stress for many.

Deloitte's 2020 Human Capital Trends report reveals that an increased level of trust, greater freedom in making decisions and controlling the workflow, and regularly acknowledging employees' contributions can be the first steps towards a new wellbeing concept. However, 79 percent of the respondents stated that their organizations were not ready for such changes. To maintain a high level of efficiency and motivation among employees, organizations must reorganize themselves not only in terms of infrastructure, but also corporate culture.

5. Trust issues and anxiety about work security caused by remote monitoring

Telecommuting exploded during the pandemic; millions of people started doing their jobs from home and many companies realized that they could be fully operational with this mode of working. The landscape of possibilities has changed. This upheaval was accompanied by a spike in the use of surveillance software that allows employers to track what their employees are doing and how long they spend doing it. Many companies have installed a range of tools on remote workers' computers. These software tools track keyboard strokes, mouse movements, emails, Slack, Zoom calls and browser history. Some can also take a picture via webcam every few minutes to check that employees are at their computer. Some of these software packages give workers a "productivity score" and are being advertised as "AI tools to increase productivity", claiming that they can measure how quickly employees complete different tasks and suggest ways to improve their speed using machine learning (ML). These systems are usually installed without consulting employees or seeking their consent. This raises many ethical questions, such as whether surveillance undermines trust and damages employee morale [23]. Critics are saying that this creates an environment where people do not feel trusted in doing their job, increasing anxiety, and that there are better ways for motivating people.

Some authors like Yuval Harari call this era a war between totalitarian surveillance and citizen empowerment [24]. Governments and corporations can rely on ubiquitous sensors and powerful algorithms to track and monitor people. This continues a major battle that has been raging in recent years over personal privacy and the erosion of trust.

6. A period of introspection and reflection

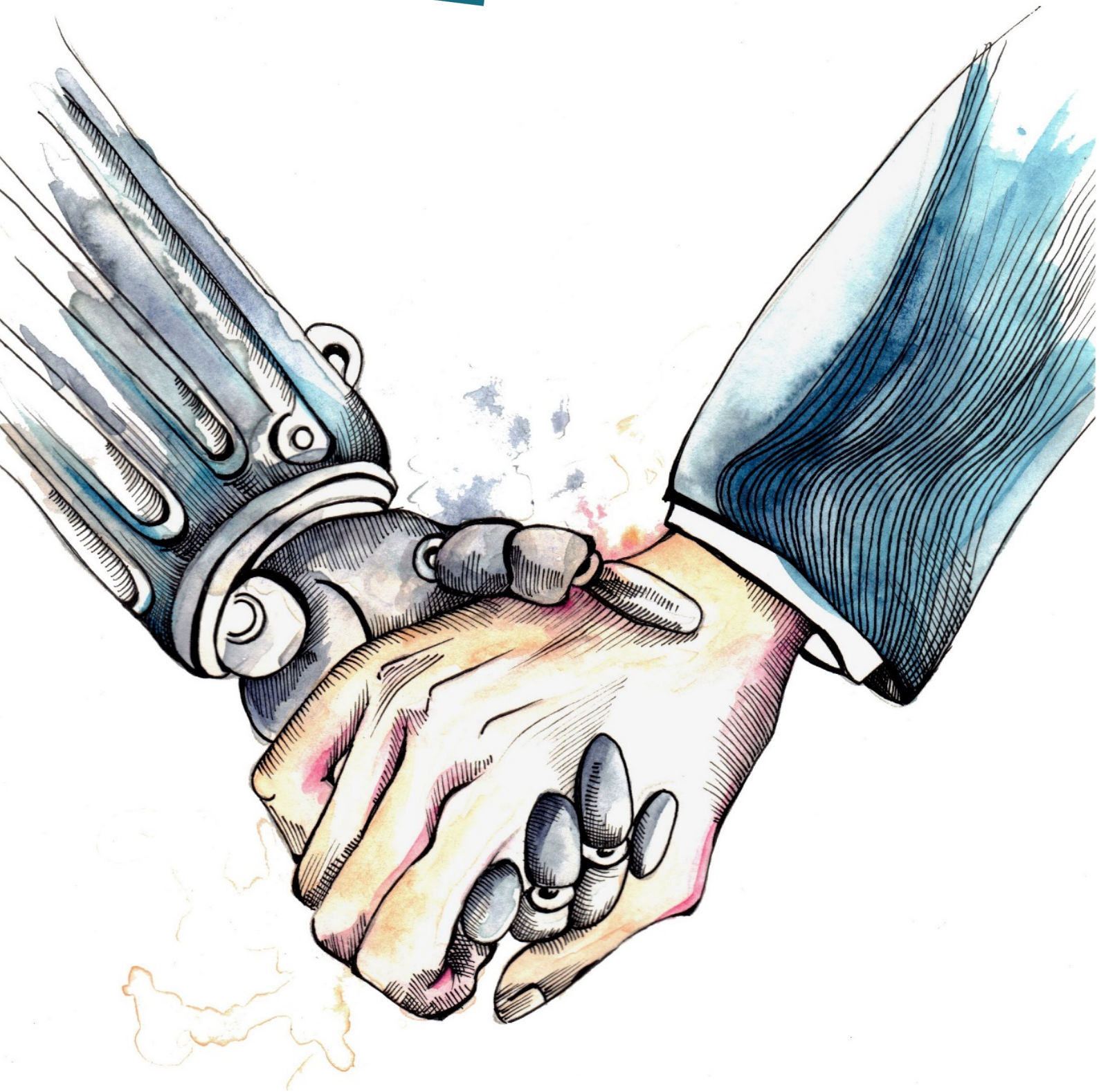
The major disruption caused by the COVID-19 pandemic has inevitably led many of us to re-examine our personal and professional lives. During the period of confinement, many think about the meaning of work, the conditions under which they are willing to perform their professional duties, their interpersonal relationships, and even the type of leadership they expect to see from the upper echelons. Similarly, employers are thinking about which roles are necessary and which can be discarded.

The need for physical distancing has changed the decades-long work etiquette. In most countries, virtual and no-touch greetings are increasingly common, which is a major upset for many; most of us do not yet know how to build trust and show respect to people whom we have just met without being tactile or using facial expressions. And with colleagues, communication is not so easy either. Despite all the advantages, virtual meeting tools make us communicate differently and not always in a positive way [25]. In addition, onboarding of new staff through digital channels is a challenge in most cases.

The greater compassion shown during the pandemic is a sign of flexing our emotional muscles more than most of us have ever done before. The difficult conditions that people are exposed to, either due to being frontline workers, i.e. the heroes, or being in desperate need of these key services, have changed our perspective in valuing hard work and showing respect and dignity [26]. However, we have also seen a darker side of the human condition; some have capitalized on the emergency to make big profits at the expense of others.

We will no doubt continue to reflect on the values, needs and lessons learned during the crisis. Whether they will have a profound and long-lasting impact on the way we live our lives and conduct ourselves at work is still unknown. However, with a third wave now sweeping across the globe, it is highly likely that the disruption that has been created by the COVID-19 crisis is here to stay. And we may find ourselves in a completely different world socially, economically and politically in the coming months and years [27].

II. Disruption to Jobs and Skills



Disruption to Jobs and Skills

Unemployment, skills gaps and innovation lags have significant effects on economic development. Addressing increasing rates of job disruption is critical to seize new opportunities that the fourth industrial revolution is bringing. In addition to the challenges that COVID-19 has brought, the future of work will be strongly influenced by demographic changes, accelerated automation, the evolution of sectors and occupations, demand for new skills, the appearance of completely new sectors, and numerous ethical considerations. Some of these challenges may have already been accelerated by the pandemic, and some will have different impacts in different parts of the world (i.e., changing demographics vs. automation and level of technological development).

In order to address existing and future inequalities, prevent further environmental damage and achieve greater social good, there is a need to address the challenges and disruptions that most of the workforce will face over the next decade. The development sector needs to work on new programmatic activities and new policies that will help transform education, rethink the concept of work, provide new career pathways and create a new social contract. This will require strong collaboration among businesses, governments and education providers.

7. Changing demographics

Demographic changes are among the fundamental underlying forces that will shape future jobs and skills. While technological innovations will play a critical role in shaping jobs, we cannot ignore global demographic trends as well as changes in the nature of work that we are already facing at global, regional and national levels [28].

