Committee: International Labour Organization

Issue: The potential of technology in addressing labor force gaps

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Position: Deputy Committee Director

Important note from the chairs' team

In order for the chairs to fully understand the dynamics of the committee, discover any misunderstandings prior to the debate, and for the better preparation of the delegates you are asked to proceed as indicated below:

1) Contact your chairs via email and inform them about your MUN experience, so that they can know what exactly to expect of you.

2) Prepare and send to your chairs by 11:59 of the 6th of November one position paper for each of the topics you are going to discuss during the conference. You can contact the expert chair of each topic for further information concerning your country's policy if needed, and for general guidance when it comes to your position papers (word limit structure etc). You are going to receive general comments during the lobbying for your position papers as well as personal feedback and grades for your papers. The points you will receive will add up to your general score which is one of the factors that determine the best delegate award. If you for any reason fail to send your papers before the final deadline you will not be eligible for any award.

Find your expert chair for this topic at vpapazafeiropoulos@gmail.com .

INTRODUCTION

"The robots are coming." "No jobs are safe." "The way we work is coming to an end." These fears around automation and technology's impact on jobs continue to flourish as Hi-Tech innovations have the power to remodel the employment landscape. However, those

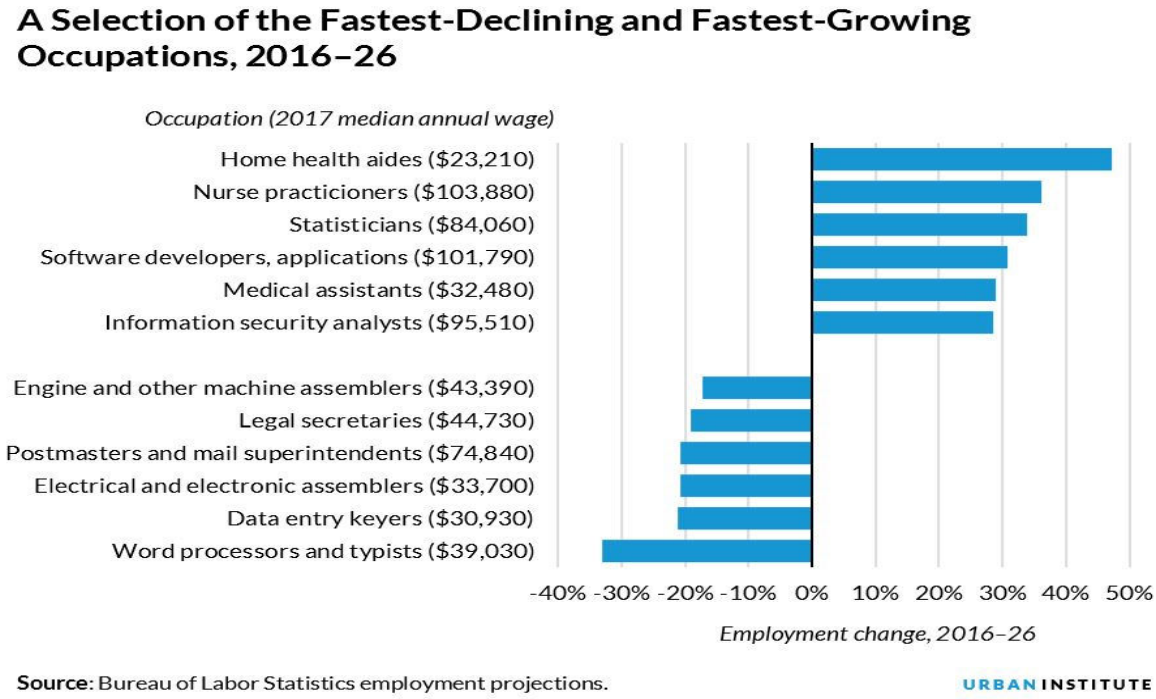
concerns ignore that the arrival of technology is more likely to readjust jobs and **not** eliminate them.

In manufacturing, companies are experimenting with having floor and line workers use mechanical exoskeletons to reduce strain and fatigue when lifting heavy objects. And in sales, representatives will need to become more capable with online marketing and engagement to adapt to customer preferences. Technology is changing the way we work, but concerns about which jobs are lost and which are gained—and who those changes affect—are important in considering whether people will have the opportunity to shift from working in the jobs of yesterday to the jobs of tomorrow.

