**United Nations – General Assembly
Economic and Financial (Second)
Committee**

JOINT MEETING OF THE SECOND COMMITTEE OF THE UN GENERAL ASSEMBLY AND THE ECONOMIC AND SOCIAL COUNCIL

The Future of Everything: Sustainable Development in the Age of Rapid Technological Change

11 OCTOBER 2017

INFORMAL SUMMARY BY
THE CHAIR OF THE SECOND COMMITTEE AND THE PRESIDENT OF ECOSOC

BACKGROUND

The Second Committee of the United Nations General Assembly and the Economic and Social Council convened a Joint Meeting on "The Future of Everything: Sustainable Development in the Age of Rapid Technological Change" on 11 October 2017, at UN Headquarters in New York.

The meeting provided a platform to analyze some of the key trends in technology and innovation in recent years, with differentiated impacts on people and prosperity. Panelists from the private sector, academia and civil society showcased technology-enabled solutions with the potential to advance sustainable development, including vertical farming, platforms to connect smallholder farmers to markets, and innovations in the transportation sector. The meeting also addressed the potential risks of technological advancements, and identified possible policy approaches to ensure that no one is left behind in an age of rapid technological change.

KEY MESSAGES

- **The future is here**. Governments, and by extension the UN, should move from reaction to action, and should devise strategies to manage the risks of technological progress. Risks addressed during the discussions included risks of personal safety, comprised privacy, unwanted consequences, and the need to prevent human bias in technological solutions.
- **Dialogue is crucial**. Some participants stressed that the question of how technology can benefit all should not be left to technologists and innovators. Instead, it would require an open and inclusive dialogue among all stakeholders at national and global levels.
- **Technology is a tool, not a vision**. The discussion on the impact of technology on society at large needs to be underpinned by a thorough understanding of the problems that technology should solve, and ultimately the vision of how the "future we want" looks like.
- **People, not machines, come first**. Human concerns must be at the centre when designing technology that enables solutions to remain context-specific.
- **Invest in youth.** Young people should be equipped with the skillsets needed to embrace technological change, including creativity and innovative thinking. Additionally, lifelong

learning will become ever more important, as rapid technological change will further accelerate in an exponential fashion.

- **UN leadership matters**. The UN has a key role to play in ensuring that the benefits of new and emerging technologies are distributed in a fair, responsible and transparent manner. The UN should remain engaged in the conversation on the effects of 'frontier issues' on the 2030 Agenda, providing a platform for exchange between all relevant stakeholders.

SUMMARY

Opening remarks

H.E. Ambassador Marie Chatardová, **President of the Economic and Social Council**, opened the Joint Meeting by reminding participants of the etymology of the notion "robot" which was first introduced in a 1920 play by Czech novelist Karel Čapek. Ever since, the pace and breadth of technological change has been rapidly intensifying. In the year 2030, when the Sustainable Development Goals (SDGs) are to be met, the world will have undergone a period of deep change. The President invited participants to assess the benefits and risks of the technological changes underway, while stressing that the long-term consequences of the latter remained difficult to predict.

H.E. Ambassador Sven Jürgenson, **Chair of the Second Committee of the UN General Assembly**, shared the experience of his own country, Estonia, with participants. The lessons learned from Estonia's transformation to an e-society, in which Internet access is considered a social right, would be valid for many countries around the globe. He underscored that safety and trust are critical if e-services were to be embraced by users. While the transformation to an e-society cannot happened in one day, innovative technologies offered unprecedented opportunities for advancing sustainable development.

Participants were able to get a glimpse of the "future of everything" when H.E. Amina J. Mohammed, **Deputy Secretary-General of the United Nations**, engaged in a conversation with Sophia, the first humanoid robot to participate in an official UN meeting. In her opening remarks, the Deputy Secretary-General cautioned that technological progress – if not managed well – risked exacerbating existing inequalities. Technology should, therefore, not be treated as a 'silver bullet'. Multi-stakeholder partnerships would be required to be aware of the many pitfalls to be avoided and to leverage the power of technology. The Deputy Secretary-General stressed that the influence of technology on societies should be determined by humans, and not by machines.

Key trends in innovation and technology

David Hanson, Founder and CEO of Hanson Robotics, emphasized that artificial intelligence (AI) is becoming more and more human. Based on the example of Sophia, a humanoid robot, he illustrated how AI is already capable of imitating human behavior and forming bonds with people. Thanks to AI, robots have thus developed into a new form of animation art, helping people to engage in relationships. Mr. Hanson further underlined that through nanotechnology, the transition from bioinspired engineering to bioengineering, protein engineering and genomics, scientist are increasingly revealing the mysteries of human intelligence. This knowledge, in turn, helped to bring "biological machines" to life as complete organisms. Accordingly, it is of utmost importance that the technology of the future should care about humanity and incorporate its best values. To achieve such 'super-benevolent-

superintelligence', Hanson pointed towards the work of the SingularityNet, a blockchain marketplace for the decentralized AI Economy, which aims at creating AI that understands the consequences of its actions and maximizes net benefits on a profit, human rights, and ecological level.