A report by the European Commission [29] summarizes the following main drivers of demographic change in the region:

- Longer life expectancy
- Fewer births
- An ageing population
- Smaller households
- Increasing mobility
- Changing population size.

Demographic changes largely affect the supply side of the workforce market. As the traditional labour supply channels shrink, job markets and economies can resort to two broad groups of compensating measures: (i) creating larger and more inclusive labour markets mobilizing all additional potential sources; and (ii) boosting productivity through structural economic reforms and upgrading skills.

More inclusive policies and practices for women, older workers, people with disabilities, immigrants and other marginalized groups should be implemented. While certain rules might be enforced by

governments as regulatory measures, individual organizations will take the initiative for earlier or more comprehensive action. Demographic pressures will require boosts in productivity. Aligned with technological advances, they will require structural reforms and adaptation to new skills paradigm. Industries, especially labour-intensive ones, will more widely and deeply embrace technological advances, thus changing the nature of work and the requirement for the workforce. Concurrently, the emergence of the market for new professions and skills will require government policies to be proactive and agile, curricula to be dynamic, and work models to be more flexible.

The effects of demographic changes on the job markets will have different impacts depending on the intensity of technological changes. Within Europe and Central Asia, there may be different effects depending on the countries and their demographic trends, the direction of migration flows, and other country-specific features.

In addition, the changes in the cultural paradigm induced by the replacement of generations of workers will also be critical. In contrast to the 'hard' demographic parameters that affect the supply-demand balance, 'soft' changes, such as shifting preferences of various occupations and work models, or our understanding of the perception of work in general, will determine the nature and character of these changes at the micro level.

8. Professions of the future

The fourth industrial revolution [30, 31] is driving radical shifts in the way we live. It has brought a range of emerging powerful technologies, such as artificial intelligence (AI), biotechnologies, advanced materials and quantum computing, which represent entirely new ways of creating value in the digital economy for organizations and for citizens. They change how we produce and transport goods and services, and how we communicate and collaborate. Ultimately, these technologies redefine what it means to be human.

The unprecedented speed of change and scale of disruption require organizations and individuals to adapt to, learn and experience new technologies. This requires new skills and different mindsets. A study by McKinsey Global Institute [32] has shown that more than 60 percent of current jobs have at least 30 percent of tasks that can be performed by computers. Many jobs are already fully automatable. Automation has caused occupational and skill shifts across labour markets.

Physical and administrative tasks are shifting toward more enjoyable activities that create greater value for firms. In recent years, advanced economies in Europe have grown in knowledge-intensive sectors such as telecommunications, financial services, real estate and education, while there have been a decline in manufacturing and agriculture [33].

There are two groups of jobs that many see as key in the fourth industrial revolution. The first group involves the adoption of new technologies, giving rise to greater demand for jobs in the green economy, at the forefront of data and the AI economy, as well as jobs in engineering, cloud computing and product development. Creative and personal skills are gaining importance with an emphasis on problem-solving and management skills. The second group involves social skills and reflects the continuing importance of human interaction in the new economy, giving rise to greater demand for jobs in the care economy, marketing, sales and content production.

With further advances in AI and robotics, an increasing number of jobs will be fully automated. Some authors [34] claim that eventually work will re-focus on human connection – care work and entertainment as irreducible human activities.

9. Soft skills and knowledge

In the fast-approaching future, new technologies and reimagined organizational structures will require not only new professional knowledge, but also an upgraded set of soft skills such as empathy, creativity and many others that will help people effectively adapt to new realities. Although some experts believe that machines and AI will replace human beings, various types of research conducted in recent years demonstrate that this probability is low. Deloitte's recent survey reveals that 41 percent of companies in Europe plan to hire more full-time employees, and 29 percent expect no changes in headcount. And almost half of the respondents (49 percent) believe in the importance of capacity building, reskilling and upskilling of employees both professionally and personally [35].

There will be a need for personnel with new skills at all levels of organizations. For instance, due to remote work set-ups, fragmented teams and rising uncertainty, globally managers are already required to support and lead team members by demonstrating empathy and creating in-depth emotional bonding, rather than managing using traditional rigid approaches. This is the reason for which a high level of emotional intelligence (EQ) is as important as hard skills and knowledge at the senior level [36].

According to a World Bank's Report [37], routine tasks and cognitively routine jobs are actively replaced by machines in most European countries. However, de-routinization does not shrink the number of jobs in the labour market, but rather fosters the change in the skills set needed to manage the technology. As process-driven jobs disappear, the need arises for people to think creatively and to be able to solve problems differently, which brings creativity to the top of the most in-demand soft skills of the future [38].

The constantly changing world may demand an endless variety of skills from the labour market; employees of the future must demonstrate a certain level of flexibility and the ability to learn actively to succeed. According to recent findings, in upcoming years, active learning and skills in learning strategies will even outrun innovation, creativity and emotional intelligence. Preparedness for uncertainty and readiness to embrace it will become a top priority [39]. Accordingly, it is of critical importance to ensure that not only organizations, but also employees are aware of the need to be flexible and prepared for continuous upskilling. According to Deloitte, 89 percent of respondents across various industries believe that the current set of hard and soft skills they possess are enough for the future [40]. This suggests a certain level of rigidity among employees and signals the importance of capacity-building programmes at workplaces to prepare workers for the future.

10. Ethical considerations

The fourth industrial revolution, artificial intelligence (AI), a potential robot apocalypse, new workforce compositions, machine learning (ML) and a fast-paced lifestyle may all sound Star Wars-like and interesting, but they may also create a disturbing sense of a dystopian future. But the future of work is all about us, so the future need not be so gloomy and unethical. Ethics in relation to the future of work should be more concerned with how we *should* work than could work [41]. In general, companies should move from reacting to ethical dilemmas as they arise, to managing ethics as part of their strategies and missions, focusing on how these issues can affect everyone involved.

The fourth industrial revolution is rife with ethical dilemmas: new opportunities are enabled by AI and automation, but they are often perceived as threats. AI ethics is emerging as the single biggest challenge in AI progress and widespread deployment, and companies can no longer ignore it [42]. As a concept, trustworthy AI should offer a structured and comprehensive way forward, including clear policies on responsibility and accountability, and AI should be just as reliable as the traditional systems it is augmenting or replacing. Privacy should be secured, and everyone involved should be aware of why and how their data are used, and make informed decisions about the possibility to opt in or opt out of having their data shared at any moment [43]. AI should be free from bias, which is a great challenge since the biases and what constitutes fair could be categorized as ongoing challenges for humans regardless of AI.

AI should include internal and external checks to reduce discriminatory biases as it learns from datasets. If those datasets are biased, the whole system could amplify and propagate these biases in the digital realm.

Work sustains people. It enables them to meet their material needs and gives them a sense of identity, belonging and purpose [44], empowering them to reach their full potential. Certain studies [45] suggest that millennials are becoming more vocal in advocating for business that does not just create profit, but also added value for everyone's benefit. Millennials expect businesses to focus more on how to deal with ethical dilemmas and engage in issues such as diversity, inclusivity and climate change, etc. In the eyes of the millennials, profit alone is not what makes a business successful.

All technological advances pose many challenges and opportunities for the workforce; many of today's jobs will not be jobs of the future. Thus, a great deal of reskilling and upskilling will be involved in the successful transition to more human-centred jobs in the future. An emerging 'superteams' [46] trend is being built on two evolutions: the rise of these teams, and the growing adoption of AI in the workplace. And as pivotal forces in the future of work, these suggest that technology should be seen as an opportunity. There will be an evident shift from jobs to super jobs that will integrate machines and humans, creating broader job roles that will require fresh thinking and a high level of collaboration [47]. However, inclusion will be an essential dimension since not everyone will be willing or able to shift from jobs to super jobs. Transforming economies that will go hand in hand with the future of work will need to promote decent and sustainable work for all; hence, labour rights will also change to reflect the accelerating transformation of work in general. Due to the close link between economic activity and the natural environment, the fact that people are using tomorrow's resources to satisfy today's needs [48] and trends such as environmental degradation and environmental sustainability will also shape the future of work [49] In all aspects of the future of work, ethics should be a priority rather than an afterthought.

11. Emerging sectors

Due to the speed of change observed in technological innovation, nascent industries are expected to gain momentum in the coming years. The advances that are mainly based on technology-push such as digital connectivity, AI, 3D printing and the Internet of Things (IoT) will drastically change the way organizations and humans operate [50].