The evidence is clear that technological change has reduced the need for routine mechanized work and increased both the demand and pay for high-skilled technical and analytic work. The impact of automation and artificial intelligence is an acceleration of a trend decades in the making. Switchboard operators have recently been replaced by phone and interactive voice response menus, and many grocery store clerks have been replaced with self-checkout machines. With advances in AI, reports claim that truck drivers, paralegals, and even surgeons might see their occupations upended by changing technology.

In this environment, tech jobs could seem like the only occupations with guaranteed job growth. But they're not the only ones. Although there is a growing need for developers and data scientists, jobs in personal care and the medical industry are expanding even faster. A critical lesson from the past is that we tend to underestimate the job-creating and job-reshaping potential of fundamental technological advances because we lack sufficient knowledge and imagination about the types of jobs that will be created and also about the major labour issues that will be tangled under the new technological paradigm. Consequently, by approaching this issue without extreme destruction theories, it is crystal clear that Hi-Tech advances have a major potentiality to throw a bridge across this vast labor

force gap that is expanding day by day. The condition "force gap" conjures up the image of one giant chasm, sort of Grand Canyon between what employers need and what employees are capable to offer. But that suggest the skills gap has single causation and a single disentanglement. In fact, different industries and occupations face the issue in many different ways. Therefore, instead of one gigantic canyon, the gap is more closely related to a series of potholes, damaging some industries and avoided by some others.



[1] DEFINITION OF KEY TERMS

Term 1: Labour/-or

By using the terms **labour/labor** we comprise every productive activity, especially for the sake of economic gain.

Term 2: Technology

[1] Statistics graph retrieved from: Steven Brown & Pamela J. Loprest, "How is technological advancement changing the labour market?" (28 Sep. 2018), *Urban Wire : Job Market and Labour Force* <https://www.urban.org/urban-wire/how-technological-advancement-changing-labor-market>

The term **technology** constitutes the branch of knowledge that deals with the creation and use of technical means and their interrelation with life, society, the environment, etc. and the application of this knowledge for practical ends

Term 3: Digitization

By using the term **digitization,** we mean the conversion of analogous-physical measurements to digital form.

Our use of the term digitization (and our measurement of it), encompasses:

1. Digitization of assets, including infrastructure, connected machines, data, and data platforms;
2. Digitization of operations, including processes, payments and business models, and customer and supply chain interactions; and
3. Digitization of the workforce, including worker use of digital tools, digitally skilled workers, and new digital jobs and roles.

Term 4: Industry 4.0

The key term **Industry 4.0**[2]**,** represents the fourth revolution that has occurred in manufacturing.

[2] It will be a brief analyzation at the **Background Information section**.

BACKGROUND INFORMATION

Reshaping the labor landscape

Future automation is more likely to change the types and number of tasks in most occupations, instead of destroying them completely. According to the World Bank[3], less than 20% of jobs are predicted to disappear totally. A recent study by McKinsey Global Institute that looked at both sides of the debate, approximated that by 2030, in about 60% of occupations, at least 1/3 of constituent activities could be automated. While this is expected to have a differential impact in different countries, the fulltime equivalent of work potentially displaced by automation is estimated at a midpoint of 15%.

History points to similar experiences. An often-cited example is the impact of the introduction of ATMs on jobs for bank tellers in the United States in the 1970s. Instead of – as one might have assumed – bank teller jobs being eliminated, their number rose modestly despite the rapid roll-out of ATMs (Bessen, 2015). In France, the Internet is thought to have destroyed some 500,000 jobs within 15 years after its introduction; at the same time, it has created 1.2 million new jobs[4]. Therefore, it is an undeniable fact that a small percentage of jobs will be lost, however, there is an even bigger percentage of jobs that will be gained and even reshaped due to our society's needs and luckily History is here to confirm it.

According to a 2018 article by *The Washington Post,* a poll showed that in several countries around the world, large majorities of people believe it is most likely that robots will be doing much of the work done by humans within 50 years. The effects of this technological leap are not viewed optimistically by most, however. Instead, people largely say they think humans will struggle to find meaningful work and inequality will rise, the

[3] The World Bank is an international financial institution that provides interest-free loans and grants to the governments of poorer countries for the purpose of pursuing capital projects. See also Autor and Handel, 2013

[4] McKinsey Global Institute (MGI), 2011

research found. The polling was conducted earlier this year by the Pew Research Center in Greece, Japan, Canada, Argentina, Poland, Brazil, South Africa, Italy and Hungary. Pew also compared the responses in those countries to polling done in the United States in 2015 that asked about automation.

