LETTER FROM THE SECRETARY-GENERAL

Dear representatives,

I believe the topic of IUMUNX International Labour Organization, which is the Industry 4.0 and the future of work, is one of the foremost both challenges and opportunities that humanity encountered so far because of the fact that, the first time in our history, we are able to emancipate ourselves from repetitive work without delegating it to another human being. Conversely, it bears an immense risk of damaging the social fabric across the world since it will affect the people who are employed in such repetitive and low-skill jobs that are set to be replaced by automation. One may argue that it has happened in the past with previous industrial revolutions starting from the 19th century, however, the current one is quite differing from its predecessors on the fundamental level: full automation.

Then again, the agenda item dedicated to the International Labour Organization can be considered as a looming crisis that requires extraordinary care when making decisions about due to the aforementioned qualities that can be attributed to it. Hence, as the definition of employment and what it meant for individuals are subjected to change imposed by technological developments just as the international standards are required to be adjusted accordingly. In this sense, the International Labour Organisation plays a crucial role to pave a path for maintaining harmonious economic and social structures all around the planet. Therefore, it is the task of representatives of this committee to think about the future of employment as a holistic concept ranging from political, ideological, economic, social and international manners. Remember, it is your task to find a balancing medium for governments, employers and employees to handle the looming crisis before it harms the everyday functioning of nations as well as quality of individuals whether it be from upper, medium or lower strata of income.

As I conclude my remarks, I want to extend my gratitude to the under-secretary-general of the International Labour Organisation, Sıla Erdem and her academic assistant, Mehmet Alper Gün. I believe they have accomplished a wonderful work that representatives will make use of during their studies of the agenda item.

Cordially,

Secretary-General
Çağdaş Başar Bahar

LETTER FROM THE UNDER-SECRETARY-GENERAL

Esteemed participants,

It is with absolute privilege we welcome you all to the International Labour Organization Committee of IUMUNX.

In this committee, you are expected to work together in order to find solutions for an important topic of our near future. It is important that you understand the core reasons of the problems and come up with realistic approaches.

ILO offers you an experience that is unique with its tripartite system. You as delegates will have the opportunity to represent a country's different voices from different communities. It will give you an understanding of people who live in the same country but have different perspectives upon the same topic. Our differences make us unique, and the ability to understand each other's opinions and being able to work towards a common and stronger future is what we should seek for the greater good.

The person I always wanted to become is the one who is never afraid to express their opinions and feelings upon any matter. That is a persona that I find very precious. You will find yourself facing real problems that cannot be ignored if you want to live in an ideal world with equality and dignity. So now it is your time to stand tall and speak up for our future.

We tried our best for this committee, so we are expecting it to be the best of its time. By giving you this opportunity to speak about this very crucial topic we offer you a lifetime experience in IUMUNX. Hope to see you at the conference.

Kind Regards,

Under-Secretary-General

Sıla Erdem

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I. INTRODUCTION

A. Introduction to the Committee

1. What is the International Labour Organization?

The International Labour Organization is the only tripartite UN agency which is founded in October 1919 at the Paris Conference under the League of Nations. It carries the features of being one of the first and oldest specialized agencies of the UN. The ILO has 187 member states in total; 186 of them being member states of the UN and one is the Cook Islands.

The organization's standards aim to achieve accessible, productive, and sustainable working standards while protecting the rights of freedom, equity, security, and dignity. International labour standards are developed by the ILO in the form of Conventions and Recommendations, which establish minimum requirements for fundamental labour rights such as freedom of association, the right to organize, collective bargaining, the elimination of forced labour, equality of opportunity, and treatment, and other standards governing conditions across the full range of work-related issues.

The International Labour Conference, which includes conventions and recommendations, is held in Geneva by the ILO once a year to establish the organization's general policy. The conference, commonly referred to as the "International Parliament of Labour," elects the Governing Body and decides on the general policy, work program, and budget of the ILO. Each member state is represented by a delegation: two government delegates, an employer delegate, a worker delegate, and their respective advisers. Regardless of the number of people in the delegate's member State, every one of them has the right to one individual vote, and every vote is treated equally.

2. How does the International Labour Organization Works?

The ILO encourages tripartism within its constituents, Member States, employers, and workers, by promoting a social dialogue between trade unions and employers in formulating, and where appropriate, implementing national policy on social,

economic, and many other issues. ILO fulfills its work through three main bodies which are as follows:

I. The International Labour Conference sets the international labour standards and the broad policies of the ILO. It meets annually in their headquarters in Geneva, Switzerland. Often called an 'International Parliament of Labour', the Conference is also a forum for discussion of key social and labour questions,

II. The Governing Body is the executive council of the ILO. It meets three times a year in Geneva. It takes decisions on ILO policy and establishes the programme and the budget, which it then submits to the Conference for adoption,

III. The International Labour Office is the permanent secretariat of the International Labour Organization. It is the focal point for the International Labour Organization's overall activities, which it prepares under the scrutiny of the Governing Body and under the leadership of the Director General.

The Programme and Budget of the ILO is approved in every two years by the International Labour Organization, which sets out the strategic objectives and expected outcomes for the Organization's work in the biennium. The results and achievements of the ILO are financed through three main funding sources that are listed below:

I. The Regular Budget, funded from assessed contributions made by Member States, based on the scale of assessments of the United Nations,

II. The Regular Budget Supplementary Account, funded by voluntary core contributions from key resource partners that provide fully unearmarked resources,

Extra-Budgetary Technical Cooperation resources, funded by voluntary non-core contributions from over 100 different resource partners, including public and private organizations, IFIs, and UN entities, in support of specific projects.