Wearable technologies, drones and sensors will enable constant monitoring, covering large areas previously not well understood. AI will enable big data processing and unaided decision-making at unprecedented speeds. Robotics in healthcare is already in use, [51] but it is expected to increase drastically to cater to the ever-increasing demand for healthcare all over the world. At the other end of the spectrum, cheaper and more energy-efficient spacecraft will provide the means to explore other planets in search of life.

In terms of demand-pull, environmental degradation and increased awareness of societal issues drive several new initiatives [52] in areas of renewable energy, nature-based solutions (NBS), biotech, recycling, water security, high-tech farming and food growth, green building, ecotourism as well as the sharing economy, also known as peer-to-peer or P2P. The industries that provide these technologies will thrive in a world that is already dependent on a constant flow of innovation in all aspects of life. The knowledge and skills required to nurture this kind of growth will have to come from the existing workforce as well as younger generations who are still in the education system.

12. Public sector and services

Traditional policymaking and public sector organizations are seldom innovative. While the private sector and small organizations accelerated the opportunities mentioned above, the public sector lags behind; governments are facing the need to become quicker, more diversified and agile, or to operate effectively in conditions of continuous disruptions. For many years, there have been discussions on the rising complexity and number of complicated tasks that need to be carried out by employees, and on the related skill sets required.

One of the major shifts that drives the need for new public sector skills is that the public sector is gradually becoming more open; instead of thinking of citizens' interaction as a step in a business process, the public sector needs to put citizens at the centre of service design. As Marek Kowalkiewicz and Paula Dootson stated, "The Government 5.0 stage of the evolution goes well beyond citizen-centric services, or whole-of-government approaches to service delivery and gravitates towards whole-of life service delivery" [53]. The next driver is the accelerated digital transformation that not only opens up many opportunities for the public sector to leapfrog, but also widens a digital gap in skills available in the sector. For instance, McKinsey has estimated that the European Union public sector needs 4.9 million people with technological and digital citizenship skills [54]. Finally, in some countries, we see promising cases of citizen engagement beyond 'public consultations'. For instance, in Ukraine, there are more than 400 cities where participatory budgets are already introduced, and there is a debate on a national participatory budget. Hence, with further technological advances, co-creation and co-design may become more widespread in public sector practice. While this development is positive, the public sector should craft processes that protect from potential hijacking by narrow interest groups that distorts the results of co-creation.

Although there are a few different approaches to defining skill areas of public sector employees, skill gaps [55] essentially concern: policy development, where more attention should be given to foresight, evidence and data literacy; working with citizens, which requires engaging them to improve policy outcomes and facilitating co-creation; collaboration in networks, which requires being able to work beyond hierarchies and pool resources; and commissioning and contracting, which involves understanding business models and agile business practices.

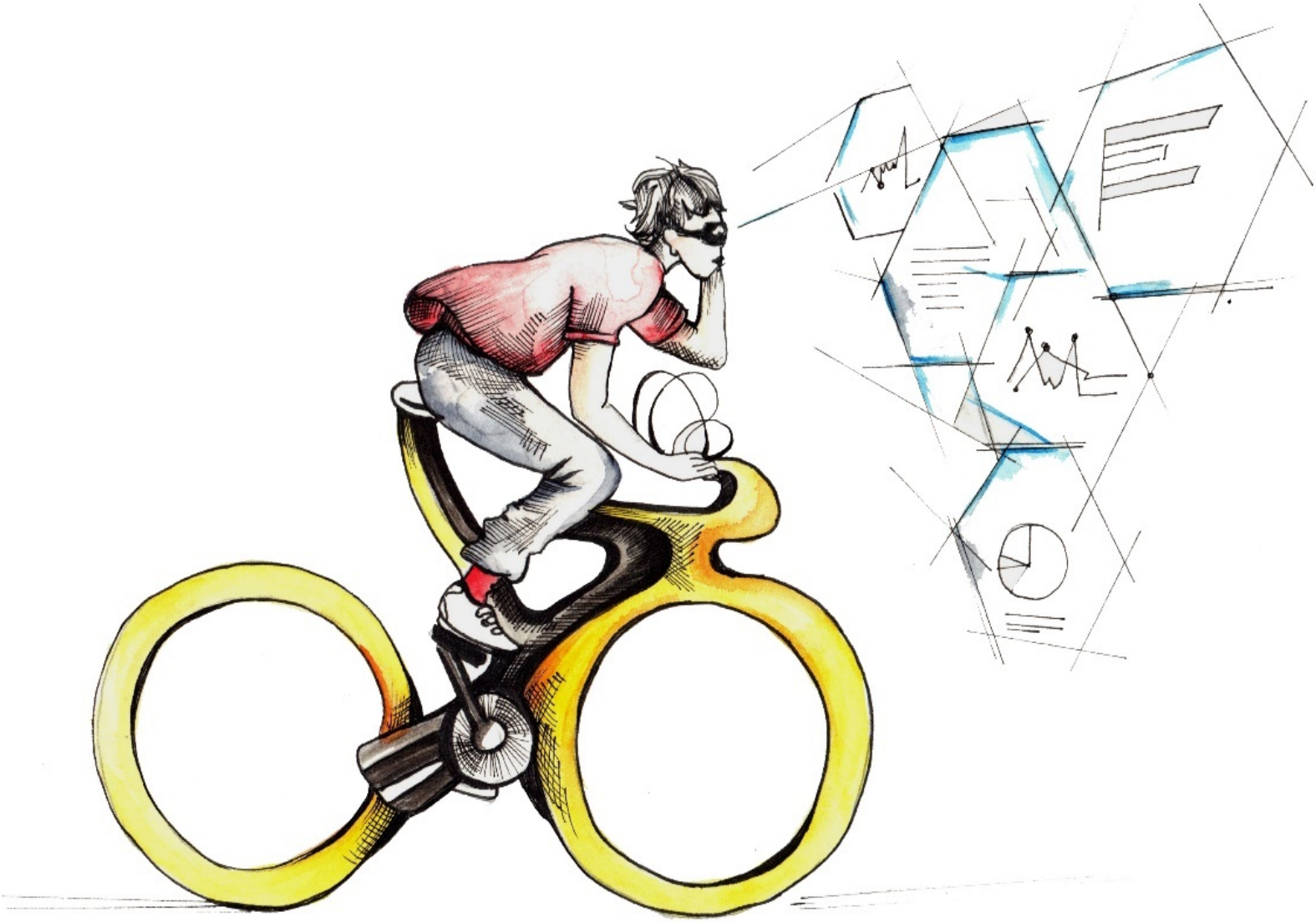
To effectively address these skill gaps, public servants need to experience greater autonomy and to be able to work independently, which entails more delegation of authority to the front line of service delivery and ensuring that resources (including financial) are also available. For countries in Europe and Central Asia, in particular, this adds an additional strain on employees since public service in this region tends to be comparatively more hierarchical and are built for robustness rather than decentralized flexibility.

Strategies to close the 21st century skill gaps in the public sector should be based on recruiting fresh talent, reskilling for those whose professions will inevitably be replaced in the process of digital transformation, and upskilling by reviewing current practices of continuous learning for the public sector. In the coming years, we will see efforts to overcome the "boring and slow" image of public servants and governments through the search for new models of rapid reskilling staff.

Provocation

“Forget everything you were taught before” is a phrase that fresh graduates hear way too often from their first employer. But let us imagine a future where this narrative is disrupted – there are no graduates anymore. People start their professional life as early as possible, with their first ‘gig jobs’ (for instance, taking care of social contacts of a client’s personal digital twin) while still attending school. The value that they create is almost 100 percent digital-based; the knowledge and experience acquired are action-based. Higher education establishments become gig hubs, with little structure and hierarchy and they take care of social protection and students’ private life. They also advise students when they can go into ‘power-earn’or ‘off-grid burner’ modes (based on data on their performance, mental health and other indicators coming from wearable devices).

Under this future scenario, **what would happen to hierarchical government structures if they experienced an influx of staff who were not trained to follow orders?** Not many people would be surprised if governments continued to recruit ‘old school’ workers, but this might not be enough to create an enabling environment for the sustainable development of a society that is willingly giving away its data and privacy to platforms. **How can we get ready for such a future scenario?**



III. New Work Models

New Work Models

While governments and markets are trying to adapt to changing demographics and the widening skills gap in the workforce, the relationship between people and work is also evolving. In the coming years, where, when and how people work will be defined by a radical growth in the value creation in the digital domain (e.g., over the next decade, the value of more than $100 trillion will be created on digitally enabled platforms) and by a growing number of people who either prefer gig work or do not have the luxury of choice.

