INTERSESSIONAL PANEL OF THE UNITED NATIONS COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)

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Contribution of UNECE

to the CSTD 2018-19 priority theme on 'The impact of rapid technological change on sustainable development'

1.From the perspective of your region what are the key emerging technologies and their current and potential applications that could give an opportunity to solve great societal challenges and achieve the SDGs in your region? Industry 4.0 technologies, additive manufacturing (3D printing), artificial intelligence, internet of things.

However, I would like to stress that a focus on technologies would be too narrow in that innovations in business models, in services, social innovations etc can also have a big impact on sustainable development, in the UNECE region and elsewhere.

The move towards the circular economy is a case in point. This will require developing and deploying new technologies, certainly. But arguably even more important is to develop new business models, new ways of organizing production and consumption, such as moving from owning to sharing. The key innovation in Uber is not the technology used to match drivers and riders, but the idea that there is a huge excess capacity in privately owned cars that can be used to provide individual transport at zero capital cost.

2. Can you provide examples of policies/projects/initiatives that promote rapid technological change in your region and mitigate their potential negative effects? Are there any of these policies/projects/initiatives directed to women, youth or other groups of the society? How have the policies targeted inequalities? What are the challenges confronted in implementing these projects?

Within the ECE region, the countries of the European Union are most advanced both in promoting rapid technological change and mitigating its potential negative effects.

One example is the Skills Agenda for Europe, which aims (I) to improve the quality of training and the availability of life-long learning and "re-tooling" programs, (ii) to make qualifications more comparable and hence more portable, and (iii) to promote "skills intelligence", i.e. provide students and adults with relevant information about labor market conditions and trends so they can make better education and qualification choices. The Skills Agenda on the one hand enables rapid technological change by helping to develop a labor force with the required skills, and on the other hand it mitigates the risks by helping people to acquire flexible, portable skills and to adapt to changing labor market requirements induced by rapid technological change.

One general challenge in enabling rapid technological change while mitigating the risks is an impulse to try to eliminate risks rather than improving the ability of people and companies to bear them. Rapid technological change is risky by definition. Without accepting risk, there can at best be slow change. And so the answer cannot be to "protect" incumbent firms or existing jobs. The answer must be to equip workers with the skills to adapt, particularly the skill to keep learning.

3. What are the actions that the international community, including the CSTD, can take to contribute to maximize the benefits and mitigate the risk associated to rapid technological change? Can you give any success stories in this regard from your region?

Good question. UNECE has not yet made any specific proposals in this regard, so it would be premature for me to say. We will have a conference discussing some of these issues in November (cf below).

4. Could you suggest some contact persons of the nodal agency responsible for policies related to rapid technological change and its impact on sustainable development as well as any experts (from academia, private sector, civil society or government) dealing with projects in this area?   We might contact them directly for further inputs or invite some of them as speakers for the CSTD inter-sessional panel and annual session.
EU Commissioner for Employment, Social Affairs, Skills and Labour Mobility, Marianne **Thyssen**
EU Vice-President for Jobs, Growth, Investment and Competitiveness Jyrki **Katainen**
Elżbieta **Bieńkowska**, Commissioner for Internal Market, Industry, Entrepreneurship and SMEs
Murat Sönmez, Managing Director, Head of Center for the 4th Industrial Revolution & Global Network. World Economic Forum

For a contrarian perspective: There is not at all a consensus that technological change is rapid today or that it will accelerate in the future. There are influential voices who say the opposite.
See for instance Robert Gordon's book The Rise and Fall of American Growth, the positive review of William Nordhaus in the NY Review of Books 2016, and the related discussion in the Journal of
Economic Perspectives, all of which concur that there are good reasons to think that the pace of innovation will be slow at least over the next few decades. See also this article on the page of the World

Economic Forum https://www.weforum.org/agenda/2018/08/change-is-not-accelerating-and-why-boring-companies-will-win/

5. Do you have any documentation, references, or reports on the specific examples on the priority theme in your region? We will hold an expert meeting on Industry 4.0 and sustainable consumption and production on 1-2 November, and will produce a policy document based on the results. The website is http://www.unece.org/index.php?id=49482