3. Tripartite System of the International Labour Organization

It was necessary for an organization like the International Labour Organization to host the labor side of countries as representatives for an equal working environment. The tripartite structure was put on a discussion to ensure that the International Labour Organization, unlike most, if not all, other international organizations, should not be one in which governments and governments alone have a voice. There was a strong desire on the labor part of the countries that want their voices to be heard when it comes to international discussions upon industrial conditions. In order to ensure a just equilibrium, the employers and employees needed to likewise be represented.

In order to preserve and address each and every part of labor in the International Labour Organization a tripartite system was chosen to be implemented. A permanent administration was in need which would hold periodic conferences. Delegations would consist of every country's representative of employers and labour, side by side with government delegates. Every representative would hold equal rights with the same standing. The non-governmental (employers and employees) delegates were to be chosen in agreement with the most representative organizations of employers and labour.

B. Introduction to the Topic

1. History of Industry 4.0

The "Industry 4.0." term was initially used by the German government. It explains and summarizes several technological advancements in manufacturing and lays out the primary objectives of a cogent framework of policies to preserve the German industry's competitiveness abroad. It is both conceptual and institutional in that it lays out a framework for a variety of policy initiatives that are recognized and endorsed by officials and industry leaders and serve as the impetus for a research and development program.

Industry 4.0 is a model of the "smart" factory of the future, where computer-driven systems monitor physical processes, create a virtual copy of the real world, and make decentralized decisions based on self-organization mechanisms. It describes how

production processes are organized based on technology and devices autonomously communicating with each other along the value chain. This concept considers how industrial businesses have become more computerized, allowing physical items to be easily incorporated into information networks. Consequently, manufacturing systems are able to be managed in real-time, from the moment an order is made to outbound logistics, by being vertically networked with business processes within factories and organizations and horizontally connected to spatially dispersed value networks.

The division between industry and services is becoming less meaningful due to these advancements, as digital technologies are combined with industrial products and services to create hybrid items that are neither solely goods nor services. In fact, Industry 4.0 is considered to include both the phrases "Internet of Things" and "Internet of Services."

Although there are a lot of positive outcomes of industrialization and automation there will be downsides that it will draw the world in. The expected negative outcomes of Industry 4.0 are listed below:

I. High Costs: Technology is not the only expensive factor to take into account; expertise in making the technology work is also quite important. Possessing expertise in more recent domains such as AI, AR, and IoT might result in significant financial limitations in addition to a lack of communication amongst all stakeholders.

II. High Rate of Failure: Establishing objectives for Industry 4.0 efforts can be challenging because there is frequently a lack of guidance. These are frequently multi-stakeholder, cross-functional initiatives, which increases the risk that they will stall out due to competing objectives.

III. Cyber Security: Individuals, goods, and machinery are, and will continue to be more and more connected to the internet with Industry 4.0 and upcoming Industry 5.0. This will increase our access to the data in the cloud, it will also cause cyber security gaps, allowing hackers more ways to get access to networks.

Need for Highly Skilled Labour: Humans are still necessary for manufacturing processes and industry in general to facilitate production. The shift to digitally connected systems, however, has increased the need for highly skilled workers, which can inadvertently result in a decrease in the requirement for low-skill labour.

a) Industry 1.0

Industry 1.0, also known as the first industrial revolution, dates back to around 1760. With the invention of steam engines world was preparing itself for a new era. The mechanization of manual tasks spread quicker day by day. The birth of inventions such as the steam engine, spinning jenny, and power loom revolutionized textile manufacturing, leading to increased production and urbanization. New job opportunities in the big cities caused more and more people to migrate from rural areas. This is where the modern industry began to rise with the fall of agriculture, but it also brought challenges such as poor working conditions and labor exploitation.

Humans are still necessary for manufacturing and industry in general to facilitate production. The shift to digitally connected systems, however, has increased the need for highly skilled workers, which can inadvertently result in a decrease in the requirement for low-skill labor.

The availability of new technology will eventually cause the phase-out of current solutions. Certain industries will not be able to endure what Industry 4.0 brings to the market, much like the Blockbusters of the world.

b) Industry 2.0

The period between 1871 and 1914, known as the Second Industrial Revolution (Industry 2.0), was characterized by the introduction of electricity and the development of modern production lines in factories, facilitated by extensive railway and telegraph networks allowing faster transfer of people and ideas.

The main contribution to this revolution was the development of machines powered by electricity. Electricity was already being used as a primary power source. Operating and maintaining electric machines was more efficient in terms of both cost

and effort compared to water and steam-based machines, which were relatively inefficient and resource-intensive. The first assembly line was also built during this period, further facilitating the mass production process. Using the assembly line, mass production of goods became a standard practice.

With centralization, migrations from towns to cities have increased, leading to the establishment of politically and economically powerful central states. In short, Industry 2.0 began in the 19th century with the discovery of electricity and assembly line production. It was a period of significant economic growth with increased productivity, but the downside of Industry 2.0 was the rise in unemployment as many factory workers were replaced by machines. During this era, the evolution of the industrial culture was introduced in Industry 1.0 into management programs aimed at increasing the efficiency of production facilities. Division of labor, just-in-time production, and lean manufacturing principles, among other production management techniques, refined key processes that improved quality and output.

When there is such a transition is on the brink of happening the first thing that takes an impact is the structure of the job market. A lot of jobs are phased out and new jobs are created demanding a whole new skill set. As per a report published by Deloitte UK, over 800,000 jobs have been lost but nearly 3.5 million new ones have been created. On average, each job created is paid approximately £ 10,000 per annum more than the lower-skilled, routine jobs they replace, resulting in a £140 billion net boost to the economy. The shift towards mechanization replacing labor led to a focus on higher production and lower wage policies, prompting workers to unionize to demand their rights due to the harsh working conditions.

c) Industry 3.0

The period that began after World War II and rapidly developed after the 1970s, where production became digitalized, is also referred to as the 'Era of Information Technology'. Synthetic goods, computer technology, fiber optics, telecommunications, biogenetics, laser technology, and biotechnology constitute the defining elements of this period. Globalization of industry and commerce also occurred during this time.