These developments significantly change the context, the models of work and the way success is measured. How could we ensure decent work standards and social protection for new work models? It is already evident that current systems cannot cope with the challenges, which concern not only social protection, but also how 'gigers' will stand for their rights, and how we could reduce inequalities, and so on.

In order to design a 21st century response to these problems, we need targeted programmes that support businesses in their digital transformation and help close the digital gaps and adapt to new work modalities. New programmes must also support governments in testing new work models and in gradually moving away from being perceived as a 'leviathan'.

13. Value creation through the digital economy

The global economy is transforming rapidly due to digitalization. Accenture estimates that 70 percent of new value created over the next decade (>$100 trillion) will be based on digitally enabled platform business models [56].

Digital markets benefit from network effects and economies of scale. Businesses interact with users through many different types of online or web-based interfaces, often called 'platforms'. The platform economy is built on business-to-business (B2B) and business-to-customer (B2C) business models. Digital platforms are the drivers of some of the world's most successful companies and can be aggregators of both supply and demand. They are characterized by a near-zero marginal cost of access, reproduction and distribution [57]. The platform economy's impact will be profound.

The digital economy creates value at stake (e.g. value addition from new products/services, value migration from shifting profit pools) and digital value to society (e.g. lives saved, lower carbon emissions, longer life expectancy, time savings, cost savings on consumption, net job creation, median income growth, lower income disparity). The digital economy brings new value, but also creates risks of further exacerbating exclusion, an unequal concentration of power and wealth, and social instability. Nearly 47 percent of the world's population are not connected to the Internet [58]. The digital divide lies in gaps in physical access to the Internet and other technologies, as well in digital technology skills and use. Companies must adopt digital business models in order to survive and compete. It is important that this transition occurs while addressing societal challenges.

14. The gig economy

The gig economy is not a new concept; however, in the past few years, the elements for understanding this phenomenon have changed. Generally, the gig economy is based on independent workers receiving a payment in return for completing a task on demand. Technological advancement and the popularization of digital platforms have significantly influenced the concept, turning tech-based solutions directly connecting consumers and workers into a vital part of the gig economy [59].

The number of gig workers is continuously growing across the region. For instance, the average labour market share for the European Union is 13.5 percent; however, in Greece and Turkey, gig workers represent more than 30 percent of the labour market [60]. Gig workers could be classified into two groups: fully self-employed workers, and those who work in the gig market for a supplementary source of income. The latter is strongly represented in the IT sector. According to research by Boston Consulting Group, 24 percent of IT specialists perceive freelance work as extra income [61]. Continuous digital expansion, companies' search for efficient processes, new findings on brain science, and the recent outbreak of the pandemic are strong signals that the gig economy will grow at an even faster pace in the future [62]. What are the factors to be considered with the rise of the new working model?

Migration. The development of digital platforms allows professionals who want to work independently to engage with potential customers from all over the world. This situation has slowed the phenomenon of brain drain in countries like Ukraine, Serbia and Romania, where freelancers registering on global gig platforms are continuously growing. For instance, Serbia represents one-third of all the freelancers present on the Upwork platform in the region [63]. Still, experts predict that with the growth of the self-employed, highly skilled workforce and the gig work model turning into a prime source of income, this trend may result in the workforce migrating to countries with better developed policies and securities for gig workers [64].

Fixing insecurities. The rise of the gig economy provides numerous work models such as the fixed-term, project-based, zero-hour contract and freelance. This situation offers more space for flexibility and creativity, and is inspiring to gig workers. It also provides access to highly skilled professionals across the globe and increases the efficiency of companies. A side effect of this set-up is rising insecurities. Gig workers do not get access to traditional benefits and reward packages that are often part of traditional full-time work. Due to the novelty of the gig work models, these benefits have not yet been provided [65].

Education. The gap between higher education supply and the labour market demand is growing. Universities fail to provide the skills and knowledge that would adequately fulfill the growing expectations of employers. However, this issue is not limited to major players in the labour market and also applies to the gig economy. While universities are first among those who boost this phenomenon by hiring gig professors and introducing distance learning, no adjustments have been made to the curricula in most universities across the world, and career centres at universities continue to focus on major employers without preparing students for a possible gig career path [66]. Indeed, this situation explains the rise of platforms such as Coursera, LinkedIn Learning, Udemy and others. The flexible structure introduced allows them to respond to market needs almost immediately. We may see more of these platforms in the coming future.

15. Remote work and the virtual office

Unprecedented levels of digital connectivity are expected to change the ways in which organizations operate all over the world. Business has been an early adopter in this area, especially tech companies that have been hiring remote workers for a number of years. With the recent COVID-19 pandemic, some of the biggest players have made a commitment to switch to 100 percent remote work going forward [67]. Other sectors have also started to take advantage of the ubiquitous Internet access to create new models of collaboration between employees and partners. With this level of flexibility, however, comes

new expectations; employees want access to remote working possibilities with attractive pay packages, and employers want to increase productivity by hiring remote workers from overseas, often at a lower cost.

In the coming years, with or without environmental conditions like the COVID-19 pandemic that force us to work from home, various types of remote work models will be established. They will often be driven by employers' cost-saving concerns; similarly, demand from employees for remote work is likely to increase [68]. The favourable conditions such as flexible hours and lack of a commute that come with remote work will attract many employees to jobs that offer these conditions. Here, the challenge of coordinating work in different time zones will need to be addressed.

Although the positives cannot be ignored, not all groups will benefit equally from remote opportunities. There are differences between people in full-time employment and freelancers. The latter group faces challenges due to not having a steady salary and/or benefits such as healthcare. And when remote work is made available to a much larger group of people including full-time employees who can now work flexibly, freelancers' relevance and/or attractiveness might diminish. However, a significant part of remote workers will continue to be freelancers [69].

16. New measures of success

The future of work will not just require transforming the way people work and define jobs, but also different ways of measuring and understanding what constitutes success on different levels, namely individual and corporate.

According to a 2017 McKinsey study, 50 percent of workforce activities are technically automatable by adapting currently demonstrated technologies [70]. In its report, World Economic Forum (WEF) argues that 65 percent of children entering primary school today will ultimately work in completely new job types that do not yet exist [71]. Today's children will probably be engaged in self-crafted, human-centred jobs that are currently unknown, but it is hoped that these jobs will not be tedious and will be enjoyable [72]. To be successful at what they do in the future, people will need to rely not only on traditionally defined intelligence (i.e. IQ) and emotional intelligence (EQ), but also on global intelligence (GQ) and digital intelligence (DQ) [73]. People will be focusing more on skill sets than on roles, and will need to work constantly on self-improvement, reskilling and necessary upskilling to be competitive in the labour market. Mastering compassion, connection, collaboration, curiosity, critical thinking and creativity [74] will be necessary for a successful individual – someone who will also need to navigate machines that are good at processing algorithms [75].

Future jobs will contribute to transforming business ecosystems where the focus on productivity will be replaced by a new standard for business metrics – performance [76]. For example, more companies will focus more on results or outputs of their workers than on working hours spent carrying out specific tasks. Since outputs will be connected to performance, this will also encourage the establishment of a trust culture where employees will trust and be trusted. Furthermore, this will foster accountability and a sense that the workers are part of something more significant, such as the company's visions and goals.

According to McKinsey, many companies make the mistake of focusing too much on the costs and ignore the potential of new technologies to generate new revenue [77]. Honest reflection will be needed on the capacity and quality of organizations' learning and development units, and on the broader health of employees, notably its employee value proposition [78], in order to transform itself quickly. There will be an increase in new ways of measuring success and the impact of business ecosystems that go far beyond financial values. This is because redefined business success will increasingly consider the total societal impact [79], which consists of six dimensions – environmental sustainability, societal enablement, accessibility and inclusion, economic value, lifetime well-being, and ethical capacity. All of these dimensions are in line with the Sustainable Development Goals (SDGs).

17. Social protection

The changing nature of work inevitably requires new safety nets to ensure that disruptions do not worsen levels of existing inequalities or jeopardize human dignity. There is a growing understanding that government social protection measures will largely become outdated due to changes in demographics and the increasing number of people engaged in independent forms of work. For Europe and Central Asia, one should be aware that there are vast differences in how countries approach social protection policies; for instance, although 84 percent of the population in the region are covered by at least one social protection benefit, 56 percent of unemployed persons receive benefits in Eastern Europe compared to only 12 percent in Central and Western Asia [80]. Therefore, countries are in different starting positions in designing the 21st century social protection systems.