In general, the poll found that majorities in most countries were in agreement that robots would soon do humans' work, with only limited differences in their views of how this would affect society despite some countries being advanced economically and others still developing. In all of the countries surveyed, more than two-thirds were found to believe that automation meant that robots would take over work done by humans within a half-century. In Greece, 52 percent said this would definitely happen, while 39 percent said this would probably happen.

Respondents were also asked about how automation would affect their countries. In each case, a large majority said it would make it difficult for ordinary people to find jobs, while a majority in most countries said jobs lost to automation would not be replaced by "new, better paying jobs."

There were only three countries in which a majority thought automation would make the countries' economies more efficient — Japan (74 percent), Poland (52 percent) and Hungary (52 percent). In every country surveyed, a significant majority believed automation would worsen the existing inequality between the rich and the poor.[5]

Facing the transition

Technological change can also produce a wide variety of new tasks; for example, from a bank teller to a financial services advisor. In the United States, for instance, 30% of the jobs created since the late '90s were types that did not exist before such as IT

[5] Adam Taylor, "People around the world think that robots will soon take most human jobs — and that people will suffer" (September 13, 2018), *The Washington Post.* https://www.washingtonpost.com/world/2018/09/13/people-around-world-think-that-robots-will-soon-take-most-human-jobs-that-people-will-suffer/

administration, hardware manufacturing and software development[6]. Clearly, these newly created tasks demand the necessary adaptation.

It is estimated that, between 3% and 14% of the global workforce would need to switch entire occupational categories. Thus, while there might well be enough job "production" to compensate for the technological unemployment, the workers will have to handle the critical challenge of the **transition**. Taking into consideration that the majority of employees (especially in manual activities) unfortunately, don't own the basic technical knowledge, in order to adapt successfully to the new standards, they will have to acquire the necessary expertise. The technological know-how could be easily delivered, through the international cooperation of developed and developing countries. Therefore, the need of technical knowledge and Hi-Tech infrastructure sharing is at the moment of utmost importance as a well technically -and not only- educated worker taking advantage of the power of knowledge will gain the ability to handle the challenge of the transition.

The biggest challenge of digitization

Accelerated technology adoption will unlock huge economic value, even as it demands a major need for retraining and redeployment of labor. In India, as an example, digital technologies offer the inspiration for many innovations that could contribute $550 billion to $1 trillion of economic impact annually in 2025[7]. However, the value of the digital era that is captured depends on how many people and businesses have access to it.

More than four billion people, over 50% of the world's population, is still offline. Unfortunately, about 75% of this offline population is concentrated in 20 countries,

[6] MGI, 2017.
[7] MGI,2018.

including Bangladesh, Ethiopia, Nigeria, Pakistan and Tanzania and is disproportionately rural, low income, elderly, illiterate and female. The value of giving these people the chance to connect is vital, and as they enter the global digital economy, the world of work will transform in amazing ways and at an unprecedented pace. If technology nowadays evolves rapidly with less than 50% of humans contributing to this rise, let's imagine a world where **more** than 50% of people all over the world working in order to achieve an even greater technological evolvement. The social and financial impact of the latter will be inconceivable. However, we must not forget; access to technology alone is **not** enough! Even in countries where an oversized majority of the population has access, the literacy and skills required to capture digital gains are sometimes restricted. That is when evolved education and cooperation is required, as we have already analyzed.

Industry 4.0

The fourth industrial revolution is getting established day by day, as technology flourishes. It envisions everything that its predecessor has already created among with the adoption of computers and automation and enhance it with smart and autonomous systems fueled by data and machine learning. It simply constitutes the dawn of the new digitized era. Many countries all around the globe are already thriving to bring Industry 4.0 aspects into their products using AI[8], automation, blockchain[9] and IIoT[10]. It can be easily concluded that Industry 4.0 aims to battle against the skills gaps that exist in every workplace, using the power of technology.

MAJOR COUNTRIES INVOLVED

[8] Artificial Intelligence (AI)
[9] Blockchain is the technology the underpins digital currency (Bitcoin etc.)
[10] The industrial internet of things (IIoT) encompasses industrial applications, including robotics, medical devices, and software-defined production processes.