The fundamental components of this revolution are information processing techniques, communication technologies, and microelectronics, which serve as their common implementation tool. The current era that the world finds itself in, often referred to as the Third Industrial Revolution, can be succinctly described as the age of the rapid advancement of computers and the internet, also known as the information revolution.

The Third Industrial Revolution signifies the use of electronics and information technologies resulting from digitalization in production. This means that businesses, with advancements in generating, processing, and communicating information, have gained the potential to significantly alter economic and strategic balances in our time. With this revolution, especially with the advancement of 3D printers, the production of car parts has increased, enabling large-scale production at the push of a button.

With the increase in automation, new and intelligent robots have been produced. These next-generation robots are both inexpensive and have increased efficiency in production. As a result of the digitalization of production in the Third Industrial Revolution, efficiency in industrial planning increased, while the number of blue-collar workers continues to decrease. Therefore, workers of this kind should be trained through digitization to enhance their skills in virtual environments. As a result of these trainings, employees should be enabled to improve their skills through virtual environments by accessing all necessary information with just one click.

2. Industry 4.0 Applications

The term Industry 4.0 refers to the future of industrial production. Thanks to information and communication technologies, value creation processes should be digitized and interconnected among companies for self-control and optimization of industrial production. The increasing speed of innovation is putting pressure on companies. The real and virtual worlds are merging and being integrated. The challenge to overcome is smartly combining humans and technology in business processes.

The development of Industry 4.0 not only enhances competitiveness but also helps address global challenges like resource and energy efficiency, as well as shaping national challenges such as demographic change. Optimizing the interaction between technical and social innovation processes makes a significant contribution to competitiveness and efficiency worldwide. Industry 4.0 is seen as a digital production system that reduces costs, accelerates production, and offers personalized manufacturing opportunities while minimizing energy consumption, stock supply, and error factors. This new production system employs digital and high-tech robots to reduce the workforce in factories. Implementation of these robots to workforce has become one of the biggest fears of employees.

Industry 4.0 is like a smart factory where everything is connected through technology. It helps save money, speeds up production, and even allows for custom-made products. Plus, it uses digital robots to do a lot of the work, cutting down on the number of people needed in factories. With Industry 4.0, automation has become the main focus. Production is done without human intervention between machines and systems. This allows data flow via sensors, enabling instant improvements in production lines around the world. In today's information society,

Industry 4.0 will influence production techniques, supply and distribution systems, efficiencies, production structures, competitive strategies, lifestyles, and forms. That's why managing change and transformation correctly has become quite important. Smart manufacturing systems created with Industry 4.0, by combining smart city, logistics, home, and network elements with social networks and e-commerce networks, are expected to influence global trade volume by approximately 40% over the next quarter-century through the ecosystem formed by services, data, objects, and individuals via the internet. Technologies developed until Industry 4.0 have already found their way into many aspects of our lives. Robots have been used in the automotive sector for years, for tasks like painting cars, moving heavy metal parts, and assembling them. Industry 4.0 is a process that aims to elevate the benefits derived from the use of robots in these areas and improve upon existing technologies by introducing new ones. This process is expected to contribute positively to various

aspects such as the utilization of brainpower, error-free manufacturing, saving on labor, low cost, efficiency, sustainability, and customer satisfaction.

3. Industry 5.0 and Human-Centric Industry

Despite being a relatively new idea, there has been some early academic writing outlining the key components of Industry 5.0. It was initially related to how and to what degree the nation succeeded in the first ten years of the twenty-first century and how it could be more successful in the ensuing decades in order to maintain a relatively stable number of workers in production. It was designed to better address the unique ecological and economic needs of "green production" for an energy-efficient, carbon-neutral sector of the economy.

Industry 4.0 is about introducing edge computing in a distributed, intelligent manner while automating processes. Its only goal is to increase process efficiency, and as a result, it unintentionally overlooks the human cost associated with the optimization of the process. When the full effect of Industry 4.0 happens in a few years that will be it's biggest problem to be faced. Consequently, it will encounter opposition from politicians and labor unions, who will see some of the advantages of Industry 4.0 offset as demand to boost job numbers grows.

In its 10 years of existence, Industry 4.0 has placed more of an emphasis on digitalization and AI-driven technologies to boost production efficiency and flexibility than it has on the basic objectives of sustainability and social justice. Industry 5.0 offers an alternative perspective and emphasizes the value of innovation and research in assisting industry in providing long-term services to humanity within planetary constraints. While the main concern in Industry 4.0 is about automation, Industry 5.0 will be a synergy between humans and autonomous machines.
The roles and jobs of the industry workers are very different in Industry 5.0 than in Industry 4.0. The worker is not to be considered as a 'cost', but rather as an 'investment' position for the company, allowing both the company and the worker to develop. This suggests that in order to achieve their goals, the employer is interested in making investments in the abilities, skills, and general well-being of their workforce.

This method differs greatly from simply balancing labor costs and revenue since it values and appreciates human capital more.

A rising number of initiatives are tackling the social and human dimensions of industrial workplaces' digitalization, which is supporting Industry 5.0's human-centric viewpoint. Several initiatives (such as FACTS4WORKERS, EVRYON, HuMan Manufacturing, CoLLaboratE, and Rossini) investigate how people interact with robots and cobots in a manufacturing setting, looking into ways how to benefit from each of their strengths and how to valorise human capital.