The usual solution to social protection challenges focuses on extending social protection coverage to certain categories of non-salaried and vulnerable workers, and lowering thresholds of minimum working hours, earnings or duration of employment, etc. Due to the COVID-19 pandemic, discussions have intensified on introducing universal basic income (UBI) [81] and temporary basic income (TBI) [82] – social protection models that provide sufficient income to sustain a person at a modest level, still leaving incentives to work, save and invest. Recently, a number of governments have committed to TBI-like payments for workers who have lost income due to the pandemic. A quick overview of UBI/TBI-like experiments in various countries shows moderately positive outcomes concerning better health and education, and poverty reduction, but further research is needed. For instance, there are knowledge gaps in UBI's impact at the community level and in the necessary enabling environments for these models [83]. Hence, there are numerous anti-UBI views, which focus on reduced motivation to seek employment and lower productivity. Its introduction would require rethinking taxation models; nevertheless, the above-mentioned developments could move countries towards the adoption of UBI and similar models.

As the number of people involved in the gig economy increases, the issue of the lack of a workable model for social dialogue between employers and 'gigers' is put on the agenda. Throughout the world and in Eurasia in particular, we have seen an increasing number of strikes against unfair work conditions of platform workers. Another aspect to consider is people contributing to a foreign country while enjoying the social benefits of their home residence, which raises questions about social justice. In our opinion, this is a strong signal for the need to find a way for tripartite consultations (i.e. involving the employer, the employee and the state) on the gig economy (both in the country of residence and the beneficiary country) and modern technologies; new approaches such as collective intelligence [84] could help in this regard.

Moreover, governments worldwide are experimenting with broadening social security schemes for non-standard workers; these experiments vary greatly, such as financing schemes from taxation, introducing voluntary schemes, and targeting particular types of non-standard occupation. It should also be highlighted that one of the key factors to enable social protection of people employed on digital platforms is that all transactions should be traceable. We could therefore see some rapid advancements in regulating these platforms in the near future.

18. Public versus private jobs

There have always been gaps between work models in the public and private sectors. In the early industrial age, government jobs were leading progress in new work models by pioneering standards such as fixed working hours, weekends, work standards and training by applying scientific methods and rigid bureaucratic procedures. However, in the 20th century, technological advances changed the

paradigm of work and tilted the balance in favour of private sector companies in industrialized capitalist nations. While much of the private sector has transformed over the past two decades, the public sector, for the most part, has not [85].

We are moving towards a future model of work that is truly adapted to the social, technological and economic influences of the 21st century [86]. These multidimensional influences will diminish the current stark differences between work models in the government and the private sector.

As governments rush to close the technological gap and harness the benefits of the fourth industrial revolution, the need for modernization will be high on the agenda. In light of technological advancements, there are three dimensions to the future of government work:

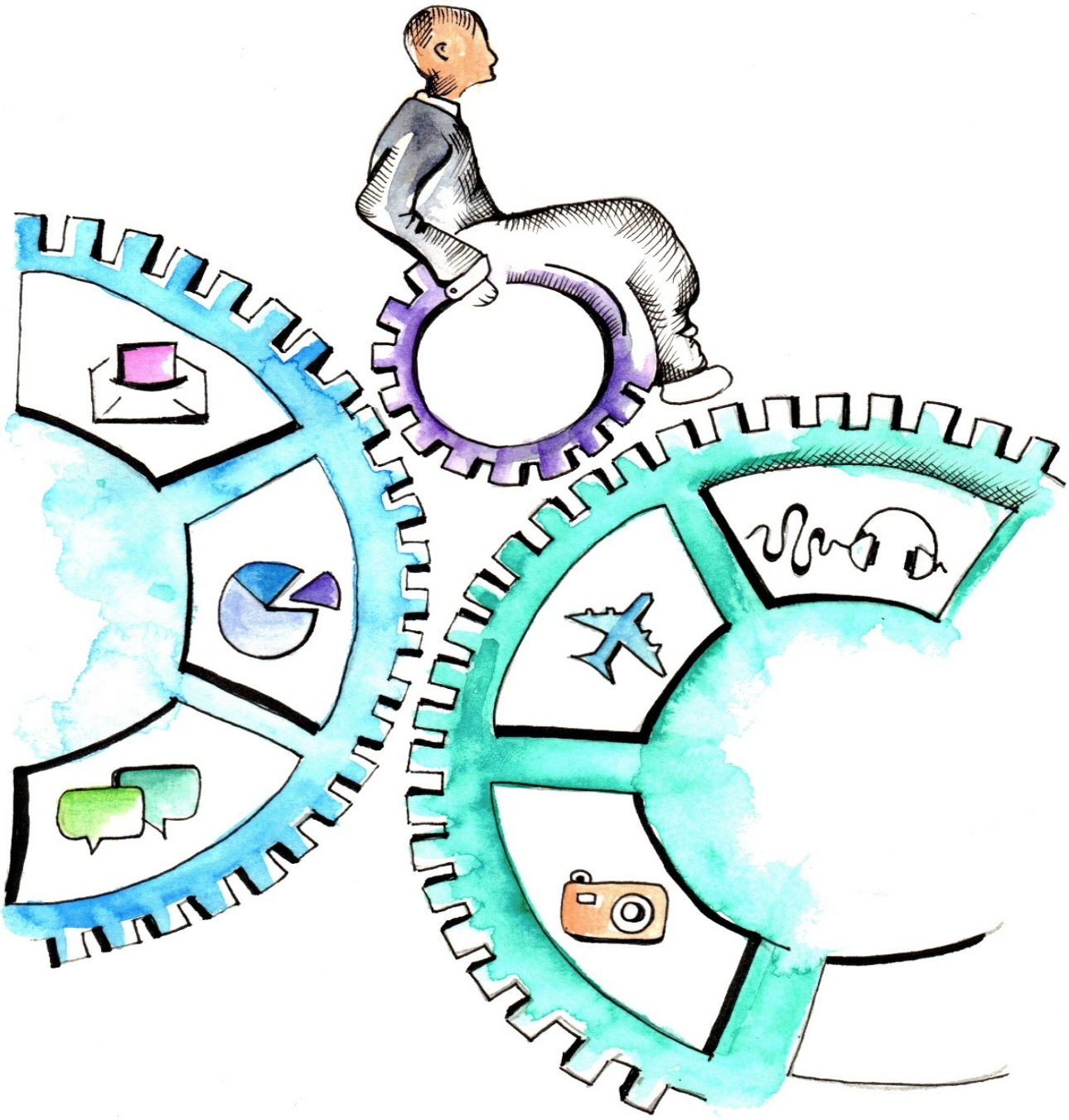
- the work itself, such as the way public sector work will be conducted, the benefits of automation, AI and cloud technology;
- the workforce, which is related to more varied work arrangements, new staffing and career models;
- the work environment, which is related to the physical workplace, progressive human resources policies, learning and development, etc.

In many ways, we will see a convergence of current government and private work models, i.e. an amalgamation of best practices and their application in the public workplaces. Use of technology, flexible arrangements, promotion schemes and user-centred workplace standards will be adopted from practices in the private sector and adapted in the specific context.

The socio-economic aspects of the influences focus on the 'normalization' of government jobs and moving away from the concept of the public sector as a 'leviathan' and the civil servant as a servant of the monarch, the state, the government, etc. as it is slowly being replaced by the concept of the civil servant as a servant of the citizenry [87]. This will be accompanied by the diminishing monopoly of government even in performing its most fundamental functions.

The convergence will lead to comprehensive and fluid complementarity of public and private sector work models, such as public-private partnership (PPP) models, intertwined government-private career paths, shared infrastructure and ecosystems.

IV. Inclusive Labour Markets and Work Practices



Inclusive Labour Markets and Work Practices

Labour markets and work practices are undergoing a major disruption, abandoning the process base and routine, predetermined type of work while accelerating towards a new digital era, which will be anything but standardized. In this race against time, technological advancements, which are the new normal, are evolving much faster than humans can adjust to. For people and technological advancements to coexist more effectively in the future, there will be significant shifts to lifelong learning and the need to continually acquire new skills. This could lead to a better life-work balance, shorter work hours, flexible working arrangements, a different definition of value, and greater agility. The utopia of being able to craft your job, work from any place that you see fit, and reach your full potential no matter your gender or background could become a reality. However, rapid changes in technology and its effects on all other aspects of life, including work, could also have a dystopian side where inequalities in all shapes and forms remain and further deepen, creating a world that we would not like to see.