Stephen Ibaraki, Serial entrepreneur, investor and futurist, stressed that <u>AI is disrupting the SDGs</u> by exponentially accelerating automation, compressing time and converging multiple domains, as well as fostering universal hyper-connectivity linked by a digital mesh. In addition, AI is increasingly <u>replacing human cognition</u>, which could lead to four forms of life: classic, augmented, synthetic, and artificial (CASAL). Mr. Ibaraki underscored the GDP gains from AI that are expected across the globe, with AI of Everything (AIoE) representing an inflection point for humankind and the SDGs. He further stated that AI will help to resolve many challenges in view of the 2030 Agenda, but acknowledged that AI might pick up human biases. To respond to this risk, <u>international standards and codes of conduct for AI are needed</u> based on the principle of "ART" (Accountability, Responsibility, Transparency). Mr. Ibaraki noted that the UN is the perfect vehicle to make AI a tool for global good.

Rita Kimani, Co-founder of FarmDrive, noted that <u>inclusion is key</u> when it comes to developing new technology. Currently, technology anticipates problems, but <u>it is essential that the problems drive the technology</u>. To ensure that no one is left behind, <u>the current state of communities in developing countries should be taken into account</u>. For many farmers in rural Africa robots and AI are not the answer to the challenges they face, such as access to finance. However, technology can be used to address such problems as proven by FarmDrive. The startup's alternative credit risk assessment model is providing financial institutions with agriculturally relevant alternative data, which can be used to assess risk and develop loans that fit the circumstances of smallholder farmers. Against this backdrop, she stressed the <u>need for a more holistic education</u>, noting that while technical affinity is central for youth, it is equally important to teach young people innovative thinking and creativity.

Jeffrey Schnapp, Founder and Faculty Director, metaLAB at Harvard University, highlighted that in a world where robots are becoming part of everyday life, a fundamental question is how this world should look and by which values it should be shaped. <u>Robots have already transformed the world of economic production</u> and are increasingly <u>influencing the social, economic and cultural spheres of life.</u> Currently, the most <u>significant changes occur in the area of automation and augmentation</u>. In his view, automation is detectable, when the AI component in email programmes scans and suggests answers to messages received; augmentation can be exemplified in the development of cargo robots with access to pedestrian zones in cities and thus increase the scope of human capacity. He also underlined that d<u>ata has become part of our cultural heritage and institutional knowledge</u>. It is crucial therefore, to leverage data appropriately and treat algorithmic knowledge as a form of public and transparent knowledge. Finally, he noted that the technological and data revolution has engendered <u>counter-cyclical tendencies in view of the connectivity</u>: millennials are increasingly interested in mono-dimensional activities such as knitting. Consequently, it seems important to address anxieties and shape technology around human needs.

Dickson Despommier, Professor Emeritus of Public and Environmental Health at Columbia University, stressed that <u>disruptions might happen in the future, but that technologies, such as vertical farming, can help to overcome challenges</u>. While traditional farming is important to food systems, climate change-induced extreme weather events make alternative approaches necessary. Following the tsunami in 2011, Japan was one of the first countries to introduce

the concept of "in-door apartment farming" in which plants are grown on several floors. Such vertical-farming will provide a viable alternative as by 2050 around 70% of humanity is expected to live in cities and more creative food supply systems will be needed. Vertical farming allows year-round farming and can be established anywhere in the world, such as in the Artic or in abandoned warehouses. Moreover, in-door farming does not require ample expertise, and can help preserve agricultural jobs where weather conditions have disrupted traditional farming patterns.

Opportunities and potential risks

Throughout the discussion, four lines of thought were highlighted on the potential risks and opportunities of technology for sustainable development and poverty eradication. First, concern was voiced regarding the character traits of AI and its relationship to humanity. The possibility of AI adopting biases and the worst elements of human behavior was stressed as a key threat to the implementation of the 2030 Agenda. On matters of ethics and compassion, it was felt that machines lack understanding of action and consequences, therefore, there is need for machines to follow statistical patterns, and also to rely on abstract reasoning and understanding. Computing must be moved towards wisdom, and not just superintelligence, which is an engineering and philosophical challenge. Only then will AI really be able to help achieve the SDGs. Participants noted that technological innovations can be used for both good and evil, and emphasized the need for a global framework for AI and big data based on the precautionary principle of safeguarding human rights. However, it was pointed out that the "do no harm" philosophy is difficult to apply as the unintended consequences of innovations are hard to predict. Many stakeholders are currently devoted to this question, and the continuation of open multi-stakeholder dialogues towards the definition of adequate institutional frameworks and principles is a key element for achieving inclusive and sustainable technological progress without hampering incentives for innovation.