II. THEORETICAL FRAMEWORK

A. Industry 4.0 Callouts

I. **The Internet of Things**: Refers to the connection of IT systems to all sub-systems, processes, and internal/external objects. IoT ensures that industry-related items such as; sensors, machines, supply chains, products, and customers are connected with each other. According to some estimates, the number of devices communicating with each other has surpassed the number of people communicating with each other.

II. **The Internet of Services**: The term "Internet of Services" describes a set of internal and cross-organizational services powered by big data and cloud computing that are provided and used by value chain actors.

III. **The Industrial Internet**: Is where the industries and the internet revolutions come together. The important key to know here is that unlike Industry 4.0, the Industrial Internet goes beyond manufacturing to cover the wider adoption of the web into different forms of economic activities.

IV. **Advanced Manufacturing**: The term often used in the literature to describe innovations in technology that are used to improve products or processes.

V. **Cyber-Physical Systems**: Can be explained as the integration of computers with physical systems. They are composed of software integrated into hardware, such as sensors, processors, and communication technologies which can autonomously exchange information, act, and control each other independently.

VI. **Smart factory**: This and the related term 'factory of the future' exemplify some of the technical innovations under Industry 4.0 such as the integration of ICT in the production process and how these could play out in practice.

VII. **Automation**: This term refers to the automation of production, data exchange, communication, vehicles, feedback services, and even employees. This process lies under the idea of leaving the jobs to machines that were used to be operated by humans. The backbone of Industry 4.0 is mainly accepted as automation.

VIII. **Big Data**: Big Data is explained as a great quantity of diverse information that arrives in increasing volumes and higher velocity. The main intention here is to help transform the huge amount of raw data into useful information in real time and thereby technically support automation.

IX. **Cloud Computing**: This term can be explained basically as the fast delivery of computer services such as; servers, storage, databases, networking, software, analytics, and intelligence over the Internet ("the cloud").

B. Smart Factories

Smart factories are equipped with advanced sensors, embedded software, and robots capable of collecting and analyzing data, enabling better decision-making. These factories have automation systems that allow for increased efficiency in businesses, real-time monitoring of production, and remote intervention.

It is possible to note that with technologies such as artificial intelligence, big data analytics, cloud computing, and the Internet of Things, production facilities have now also become smart. Nowadays, all businesses are striving to keep up with digital transformation, hence integrating many technologies such as security cameras, IP cameras, fire extinguishing systems, and card access systems into their operations to achieve a smarter business. Production should become more flexible with smart factories. Continuous data exchange should ensure machines are always used optimally. Short-term changes in demand or disruptions in the value chain are quickly compensated for. In Industry 4.0, individual production lines are organized independently based on demand. If a machine on this line fails, production rearranges itself alternatively. For instance, when orders or available raw material quantities change, facilities automatically adjust production to new conditions. The advantages for companies using smart factories for production are as follows:

I. Shorter production time

II. Lower storage and personnel costs

III. Shorter market launch time for new products

IV. Transparent supply chain

1. Big Data Platforms

It's possible to refer to the Fourth Industrial Revolution as the digitization of industry. However, it should be considered not just the digitization of a production line or an activity, but the digitization of all the workings and processes of a company. For instance, in manufacturing, improvements in big data analysis and efficiencies are expected to bring billions of dollars to the industry within the next five years.

On one hand, autonomous machines taking over tasks traditionally done by humans may lead to job loss, while on the other hand, there could be new job opportunities arising from harnessing the power of data and leveraging it meaningfully. The importance lies not in how much data you have, but what you can do with that data. Today, many companies have embraced this concept by focusing not on increasing the volume of data they have, but on using it efficiently. Successful analysis of data obtained from various sources has provided benefits in many areas such as cost savings, labor efficiency, stronger promotions, and new product development processes. Big data will economically impact both the public and private sectors. According to a report prepared by McKinsey in 2011, analysis enabled by collecting big data could lead to a significant increase in profits for retail companies, potentially up to 60%, or a decrease of 8% in healthcare.

2. Sensor Technology

Examining the structure of smart sensors today reveals that they feature bi-directional communication interfaces and optional software functions. Smart sensors, seamlessly integrated into all machines, will ensure processes operate very swiftly, reliably, and more efficiently through automatic monitoring and configuration capabilities. It creates an opportunity to read measurement features for predicting faults, monitoring levels, and establishing a smart factory.

Accurate measurements in challenging environments and conditions expand sensor access to various equipment and processes. From miniature sensors with multiple digital output signals to wireless sensor technologies, this technology offers various solutions to enable Industry 4.0 and the Industrial Internet of Things (IoT). Companies that appropriately train their employees and adapt production processes can

improve their just-in-time processes using sensors. Efficient use of sensors also reduces maintenance time and prevents waste due to reduced product waste. In some industries, sensors also offer new possibilities in cost management by providing more accurate unit cost and unit revenue calculations.

As part of Industry 4.0, new correlations are acknowledged and processes are adjusted accordingly, the way many jobs are performed is changing. In the future, industrial data scientists, supply chain coordinators, or simulation experts for new tools and service engineers will work in robot coordination. Sensors will form the basis of all new job descriptions.

C. Keynesian Economics

Dwelling on the importance of the effective demand is inevitable, since this principle, as postulated by Keynes (1936). It is widely acknowledged that Keynes, when developing the concept of effective demand, approached production and employment levels as consequences of the conditions on real-goods markets. In this manner, he saw investment and consequently unemployment as dependent on the level of total expenditure of the society. From this point of view, any negative turn of the economy's growth (and raise in unemployment) should be reversed by a stimulus to the autonomous expenditure, normally through government expending. The demand thus created would prompt the conditions for its own sustainability.