19. Reskilling and upskilling

As changes and disruptions increase in frequency and scale, countries might not have time to improve the skills base of workers through common, lengthy upskilling and reskilling programmes. Skills and innovation gaps should be addressed by a combination of measures where formal qualification programmes are combined with lifelong learning, on-the-job experience and staff involvement in creating the way organizations create value.

Digital innovation and its exponential speed of change is the main trend that defines shifts that will take place with regard to keeping workforce skills up-to-date. Adult education and learning has long been on the agenda; however, recent publications [88] highlight a disparity between the number of people among the low-skilled and high-skilled workforce who participate in continuous learning activities – highly skilled and young employees often participate twice as much as low-skilled employees. This creates another gap in skills development that should be addressed. As mentioned above, common reskilling programmes tend to be far too long and are often not accessible for employees due to work commitments, which is one of the barriers for participation in reskilling. In this regard, let's highlight an interesting case that emerged from Sweden's response to COVID-19 disruptions. A consortium of private sector organizations implemented a rapid reskilling experiment: many of the laid-off employees were offered the opportunity to receive the appropriate training and, in a matter of weeks, placed into sectors that became understaffed due to the pandemic (healthcare, schooling, etc.) [89, 90]. This case serves as solid proof that countries can accelerate reskilling programmes and facilitate a faster movement of labour across industries.

Another gap, and hence a barrier to reskilling, is digital literacy of the workforce, which in the first half of 2020 proved to be one of the essential factors for a successful transition to telecommuting and ensuring quality work results. But digital literacy is more than the ability of employees to use software: it is also about understanding how to apply technology and innovation in order to achieve desired results. Hence,

societies are experimenting with ways to ensure a sufficient level of digital competencies in a short time, ranging from voluntary programmes to mandatory certification of skills.

Can changes in cultures and management approaches, often linear, keep up with exponential changes brought by numerous disruptions? In order to rise to the challenge, organizations need to multiply their cognitive capacity by devolving decisions on how value is created and what changes in functions are necessary for staff. In this regard, 'job crafting' [91] may be the answer, allowing employees to reconfigure the elements of their jobs for greater and more meaningful engagement, and fostering an environment for continuous learning.

20. A shorter work week and the life-work balance

Technological advancements together with demographic, economic and cultural factors will enable revolutionary shifts from traditional to new models of what constitutes 'work' and 'a job'. In a short-term perspective, the trend is being driven by stand-alone examples: for companies in Japan, establishing flexible work-style models is seen as one of the key areas to apply digital innovation in order to create new opportunities to recruit people who could not or would not work under less flexible conditions [92]; and the Government of New Zealand is considering a four-day work week as a way to address work-life balance issues and boost local tourism in the post-COVID period [93]. While not yet commonly adopted, effective applications of concepts such as the shorter work week and flexible working hours will accelerate their normalization and show their practical viability.

In the middle and long term, the changes will be pushed by trends such as productivity boosts and increased demand for high cognitive, social and emotional skills as a result of large-scale automation [94]. Due to the increased importance of creative skill sets, employee satisfaction and well-being will be critical elements of overall efficiency. In addition, productivity gains from outsourcing repetitive and physically demanding tasks to computer systems and robots will pave the way for new productivity models centred around individuality and skills in creative and emotional expression.

Flexible work models may fundamentally change the perception of work. Employees may be able to see their work as a series of sprints rather than a long marathon [95], integrate their work duties with their hobbies, and enjoy unlimited vacation days, etc. Individual needs are very diverse, and some people may still prefer traditional work models. But the underlying principle guiding employers can make room for workers to plan the schedule that will support their optimum productivity [96].

Yet, flexible work is a double-edged sword, which, in a wrong set-up, can be harmful to general employee well-being. Flexible schedules may also lead to an increase in work spillover and intensity [97]; much depends on the underlying conditions. Whether macro- and micro-level performance goals are a direct function of employee well-being will define the weights in the work-life (or rather, the life-work) balance.

21. Flexibility in working arrangements

Our reality today is more multi-dimensional than ever. This is the result of factors such as globalization, technological advancement, demographic shifts, changing values, and personal priorities. The work environment is one of the areas affected the most. It must rapidly respond to these changes and generate work arrangements that can face a new reality. The demand for more inclusive and diverse business environments results in homeworking, part-time contracts, sabbatical breaks, shared roles, flexible hours and other set-ups.

Research indicates that 79 percent of respondents from the United Kingdom believe that flexible work arrangements will increase their productivity, and 92 percent of millennials prioritize flexibility while looking for new career opportunities [98]. Recent studies reveal that flexibility is a priority for most of the

global workforce. Indeed, for some groups of workers, flexible arrangements are of critical importance in achieving inclusive and equal opportunities at work. Presenting alternative ways of working to women who have just returned from maternity leave, to parents and carers with young children, to people with varying physical and mental abilities, and to professionals over their retirement age is beneficial both for these groups and employers. Organizations that have tailored work set-ups get access to an extended pool of talents, retain staff for longer, and increase their effectiveness by having diverse professionals on board [99].

Governments make efforts to achieve inclusive societies through policy and cultural changes. This raises expectations from businesses within communities. Various studies show that consumers often decide on goods and services based on a company's commitment to inclusion rather than other factors [100]. Employers should acknowledge the clear benefits of flexible arrangements and should continue their efforts in extending them.

22. Valuing all types of work

The world of work is undergoing an accelerated transition from a traditional, routine and strictly defined performance of tasks that evolved from the industrial age, to non-standard, redesigned, adaptive and flexible utilization of different skill sets. Rapid automatization will unlock workers' capacities to seize new opportunities in the continually evolving work. Deloitte's new vision of human work suggests that there will be a focus on creating value that is non-process-based and non-routine, fluid rather than predetermined, increasingly workgroup-oriented, and context-specific rather than standardized [101].

The World Economic Forum (WEF) predicts [102] that independent workers will move between traditional employment and the gig economy, including platform work [103]. McKinsey Global Institute (MGI) identified four categories of independent workers:

1. *Free agents* – The platform economy is their primary income where they work by choice.
2. *Casual earners* – They supplement their primary income with work in the platform economy by choice.
3. *Provisional* – The platform economy is their primary income source, but they would prefer a traditional job.
4. *Financially strapped* – They supplement primary income to make ends meet, but they would prefer not to have to [104].

In adapting the WEF's approach to identifying the benefits of and challenges in platform work [105], the following would materialise:

Benefits

- Flexibility – Workers will be able to decide where, when and how often they will work.
- Geographic diversity – There will be more opportunities for remote working and bringing work closer to the vulnerable groups.
- Greater demand and inclusivity – Opportunities such as platform work may create greater demand for workers to market their skills and reduce barriers for workers from vulnerable and/or marginalized populations to enter the workforce.
- Improve matching – The preference of workers will be used to improve the labour matching process.

Challenges

- Benefits and social protection – Individual workers, often on zero-hour contracts, may not have safety nets such as those of salaried employees, and associated rights and benefits, such as vacation pay, sick pay, insurance and pension.

- Reasonable pay – For lower-skilled workers, the key challenge will be to ensure sufficient income to support a reasonable quality of life.
- Dignity and interest – Although redefined, some work will consist of repetitive tasks, resulting in mundane and uninteresting jobs.
- Security – The preference of workers will be used to improve the labour matching process.
- Upskilling – Workers may lack opportunities to reskill and upskill, and may have limited access to training opportunities.
- Representation – Traditional instruments used for representing workers and ensuring that their rights are respected would become obsolete.

Possible solutions to the above challenges may lie in a combination of changes in policies, leadership, accelerated adaptation of the workforce ecosystem, and possibly the introduction of universal basic income (UBI). However, all possible solutions should have a strong gender lens given that women may be disproportionately affected by digital transformation.

23. Gender parity

The fourth industrial revolution brought many opportunities for economic advancements, but also new challenges for women, in addition to long-established ones. To progress in the new era, women and men need to be skilled, mobile and tech-savvy. Partial or full automation will cause job losses, with certain sectors more affected than others (i.e. clerical work, service-oriented occupations, etc.), but some entirely new fields and occupations will be created as well.