India

Let's imagine an economy such as India's. When you have 1.3 billion people thatmyrida are capable to produce things inexpensively, it does not make any economic sense to automate therefore, the workers defy every single force gap. In fact, Indians are more likely to design and create labor-saving robots, instead of using them in their factories.

Canada

Canada is currently a hub of innovative tech. Any innovation from blockchain to AI to complete digitization. The government has an impressive myriad of funding opportunities for new businesses. It ranks 7th as a driver of production. With time and preparation, Canada could pioneer the state of production globally!

Japan

Japan is one of the strongest "players" in current manufacturing and production. Taking advantage of state-of-the-art innovations and with its current structure of production, it monopolizes the number one rank of the World Economic Forum[11] (WEF) and has already managed to go through many force obstacles that showed up.

Germany

Germany is on Japan's level as a leading country in industry. Germany's workforce and manufacturing structure seemed to be successful back in the days of WW2, where Germany produced impressive war machines and equipment using the latest cutting-edge technological innovations. Consequently, it is logical that today Germany thrives and constitutes Europe's richest country with unthinkable expertise and a technology that rises swiftly.

[11] The **World Economic Forum** (**WEF**), based in Cologny-Geneva, Switzerland, was founded in 1971 as a not-for-profit organization. The WEF's mission is cited as "committed to improving the state of the world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas".[2]

TIMELINE OF EVENTS

Date	Description of Event
1850	A group of New York City tailors threatened to strike unless their employer stopped using sewing machines.
1876	Alexander G. Bell invents the telephone, which improves business communications.
1879	James Ritty and John Birch patent the cash register, which helps to streamline the retail industry.
1880	James Bonsack invents the cigarette rolling machine, which increases the speed of cigarette production.
1890	England's "Red Flag Act[12]" required a person carrying a flag to walk in front of steam-powered locomotives. Later, the red flags rule was applied to automobiles.
1920	"We are just at the beginning of the revolution," said Raymond B. Fosdick[13]. "We could not stop it if we would. It is advancing by leaps and bounds, gaining in impetus with each year. It is giving us more machines, faster machines, machines increasingly more intricate and complex. Life in the future will be speeded up infinitely beyond the present." He asked: "Can education run fast enough, not only to overcome the

[12] The Locomotive Acts were a series of Acts of Parliament in the United Kingdom regulating the use of mechanically propelled vehicles on British public highways during the latter part of the 19th century.

[13] Raymond Blaine Fosdick was an American lawyer, public administrator and author. He served as the president of the Rockefeller Foundation for twelve years.

	lead which science has obtained, but to keep abreast in the race?'
1960	US president Lyndon Johnson set up a "National Commission on Technology, Automation, and Economic Progress" at the same time. "If we understand it, if we plan for it, if we apply it well, automation will not be a job destroyer or a family displacer," he said. "Instead, it can remove dullness from the work of man and provide him with more than man has ever had before."
2000s	*Businessweek* put the future of work in its cover in 2007, and time did the same in 2009. The Museum of Modern Art in New York hosted an exhibit with futuristic visions of what the future of work might look like.
2013	Researchers at Oxford published a study on "the future of employment"
2016	The Obama Administration, like the Hoover and Johnson, published a report that detailed the possible impact of technology on jobs and the economy.

UN INVOLVEMENT: RELEVANT RESOLUTIONS, TREATIES AND EVENTS

UNCTAD/PRESS/IN/2017/007

The United Nations Commission on Science and Technology for Development (UN CSTD) concluded its twentieth session on the evening of 12 May with countries reaffirming its role as the United Nations torch-bearer for science, technology and innovation (STI) for development.

During five days of discussions, countries called for deeper international cooperation to achieve zero hunger by 2030, extend the benefits and beneficiaries of science and technology, and build capacity at the national and global levels to make progress on the Sustainable Development Goals. In this regard, China offered to support a capacity-building program involving STI policy development, planning and implementation as well as sponsorship for young scientists from developing countries to train in China.

Ms. Shamika N. Sirimanne, Director of UNCTAD's Division on Technology and Logistics, emphasized that "science, technology and innovation are, alongside trade, the most powerful forces driving the progress that the world has witnessed in recent years in terms of growth, poverty reduction and overall human development." She added, "this Commission provides a forum for all countries to discuss how they can collectively harness these technologies for sustainable development while minimizing the associated risks and challenges."