This reasoning is usually the basis for short-term stimulus policies, but it could be seen as valid in the long term. After all, if we consider that the economy is continuously going through changes provoked by technical enhancement and that such enhancement brings about instability in labor and capital markets, including involuntary unemployment, we can assume that aggregate demand management is a tool to deal with unemployment and income level in longer terms. As argued by Keynes (1936) and Kalecki (1954), there is no reason for an economy freely operating to find itself in full employment. Hence, the use of autonomous expenditure must be a constant concern of the economic policy. Within this framework, the quantity of jobs in a given economy follows the macroeconomic policy directions to effective demand, considering the institutional and international constraints. It does not seem a

coincidence, thus, that the years between 1950 and 1980, when low unemployment and technological progress walked hand-in-hand, were also years when policies of demand stimulus were predominant, following the Keynesian.

Automation may eliminate more jobs than it creates in specific sectors, but in a modern capitalist economy that should not directly translate into higher unemployment or job polarization – simply because the government can always use its capacity of expenditure to assure that unemployment will stay within a determined threshold. That is why the experience of industrial expansion with technological and social progress after World War II is actually a story of governmental planning and intervention. If there is no reason for any unregulated and free economy to direct itself to full employment, growth in occupational level and wages had to be the outcome of policies that reinforced aggregated demand and, consequently, demand for labor. In this perspective, technological advancement has no specific effect on wages and unemployment – it is just another disequilibrium factor in the capital accumulation dynamic, which depends on the management of the effective demand to continue without major crisis anyway.

D. Schumpeter's Creative Destruction Theory

Joseph Alois Schumpeter is an Austrian economist who is accepted as one of the greatest economists and analysts of business cycles. One of his most popular concepts is the Creative Destruction Theory which he defines as; "process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one".

The Theory of Economic Development was his first act in the Schumpeterian effort to create the theoretical tools and concepts that were needed to approach the economic reality. The main features of Economic Development are as follows: Circular Flow, The Role of the Entrepreneur, Cyclical Process or Business Cycle, and End of Capitalism.

I. Circular Flow

Circular Flow starts where the supply and demand curve is at equilibrium. Meaning that, There are no profits no interest rates, no savings, no investment, and no

unemployment. Schumpeter states that "the development is a spontaneous and discontinuous change in the channels of the circular flow, disturbance of equilibrium which forever displaces the equilibrium state previously existing". What he accepts as disturbances are, innovations, technological developments, or the discovery of new raw material sources.

II. The Role of the Entrepreneur

Schumpeter's Economic Development continues with the breaking point of the circular flow with a disturbance, which we call innovation. This is where the entrepreneur takes in. They exterminate the existing equilibrium point of the supply and demand curve and replace it with a new one. This cycle continues on in its own nature.

III. Cyclical Process or Business Cycle

The next part of Economic Development is called the Cyclical Process or so-called Business Cycle. As Schumpeter believes this is where the economic process is analysed under capitalism. In his own words, "process by which economic life adapts itself to the new economic conditions. There are continuous upswings (boom) and downswings (depression).

IV. End of Capitalism

Schumpeter accepts Karl Marx's idea of the end of capitalism. He states "there is inherent in the capitalist system a tendency towards self-destruction, those factors make not only for the destruction of the capitalist system but for the emergence of socialist civilization."

III. INDUSTRY 4.0 AND FUTURE OF EMPLOYMENT

During the Industrial Revolution, the average annual working hours were 3000, but this figure has decreased to an average of 1500-1700 hours, although it varies between countries (Huberman and Minns, 2007). Furthermore, in light of economic and scientific advancements expected in the foreseeable future, it is anticipated that humanity will observe even more significant reductions in working hours (Szabó-Szentgróti et al., 2021; Spencer, 2018). Additionally, Rifkin (1996) believes that humanity is rapidly progressing towards a level where goods or services can be produced without any need for workers. Consequently, it is expected that services like healthcare and education will be provided under better conditions in both quality and quantity, and other goods and services required in daily life will become much more accessible (McAfee & Brynjolfsson, 2015). However, the radical and disruptive changes expected in working life are of a nature that will challenge societies as a whole (ILO, 2019). While new forces such as artificial intelligence, automation, and robotic technologies are creating new job opportunities in the labor market on one hand, they are also erasing many job fields from daily life during this transition process. Although the issue of combating technological unemployment has not been given enough importance, when examining the limited number of studies conducted, the general consensus is that jobs performed by blue-collar workers will disappear due to increasing automation, and over time, white-collar jobs will also face this issue. Whether the result will be a net gain or net loss is expected to become clear in the coming years (Walsh, 2018; Budak, 2021; Eichhorst et al., 2017). Furthermore, whether these developments will increase the demand for labor, employment, and wages is an important issue for the phenomenon of technological unemployment (Acemoğlu and Restrepo, 2020). According to the Future of Jobs Report published by the World Economic Forum (2020), 85 million existing jobs are expected to change as a result of automation by 2025, but 97 million new job opportunities are expected to emerge by 2025. Similarly, the OECD's Jobs of the Future Report indicates that within the next 15-20 years, 14% of existing jobs will be fully automated, and 32% will undergo significant changes (OECD, 2019). Perhaps another dramatic piece of data beyond these predictions is that the rate at which existing jobs disappear has surpassed the rate