McKinsey Global Institute (MGI) predicts that by 2030, between 7 and 24 percent of women currently employed may need to transition across occupations [106]. They will need new skills and an enabling environment that encourages lifelong learning that is accessible and adds value to a professional profile. Traditionally, more women have been working in lower-paid occupations than men. MGI predicts that in the future, the demand for high-wage jobs could increase, while demand for medium- and low-wage jobs could shrink [107].

Women have less time for reskilling, upskilling and seeking jobs because they spend much more time than men on unpaid care work. They have less access to digital technologies and have a lower participation in Science, Technology, Engineering, Mathematics (STEM) fields than men. There are many other barriers that hinder both women's entry into the labour force and their subsequent advancement, such as lack of childcare provision, stereotypes about occupations, lower mobility due to physical safety, and legal challenges.

Many industries would benefit from a better gender balance among employees, including among senior leaders. Tackling the gender gap should be a priority of the fourth industrial revolution, and organizations must commit to carrying out effective action to this end.

24. Creating inclusive workplaces

At the most basic level, all employees should be equipped with a healthy office building and a suitable workspace to fulfil their functions. With the rise of widespread health and safety awareness and contemporary demands of the workforce, it is becoming necessary for employers to be committed and to provide choice and flexibility with respect to building design and even office location. The work environment features that will be required to meet the needs of a wide range of employees in the coming years include: modular and tiered seating solutions; wider corridors; less density (i.e. number of workers per physical area); adjustable desks; ergonomic seating; accessible plug sockets; adjustable displays; spacious meeting spaces; natural lighting; a variety of work areas for different tasks; temperature control; good ventilation; and touchless controls. In addition, due to a shift in the mindset regarding issues such as health and environmental sustainability [108], there will be growing expectations to have areas dedicated to resting and relaxing [109], showers, exercise areas, healthy food

options, access to fresh air, charging points for electric vehicles, bicycle storage, and private rooms for breastfeeding mums. An interesting trend is 'resimercial design' [110], which brings the homey feel of residential furniture into the workplace. These can all contribute to employee satisfaction and retention.

The physical properties of a building are obviously important in terms of creating inclusive spaces, but they are not sufficient alone. Equally important are the less tangible work environment features such as creating equal opportunities for people to move around the office and interact so that they can be encouraged to engage in collaborative work, which often sparks innovation. Some of the emerging environments include: (i) open offices, which are great at reducing silos, but with 'neighbourhood zones' in them to accommodate employees who perform similar functions and can interact easily when needed; (ii) activity-based working, which allows people to choose from among a variety of work spaces that best support the type of work they do on any given day; (iii) co-working spaces that are shared with others who are not necessarily from the same organization; and (iv) hot desks and hotelling where people work where they want without an assigned desk or an office [111].

All of these environments will also need to accommodate new digital ways of working. In addition to today's infrastructure needs, such as videoconferencing, even within the office to avoid crowded conference rooms, large displays, projectors and digital whiteboards, virtual reality is expected to play a significant role in reducing isolation, especially for remote workers. The Internet of Things (IoT) is also expected to play a major role in creating frictionless, integrated office experiences.

V. Entrepreneurship and the entrepreneurial ecosystem

Entrepreneurship and the entrepreneurial ecosystem

Entrepreneurs often act as shapers of the future. They can be the 'invisible hand' behind socio-economic progress and bring scientific and cultural advancements into our daily lives. Looking at the future of work, we should take into account the dynamic processes evolving within entrepreneurship and the changes induced by them in larger contexts. In this section, we will look at various aspects that drive changes within the very concept of entrepreneurship and the corollary changes that influence the future of work. We will examine the processes that are well underway, such as the rise of start-ups, the democratization of capital markets, and the rising skills gaps in the job markets, as well as those that, we believe, will rise in importance in the future, such as intrapreneurship practices and the positive influence of government policies and investments in fostering the entrepreneurial ecosystem.

25. The rise of start-ups

The entrepreneurial spirit is indubitably a driving force for creativity and innovation. Market demand and tough competition continuously push entrepreneurs to come up with new products and better solutions. Start-up founders are also entrepreneurs, but with the ambitious, overarching goal to create a product or a service to create radical change. This attitude brings start-ups both at the forefront of the innovation industry and enable them to set new trends shaping the future of work.

Being the creators of products and services aimed to disrupt traditional systems and way of life, start-up founders are among the first who adopted new organizational structures and practices. For instance, connectivity tools, the use of cloud platforms, and interaction via digital collaboration tools certainly impacted the level of flexibility and inclusion at the workplace [112]. Moreover, according to a survey conducted among the members of the UK-based start-up network Founders Forum, start-up employees were better prepared for the pandemic and demonstrated a high level of resilience towards lockdown-induced working conditions, because they were not really 'new' for them. Over half of the respondents revealed that they were able to keep a high level of productivity and accomplish the tasks [113].

Although a new generation of entrepreneurs and investors seems to be at the edge of shaping the future of work in terms of the organizational approach, their vision goes far beyond technology. Many start-ups are focused on mission-driven modalities aimed at creating business models able to tackle the most burning social challenges globally, giving rise to social entrepreneurship. In the past decade, the number of investors and venture funds that prioritize start-ups in the social domain has been steadily growing, creating opportunities for new organizations to grow and to hire more employees who prioritize meaningfulness over other indicators of job satisfaction [114]. This explains the rise of a recent trend called 'zebra start-ups'. Zebras, contrary to 'unicorns' (startups with a valuation of $1 billion) prioritize the value of the impact over the financial deal with investors, creating another important development vector for the future of work to be considered.

Overall, the spread of the start-up culture globally and perpetual interest of capital ventures and individual investors in this phenomenon emphasize the importance of analysing the start-up business model and reapplying best practices across other types of organizations.

26. Access to financial resources

The conventional landscape of capital access has undergone revolutionary changes in the last few decades. Financing options have become much more varied. New flexible models of capital formation are being built, driving innovation within equity and debt structures, and piloting and developing new ways to finance entrepreneurs and deploy capital. They include revenue-based investing, entrepreneur redemption, online lending, crowdfunding and blockchain [115]. Opportunities made possible by modern technologies and financial innovations are likely to sustain the trend.

Technology plays a crucial role in the development of capital markets. A range of new tools including crowdfunding, blockchain and online banking are based on modern computer and Internet technologies. They are making markets more accessible, breaking the rigid frameworks of conventional finance. For example, blockchain-based technologies are eliminating the need for intermediaries by solving the problem of peer-to-peer transactional trust and "starting a process that could revolutionize the core of capital markets infrastructure systems" [116]. Technology is also enabling new ways of equity crowdfunding, bringing "a change in how start-up businesses raise capital, with the entry of new forces that could potentially change the future of venture fundraising" [117]. As tools such as AI and big data analysis are more widely adopted by financial institutions, we can expect technological disruption in capital markets to continue, thus providing more options and platforms for entrepreneurs to access financial resources.

An important underlying trend in access to entrepreneurship finance is the democratization and decentralization of capital markets as phenomena of technological opportunities, as well as deregulation in the finance sector. Expansion of non-banks and alternative lenders into the domain of legacy banks are good examples of such opportunities. Some of these players are alternative financial institutions that specialize in financial services [118], and some are tech companies such as Google, Amazon, Apple and Samsung that provide financial products to complement their core business.

Social and cultural shifts are also influencing capital markets. Impact investment, an investing approach that seeks both financial gains and measurable social or environmental benefits, is a relatively new trend, which is gaining momentum. As of the end of 2018, the impact investing market size was estimated at US$502 billion [119], whereas conservative estimates for impact investment markets in 2013 were US$25 billion [120]. Following this trend, accessing finance for initiatives with positive social and environmental impact will be easier.

Geographical and sectoral spillovers are a common dimension of the above trends. The most innovative and forward-looking practices are spreading through increasingly globalized financial markets. New tools are being adopted in an increasing number of countries. It is also changing conventional banking systems; for example, traditional banking and investment sectors in European countries are looking forward to adopting less risk-averse approaches pushed by competition from American and Asian investors. As a result, European entrepreneurs now have more access to capital [121].

In general, the above trends indicate that an amalgam of technological, social and cultural factors will foster more tools and opportunities for entrepreneurs to access financial resources; however, the expression and magnitude of these trends will be varied in each country subject to country specifics.