The second line of thought centred on the threat of technological advances to employment. Delegates expressed concern that new technologies are causing job losses, especially for less skilled workers, and suggested a way to tax the labour of robots to create incentives for favouring human labour. Panellists responded by noting that the evidence from industries transformed by industrial robots has shown that robots do not fuel job loss, yet can exacerbate existing inequalities. While robots and their capacities are quickly evolving, they are mostly designed to complete a specific task and not a multiplicity of tasks as performed by the human brain. Lifelong learning and repositioning education systems, most of which originated in the industrial age, were emphasized as means to adapt to the new skillsets required in the future. Taxation of robots was already being proposed by various stakeholders. The need was underscored for inclusion and investments in education systems to catch up with the new technological environment. Examples of transnational open source initiatives targeted at youth include the engagement of the iCog Lab with Ethiopian youth through an open source tool named RobotCop. Such initiatives would be relatively low cost and could help reduce financial as well as cultural barriers.

The third line of argumentation regarding opportunities and risks of technological advances, introduced by participants, concerned the risk of abandoning human responsibility in favour of technological innovation. For example, instead of finding political solutions to problems such as polluted oceans, there is a tendency of creating technological solutions, in this case ocean vacuum cleaners.

Finally, the discussion noted the potential effects on human rights of increasing pervasive technology, in large part fuelled by growing connectivity and shared data. Several participants stated that this issue should be central to the discussion about the future of technology and potential regulations. It was noted that leadership of the private sector on AI and related technology has important consequences in terms of the right to privacy, therefore transparency and public knowledge should be strengthened to avoid all information being held in the hands of private users. Some participants noted the need to establish a global governance system in view of emerging technologies. Any discussion about a code of conduct for AI and related technologies should be guided by ethics and human rights, societal values, transparency and public responsibility. Moreover, it was stressed that such a conversation should be broadened with more voices being brought to the table. Presenters urged the UN to adopt a proactive approach and remain engaged in a debate on the impact of new technologies on the 2030 Agenda.

Policy approaches to leave no one behind

Participants underscored that how technology is used to benefit all should not be left to technologists, but required a multi-faceted dialogue among all stakeholders at the national and local levels. It was recommended that policy makers should examine the development challenges to be solved with the help of technology, hence, placing human concerns and needs at the centre of technological innovation.

Many participants stressed that technology is an enabler, and should not be seen as a vision for society. Policy approaches to technology should, therefore, be designed based on an understanding of the values that should shape the "future we want". This would also include the responsible use of institutional and private data which is becoming part of the cultural heritage of mankind. Algorithmic knowledge should be treated as a form of public good that is available to all and should not be concentrated in the hands of a few. Transparency was mentioned as an essential value that should be codified.

Presenters recommended that Internet access should be considered a civil right to effectively mend the digital divide. It was felt that the open source movement can play a critical role in the discussion about accessibility but some cautioned that open source movements would not be sufficient. Public-private partnerships were highlighted as critical to enable wider access to new technologies. One panelist noted that while there would be a genuine interest from the private sector, more outreach from multilateral institutions, including the UN, and a more focused engagement of all relevant stakeholders would be required.

Shifting the policy focus to education and training systems would be critical to enable societies to benefit from technological change. Teaching 21st century skillsets and promoting lifelong learning have become priorities globally and investments in education systems are needed to adjust to the new technological environment. In this context, anxieties among youth towards the intensity of connectivity that shapes their world, should not be underestimated. Panelists also urged consideration of the "past of everything" while shaping "the future of everything", taking into account the cultural context in which policy solutions are embedded.

Investing in a networked infrastructure and 21st century skillsets will be critical if no one is to be left behind in the age of rapid technological change. 'Retooling' of education systems is required to equip young people with the skillsets needed to tap into the potential of technological advancements, including competencies that transcend technology, such as

innovative thinking and creativity. Likewise, the adjustment of training models and lifelong learning strategies are a matter of urgency, and should be approached in a proactive manner. Capacity building remains critical to bridging gaps and keeping pace with technological change, the direction of which can be projected by applying technological foresight methodologies.

Closing remarks

In addressing the Joint Meeting, **Under-Secretary-General for Economic and Social Affairs Liu Zhenmin** underscored that the world is at a critical juncture, facing both unprecedented challenges and unique opportunities, with the chance of widely contrasting futures. He stressed that the influence of technology on societies was not preordained, but can be reshaped by institutions and by proactive policies. The general policy stance should, therefore, be to embrace and direct new technologies. Policies must ensure that technology gains are broadly shared, equipping people with the skills and tools necessary to reap the benefits of this advancement. The Under-Secretary-General emphasized that technology should help to achieve the vision incorporated in the 2030 Agenda for Sustainable Development: the determination to eradicate poverty and hunger in all their forms, secure a sustainable planet, and build peaceful, inclusive societies as a foundation for ensuring lives of dignity for all.

The **President of the Council** noted that there was much more to learn about the impact of artificial intelligence on society at large, and its potential to accelerate progress towards achieving the SDGs. While "the future of everything" remained difficult to predict, the President assured all that the Council stood ready to continue this very important conversation.

The **Chair of the Second Committee** concluded that there is enormous potential in continuing the discussion in a more structured manner. He stated that ECOSOC is best placed to marshal the technical knowledge and expertise to do so, and invited the President of ECOSOC to consider the effects of these frontier issues on the 2030 Agenda in the Council's future work.

****