at which new jobs are created. When we look at the sectors that will feel the potential risks of mechanization the most, professions in transportation and storage are at the forefront. In these sectors, the performance level of machines surpassing human abilities will make mechanization attractive and pave the way for its spread. The advantages of speed, time, cost, and efficiency provided to companies will also be factors accelerating the transformation of the workforce. Education and healthcare are the two sectors that will feel the potential risks of mechanization the least. Although office workers and assembly occupations are not considered highly risky, they will be among the fields experiencing the highest risk of mechanization within the next 10 years (Budak, 2021). Another study investigating the impact of digital transformation on professions evaluated the effect of the technological transformation on 702 occupations. According to the results of the evaluation, the professions most affected by the digitization process will be telemarketers, watch repairers, accountants, library technicians, insurance agents, and cargo and freight agents. The professions expected to be least affected are recreation therapists, emergency management directors, mental health and substance abuse social workers, audiologists, occupational therapists, orthotists and prosthetists, healthcare social workers, oral and maxillofacial surgeons, first-line supervisors of firefighting and prevention workers, dietitians, and nutritionists (Frey and Osborne, 2017).

Thanks to technological advancements, today's working life has been fundamentally affected, leading to the emergence of new professions and altering the knowledge and skill sets required for existing ones (Pompa, 2015). In this regard, the World Economic Forum (2020) conducted the "Future of Jobs Survey" to investigate the short- and long-term effects of embracing technological advancements on labor markets. According to the findings, there has been a significant increase in companies adopting technological advancements over the past two years. The key technologies adopted, and expected to be adopted by 2025, include cloud-based internet, big data, artificial intelligence, e-commerce, and the internet of things. On the other hand, cybersecurity has become crucial due to the security vulnerabilities brought about by these technological advancements, and the number of companies adopting unmanned robots and artificial intelligence is also notably high (WEF, 2020).

In connection with the diffusion of the aforementioned developments, the professions in high demand in the digitalizing world include data analysts and scientists, artificial intelligence and machine learning specialists, big data specialists, robotics engineers, software and application developers, and digital transformation specialists. Additionally, new professions such as process automation specialists, information security analysts, and internet of things specialists are increasingly in demand by employers. The emergence of these professions is related to the increase in mechanization and the rise of cybersecurity risks. The report also highlights professions that are evolving and innovating within various sectors. These include materials engineers in the automotive sector, e-commerce and social media specialists in the consumer sector, renewable energy engineers in the energy sector, FinTech engineers in financial services, biologists and genetic specialists in healthcare, and remote sensing scientists and technicians in mining (WEF, 2020).

According to the OECD's Employment Outlook 2019: The Future of Work report, three growing occupational fields are as follows (OECD, 2019a):

Software and applications developers and analysts: With personal computers, smartphones, and tablets permeating every aspect of daily life, software and application development often ranks high in people's perceptions of future jobs. This category includes systems analysts, web and multimedia developers, and application programmers.

Database and network specialists: As the amount of data stored by companies, individuals, and governments increases exponentially, the need to facilitate access to, secure, and protect this data grows proportionally. Database and network specialists include computer network professionals, database designers, and administrators. Their demand is likely to rise significantly.

Information and communication technology (ICT) operations and user support technicians: The widespread use of technology, both hardware and software, in various aspects of life, particularly in workplaces, increases the need for maintenance, installation, and assistance for customers or employees using it. ICT operations and

user support technicians are key to ensuring the proper functioning and appropriate use of technologies within firms and organizations.

All in all, the problem emerges as the jobs being automated by the Industry 4.0, many people will lose employment that are currently consisting repetitive and low-skill jobs. Their transition to aforementioned high-skill and creative vacancies are costly and merely within reach of governmental programs that are set to establish a sustainable transformation from repetition to creation. In this case, unemployment rates, along with differing levels of poverty, are expected to skyrocket in upcoming years if not decades.

IV. POSITIONS IF RELAVENT STATES

A. United States of America

The United States is one of the biggest leaders in the world economy. The US is home to the most inventive, creative, and competitive businesses in the world for both technology and manufacturing. In the manufacturing sector, companies such as Tesla, Lockheed Martin, Boeing, and Dow Chemical are leading the way, while in the technology sector, companies like Microsoft, Apple, Alphabet, Oracle, and Boston Dynamics are dictating global rules and standards.

With its fiercely competitive technology infrastructure, the US is well-positioned to spearhead the fourth industrial revolution. It also has a strong policy formulation and implementation guided by markets or in strong cooperation with the public sector and is not entirely government driven. Even so, The United States falls behind other countries in the manufacturing industry when it comes to the use of robots, even with the technological skill seen in Mars missions, Tesla, SpaceX, and Boston Dynamics. As a result, its productivity per worker is still low when compared to many of its rivals.

B. United Kingdom

The United Kingdom has long been acknowledged for its robust research and innovative capabilities. The industrial strategy of the United Kingdom was developed in reaction to about 2000 instances of maltreatment by various organizations within society. The strategy identifies five foundations: places, people, ideas, infrastructure, and business environments.

Their first aim is to boost investment to 2.4% of GDB by 2027, raising the tax credit to 12%, and contributing £725 million to the funding program, in order to create the most innovative economy in the world. Second is to provide higher earnings and good job opportunities, by developing technical education systems, allocating £406 million to pertinent educational departments, and allocating £64 million for retraining individuals in the most recent technological domains. Third, £31 billion will be spent on general infrastructure, £400 million on electric car technology, and more than £1 billion on digital infrastructure, including full-fibre networks and 5G. Fourth, with £20 billion in high-potential companies, the UK is expected to enhance productivity.

Lastly, £42 million will be used to pilot a Teacher Development Premium, and £1.7 billion will be allocated for intra-city transportation. In addition to this industrial policy, the UK has identified four Grand Challenges: the future of mobility, clean growth, artificial intelligence and data revolution, and an aging society. It encourages multidisciplinary research and development from academic institutions, businesses, and government agencies.