27. Entrepreneurship training and education

As one of the eight future of work scenarios envisaged by the World Economic Forum (WEF), empowered entrepreneurship suggests that steady technological changes accompanied by fast learning evolution and low talent mobility will lead many entrepreneurs to create a wide range of products and services, thus capitalizing on opportunities within their local markets [122].

A reskilling revolution and closing skills gaps are necessary for better preparedness for the times ahead, but what skills will be needed in the future? Although the focus will be on lifelong learning and upskilling, proactive re-deployment and re-employment, innovative skills funding models, skills anticipation and job

market insight [123], many believe that the future of work is about entrepreneurial skills. Alexandre Noronha suggests that the skills of the future, which are also those most needed by every entrepreneur on their journey, are: analytical thinking and innovation; active learning and learning strategies; creativity; originality and initiative; technology; design and programming; critical thinking and analysis; complex problem-solving; leadership and social influence; emotional intelligence; reasoning; problem-solving and ideation; and systems analysis and evaluation. These will be necessary skills to work with robots and highly automated machines together as super teams [124], since times ahead will be digital but also human [125].

The European Skill Agenda [126] recognizes the need for the EU to have a skills revolution to ensure that people can thrive in green and digital economies, and facilitate the recovery from the COVID-19 pandemic. This agenda for sustainable competitiveness, social fairness and resilience calls for action defines a strategy that ensures that skills lead to jobs, identifies financial means and helps people build their skills through lifelong learning, etc. Increased entrepreneurial skills is 1 of 12 defined collective actions of the agenda. The European Commission also developed the European Entrepreneurship Competence Framework (EntreComp), which offers a comprehensive description of the knowledge, skills and attitudes that people need to be entrepreneurial and create financial, cultural and social value for others [127].

The future of work will need creativity, a sense of teamwork, and an entrepreneurial mindset and competences – simply, "the future of work is entrepreneurial" [128].

28. Intrapreneurship

In the era of rapid change, many organizations are losing out because they are not willing to embrace innovation and to change or pivot their usual ways of work, their services and products. In addition to losing customers, they are losing their top talent, since young people are the ones who often leave and create their own start-ups.

Large traditional organizations can transform and keep up with progress to stay competitive by launching internal entrepreneurship initiatives ('intrapreneurship'). They can change their organizational design and business models to accommodate these initiatives. This can be achieved by creating separate units such as incubators, accelerators and innovation labs. They can organize hackathons and challenge prizes that provide different types of entrepreneurship support. Some corporate organizations have established their own venture funds for supporting corporate ventures.

Organizations need a strategic plan for professionalizing and institutionalizing innovation. They need to create innovation careers rather than innovation jobs [129]. An organization's structural drivers of internal innovation are innovation resources (e.g. money and employee time) and rewards that encourage entrepreneurial behavior, allowing risk-taking and organizational freedom [130]. The innovation culture within an organization can be shaped by promoting values of innovative thinking, autonomy, proactivity, market awareness and risk-taking.

29. State-driven entrepreneurship

With respect to entrepreneurship, private firms usually receive a great deal of attention and are given credit for all the positive outcomes, mainly economic growth and widespread excitement about new products and services. Although this attention is well deserved, the unconditional trust put in the private sector distracts from the achievements of public entities that also create significant value. In some cases, public entrepreneurship *is* the real engine behind today's most impressive innovations such as the famous iPhone [131], but most people believe that they are intellectual products of tech geniuses backed up by venture capitalists. The truth is, governments all over the world play a major role in not just creating enabling conditions for innovation and entrepreneurship, but also actively funding research and

development (R&D), which leads to impressive products and services [132]. Some of the new technologies are directly sold by public entities, and others are licensed to private firms that create new products based on these technologies. And sometimes, innovations are jointly produced by public and private entities, usually through public-private partnerships (PPPs), which reflects the complementary qualities of both sectors [133]. Another common way for the state to support entrepreneurship is setting up innovation agencies that draft national innovation strategies and create new initiatives to stimulate innovation and entrepreneurship, mostly through wide-ranging incentives including seed funding, challenge prizes, incubation and co-investment.

As seen with the recent pandemic, the private sector is much more fragile than previously thought, especially when shocks of unprecedented levels occur. With this in mind, we should soon expect to see a larger role for, and wider recognition of, state entrepreneurship, especially in relation to mission-oriented innovations that are inclusive and sustainable. Despite their perceived lack of creativity and slow decision-making, the pursuit of opportunity for social good lies at the heart of how states operate. Their continued success will rely on whether and how fast they can create the appropriate internal conditions [134] for exploration and experimentation.

30. Policy development

Worldwide, the role of entrepreneurs is recognized as one of the cornerstones of prosperous and resilient societies; governments accordingly seek resources and models that would effectively leverage national competitive advantages and support entrepreneurship as the driving force for innovation. Key policy questions revolve around classic categories such as taxation and reducing barriers for entrepreneurs. In addition, we see emerging policy initiatives on inclusive entrepreneurship (involving youth, the elderly, women, refugee businesses, etc.) and innovative regulatory models that aim to catch up with the new business and financial models.

As regards regulatory policy, issues of consumer protection that gradually shift towards personal data protection and legislation are high on the agenda. Governments very often address these challenges by applying a user-centred approach and behavioural insights that aim to simplify regulations.

Innovative and alternative policy regulations are also becoming more common [135] as governments seek models that are more responsive to the changing environment and technologies. Some of these regulations include: the adoption of 'stock-flow linkage rules', such as the one-for-one rule, which states that for each new 'burden' (i.e. a regulatory action), an old one should be removed from the framework; and the creation of 'regulatory sandboxes' that enable rapid testing of new business instruments under regulators' supervision. These practices are not widespread in Europe and Central Asia, but are slowly gaining traction in UNDP programme countries in Europe, and we should expect a wider application in the near future.

Next, governments target policies concerning small and medium-sized enterprises to leverage strategic sectors where national competitive advantage can be strengthened. These sectors include software, nanotechnology, biotechnology and clean technologies, and more emphasis is put on the role of small firms. With the adoption of the new European Green Deal[5], more focus will be put on clean-tech and climate innovations.

Finally, we might see more policy emphasis given to promoting inclusive entrepreneurship, built on the principles of equal opportunity and universal values. Promoting female entrepreneurship programmes is already common in Europe, as well as addressing the unemployment problem with business development measures. In the context of an ageing population, we can also expect more programmes targeting senior entrepreneurs.

[5] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

Conclusion

The ‘future of work’ is already here. Rapid changes and signals of change can be seen in almost all job markets, work models and social protection mechanisms. Although the main driver behind last year’s disruptive changes was the COVID-19 pandemic, some of the trends were known before: demographic shifts, rapid technological development, the rise of digital workplace platforms and environmental challenges.

The new technological and social realities are untapping human potential by enabling greater inclusion, increasing digital literacy and opening different prospects. We are also seeing the emergence of widespread adoption of new work models with a broad spectrum of opportunities and new challenges, such as work-life balance issues and time-poverty. The skills gap and employee motivations may lead us to conclude that more inclusive labour markets and flexible work practices in organizations that are circular and sustainable are an example of the only way of organizing work in the future. In the coming years, work will be influenced by, *inter alia*, continuous technological developments and demographic, economic and cultural factors, new social protection nets for existing work models, new ways of measuring performance and success, and novel solutions for a range of contemporary and future ethical and legal dilemmas.

Although the risk of external shocks and how they could disrupt current ways of working have been known for many years, the lack of preparedness based on an already dysfunctional system has become obvious with the recent COVID-19 pandemic. Rather than try to fix something that is far from ideal, we need to turn our attention to testing novel and experimental policies. This crisis could and should be turned into an opportunity where the work context can benefit from a great reset, i.e. disruption of organizational inertia and changing perspectives on what is essential for progress, including connectivity, solidarity and sound mental health.

This report shows that the changing nature of work is not a linear process, but rather an interconnected set of challenges requiring a systematic approach that will smoothen the uncertain path that the economies and social structures are taking. Instead of just reacting to the disruptions in the system, it is necessary to recognize the potential positive impacts influencing the trajectory of work transformation, which, with adequate solutions, can be translated into the building blocks of future-oriented portfolios of solutions. The interventions we create should focus on solving the problems of tomorrow based on foresight, with humans at the centre of transformation.

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Co-building the Accelerator Labs as a joint venture with:

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