The twentieth session highlighted the many links between Science, Technology, and Innovation (STI) actions and the Sustainable Development Goals (SDGs), focusing on food security and inclusive, sustainable innovation. The technology gap is a major cause of

problems with the labour force, especially in the LDCs. This is why the UN sources generally agree on the idea that making sure to close this gap is a major goal towards the 2030 SDGs agenda. As the UN initiated studies have shown, too often the least developed countries (LDCs) remain far behind if not excluded entirely. Many have little choice beyond the use of obsolete technologies, such as those used in the garment or agricultural sectors.

This is not because LDCs lack the determination or the will to catch up with the rest of the world. What we are seeing is a result of the serious and manifold development challenges these countries continue to face, experiencing delays in their efforts to eradicate poverty, achieve sustainable development and participate fully in an increasingly competitive global market. One of the root causes is found in structural limitations, as there are marked gaps between LDCs and other countries in such areas as science, technology and innovation (STI). If these gaps are not closed sooner rather than later, LDCs will not be able to achieve the 2030 Agenda and its Sustainable Development Goals (SDGs). This will also mean - according to the same UN source - that we will not have reached our objective of "leaving no one behind".

With this in mind, the UN has made sure to give all the time and effort needed to secure that technology can be used properly and even out the differences in the labour market instead of making them deeper. On 15 January 2019, Resolution A/RES/73/282 decided to devote one day, during its seventy-third session, to the commemoration, within existing resources, of the one-hundredth anniversary of the establishment of the International Labour Organization under the theme "The future of work" and to convene a high-level plenary meeting of the General Assembly, to be held on 10 April 2019. The centenary "Future of Work" conference took place with the participation of many

academics, scientists, economologists etc. , as the ILO believes that participation and global social dialogue is the key to coming up with the most effective solutions. The International Labour Organization (ILO) has concluded a landmark event on the future of work with a strong call on the global community to make social dialogue between governments and the social partners a key instrument for building a world of work that leaves no one behind. Summing up the two day meeting, ILO Director-General Guy Ryder said that "the future of work must be inspired by considerations of humanity, of social justice and peace. If it is not, we are going to a dark place, we are going to a dangerous place." As this topic is relatively new in discussion, delegates may find themselves in a hard position with coming up with solutions, so it is advisable that one researches the developments prior to the conference on the ILO and UN official websites.

The topic of technology and labour gap was also one of the most discussed topics for the 18th Session of the United Nations Industrial Development Organization (UNIDO), which is actively seized on the matter.

POSSIBLE SOLUTIONS

The world of work is in a state of flux, which is causing considerable anxiety – and with good reason. The development of technology and automation brings the promise of higher productivity increased efficiencies, safety and convenience throwing a bridge across the

major labor force gaps. However, these innovations create questions about the general impact of automation on jobs, skills, wages and the nature of work itself. In order to get rid of these questions there must be a gentle management of the issue.

Therefore, it is of utmost importance for the ILO to cooperate with governments -especially the ones of the developing countries- so as to provide the necessary expertise through training programs. This way, the local personnel will gain the ability to adapt to the recent standards of the new era, taking advantage of the Hi-Tech innovations and tangling the issue of labor force gaps. This comprehensive transition is a key element to prepare the local human resources for the upcoming 4.0 Industry.

Furthermore, we should highlight the importance of capacity building mostly in developing regions through partnerships between the public and the private sector. The goal of this proposal is not only the creation of the basic infrastructure, but the knowledge sharing that will be established through this collaboration. Vital for the latter collaboration, is the willingness of the private sector, to contribute to developing economies. Hence, we should aim at working with governments in the field of policymaking so as to provide investors and generally the private domain with the appropriate incentives that would make their engagements profitable for them as well. In this case, the ILO can and has played a critical role as a consultant in cases where local economies need to be reformed. Investments are to be sought not only in the cooperation of the public and private sectors but also, in institutions initially created for promoting progress in developing regions. Institutions such as but not limited to, the Bank for Reconstruction and Development and regional development banks (African and Asian etc.) will provide analyses, expertise and investments for sustainable results.

Highly important is the reformation of economies that will set the foundation for new digital jobs to flourish. Adopting a 4.0 Industry friendly that allow the creation of new jobs will bridge the chasm between developed and developing countries.

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FURTHER READING MATERIAL FOR DELEGATES

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