C. Germany

With being the birthplace of Industry 4.0 Germany is one of the most industrialized countries in the world, holding one of the most competitive and innovative manufacturing industries. Public investments and Industry 4.0 initiatives in Germany are one example of this ideal kind.

Germany's public sector is structured toward the concept of Industry 4.0, and for this purpose, policies are formulated in line with this notion. In order to create a more connected world, leading German automakers like Volkswagen, Mercedes Benz, and BMW as well as software services providers like SAP and Software AG, as well as developers of IoT devices like Siemens and Bosch, are creating new machines, systems, and processes.

The initial funding for the Industry 4.0 platform comes from European Union funds, EIB funds, BMZ, and the Industry sector. These funds are aimed to provide increased awareness on the topic, support startups and hubs; and develop research projects aimed at exploring the reliability, security, risks, compliance, and standards.

The German triumph shows how a struggling industrial movement may have a significant worldwide impact. The combination of national-level-policy support and cross-industry technological innovation presents a model worth copying.

D. France

While the year 2017 saw more factory openings than closures, and national industrial production is at its peak since the 2008 financial crisis, the French industry is now facing unprecedented transformation challenges. If not addressed, these challenges could significantly weaken the country's competitiveness and attractiveness.

All sectors of activity are thus called upon to undertake a profound transformation of their model and ecosystem: personalized and on-demand production, redefinition of investment strategy, digitalization of the value chain and production tools, use of artificial intelligence, management of information systems, data exploitation, and security, energy impact. In addition to real optimism and increased confidence in this industrial renewal, factory managers, already facing the necessary evolution of their business model, unanimously express the dual challenge of renewing their employees' skills and the importance of reinforcing their cybersecurity measures. Some structures are still particularly vulnerable to cyberattacks: one in three companies with fewer than 50 employees have already been a victim, and, more generally, 74% of organizations are exposed to them. The strengths and benefits of this imminent transformation of the industry remain highly promising, with gains in productivity, quality, and flexibility, improved traceability, new product customization capabilities, optimization of consumption through energy efficiency, and reduction of development cycles. Faced with such opportunities, France has no choice but to embrace this new industrial era if it intends to remain competitive.

Enabling France to write a new chapter in its industrial history is the aim of the extensive reconquest plan led by the government since 2013, notably with the creation of the French Tech label in 2013, and then, at the end of 2017, the French Fab label initiated by Emmanuel Macron and Bruno Le Maire. These label creations are coherent, reaffirming the state's deep-seated desire to establish France as a pioneer of the Industry 4.0 era and confirming the government's clear understanding of contemporary industrial challenges. To innovate for regaining growth, to become a reference or even a leader in disruptive technologies, to unite the players of the French industry, to enhance its image and promote it to investors, expatriates, and young graduates... These are, in broad terms, the objectives of the state. Through its investment of €10 billion in innovation, the government hopes to synergize and link the strengths of a highly efficient traditional national industry with the genius of startups, whose ever more innovative ideas and concepts enable France to shine internationally.

E. People's Republic of China

People's Republic of China has emerged as an industrial leader during the last 40 years thanks to a concentrated effort. According to the World Fact Book, China became the largest exporter in 2010, the largest trading nation in 2013, and the largest economy in 2016. Its material processing industries, which include those in iron, steel, aluminum, coal, textiles, food, cement, automobiles, trains, ships, and electronics, have some of the biggest global gross outputs. However, most Chinese sectors are seen as being relatively low-skilled, relying largely on manual labor, and having clear gaps in their industrial chain's innovations. Generally speaking, a variety of factors influence the Chinese manufacturing sector, which also has unique development traits. There isn't a steady shift in development, in contrast to the US, Germany, and other developed nations. A large number of Chinese businesses are still operating at the Industry 2.0 to 3.0 level today.

The government of the People's Republic of China has identified Industry 4.0 as its key priority in its "Made in China 2025" strategy, which aims to transform the country from a low-cost manufacturing base to a high-tech manufacturing powerhouse. The country's strategy involves three stages, the first one being "Made In China 2025". It has been on the force since 2015 and will continue until 2025. The second phase will cover the next ten years. Up until 2035, China aims to strive to enter the middle class of the world's manufacturing powerhouses. The last stage ends in 2049, when the 100th anniversary of the founding of the People's Republic of China, China dreams of becoming the world's leading manufacturing power.

F. Russian Federation

The fourth industrial revolution, having changed the structure and technological image of production in the world, also affected Russia. At the end of the last decade and the beginning of this decade, digitalization processes developed rapidly, and the segment of the Russian industrial Internet gradually began to grow. All types of advanced production facilities related to Industry 4.0 are represented in the Russian Federation. Their combined share in Russia's GDP at the end of 2021 approached 1.5%

of GDP, and the business sector's spending on the Internet of Things was estimated at 300 billion Rubles.

The economic effect of the introduction of the Industrial Internet of Things in the non-primary industry is estimated at more than 1 trillion rubles. The most developed is the high-tech manufacturing industry, which produces sensors and equipment for the industrial Internet, as well as related areas - unified production management systems, automation, and robotization processes. Industry 4.0 has seen the fastest growth in business services, such as ICT, finance, and e-commerce. In 2022, as during the pandemic, Industry 4.0 faced such challenges as consumer demand restrictions, market narrowing, disruption of technological exchange with foreign companies, a drop in exports and imports due to the massive withdrawal of foreign companies from the Russian market, and the destruction of existing value chains.

Industry 4.0 solutions. are not fully localized on the territory of the Russian Federation, which poses the greatest threat to its further development during the period of sanctions. Also, a small number of domestic manufacturers, lack of own technological solutions, and critical dependence on foreign manufacturers of equipment and components are some of the few downsides of the Russian Federation on the way of industrialization. For the development of Industry 4.0 in the Russian Federation a separate strategic direction, a single fund for financing, and the digital economy is a must. The opportunities for state enterprises and public-private partnerships should be used more widely.

G. South Korea

According to Consultancy.asia (2018), South Korea is in the leading position worldwide with having industrial robots per 10,000 industrial personnel. It indicates how automated the country is. With a strong technical portfolio led by Samsung, LG, and Hyundai, it is one of the IoT leaders. It has a great chance of innovating, learning, and transforming current industries into Industry 4.0.

Nonetheless, one of the primary challenges facing Korean investments and its chances for future growth is still the geopolitics of the Korean peninsula. South Korea is located between China, Japan, and Taiwan. These economies are all very

competitive, focused on exports, and powered by research. Korea confronts fierce competition in the automotive and technological sectors from the US, Germany, and its neighbors. In comparison to the United States, Germany, India, China, Japan, and other countries, its domestic market is considerably smaller. As a result, being ahead of the curve is not only required by law but also by competitiveness, pay, and employment rates.

The South Korean government prefers to use the term “Fourth Industrial Revolution” instead of “Industry 4.0” because they strongly believe that it attracts more attention from public and industry leaders.

H. India

In 2015, the Indian government launched an IoT policy that was centered on capability enhancement, mechanical redesigns, and creating IoT products specifically tailored to Indian needs. This allowed India to have a significant presence in the global IoT industry. In addition, the government is formulating a National Policy for Advanced Manufacturing in an effort to boost India's competitiveness in global assembly.
The administration unveiled a new plan in July 2017, called the "National Manufacturing Policy, 2017" with the goal of consolidating “Make in India” activity and increasing the share of manufacturing to 25% of GDP. However, India's attempts to achieve limitless reception may be hampered by a lack of business pioneers equipped for the Industry 4.0 era. India Inc. has a strong customs administration, but its advanced CXOs with a clear vision for Industry 4.0 selection are inadequate. Also, there is still a lack of proficiency in the workforce in India that needs to be skilful in new-age technologies like information research, additional material assembly, and the Internet of Things.

In conclusion, India needs to develop different policy frameworks, legal frameworks, human resource development frameworks, security frameworks, sustainability frameworks, and strategic roadmaps that prepare its public or private sector for the future of Industry 4.0.

V. BEING A REPRESENTATIVE IN THIS COMMITTEE

A. Being in a Tripartite System

1. As a Government Representative

In this committee, your main duty as a government representative is to know your country's positions and policies regarding the topic. As a government representative, you are expected to work for your country's sake by all means. You must have a clear vision of how you should act during the sessions.

Additionally, you are expected to be knowledgeable regarding your country's current economic situation and problems. General knowledge about your country's labor legislations and regulations is encouraged. While making decisions, the consultations and ideas of your country's employer and employee representatives should be taken into consideration but always remember that the final decision is yours to make.

2. As an Employer Representative

The biggest difference that distinguishes the International Labour Organization from other United Nations bodies is that it gives employer representatives their right to the Freedom of Association.

Employer representatives must have a general knowledge regarding the stances of the majority of companies upon the agenda in their country. You are expected to consult your government representative throughout the committee regarding the current situation of the work environment, and what will be the possible effects of the current agenda on it. Nevertheless, employer organization's representatives are independent from governments when it comes to decision-making.

3. As an Employee Representative

The biggest difference that distinguishes the International Labour Organization from other United Nations bodies is that it gives employee representatives their right to the Freedom of Association.

As an employee representative, your priority must be the manpower in your country. A general knowledge of human rights and workers' conditions in your country is

expected. An employee representative should be aware of the possible outcomes of the current agenda. This committee is the right place for you to speak up for your rights. Your consultations and ideas must lead the governments for the greater good of employees. Nevertheless, employee organization's representatives are independent from governments when it comes to decision-making.

B. How Can Representatives Collaborate?

The consultation procedure may set the objective of reaching a consensus, although this is not necessary. All voices are to be heard, but the Government representatives make their own final decision if consensus is not reached. On the other side, the workers' and employers' organizations are not bound to support the final decision or position of the Government representatives and can communicate their views and comments directly to the committee.

Delegates of each representative have the free will to choose and collaborate with the states or representatives they wish to act with. Additionally, this committee does not require a consensus to approve an official document. The majority of all members is expected in order for an official document to pass.

VI. QUESTIONS TO BE COVERED

- Can there be a common policy or action plan regarding Industry 4.0 and upcoming Industry 5.0?
- What should be the aims of the policy regarding industrialization, productivity, sector growth, employment, social welfare, and distribution?
- What role is there for policies to develop entrepreneurship or facilitate coordination the creation of new networks?
- Who is the target group to be affected by the policy? Which firms, firm sizes, sectors, countries, etc. will be affected, how and how much? Are these sectors (or technologies, inputs, or stages of the value chain), firms or clusters? Will it succeed in reaching them and will there be others not in the target group that are affected?
- What will be the possible outcomes of the removal of human workers from different processes? What can be done to prevent any negative outcome?
- What are the possible solutions for the unemployment of mainly low-skilled workers that is worried about with the growth of automation?
- Can companies adjust themselves for the upcoming technologies, what would be concerned about implementing them to an already established industries?
- What are the possible ways to upskilling or reskilling the employees in order to prepare them to the new work environment?
- What will be the impact of a digitalized working environment on workers' safety, working conditions, job satisfaction, and physical and mental well-being?

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