

Expert Group Meeting on Exponential Technological Change, Automation, and Their Policy Implications for Sustainable Development

Mexico City, Mexico, 6 to 8 December 2016

Co-organized by DESA, ECLAC, and the Government of Mexico

Key Recommendations

Distribution: Public

The following conclusions and recommendations emerged from the discussions:

- a) *Science engagement:* Full engagement of governments, scientists, economists, other experts, the private sector and other stakeholders is needed to address the many areas where further research and assessments are needed, including the impact of emerging technologies to support the full implementation of all the SDGs; the interactions between the existing and the new technology systems; future pathways and options; as well as potentials and limitations of policies to minimize the negative and maximize the positive impacts of widespread automation. Scientific community is encouraged to work with policymakers to identify and promote best practices. A series of global, sectorial, regional and national studies are needed to identify opportunities and challenges related to accelerated technological change, particularly in the fields of automation, robotics and artificial intelligence. It is necessary to more effectively integrate technological innovation, job creation, capacity building, and maintaining the ecosystem goods and services upon which life depends. We need new ideas for strategies that achieve these objectives, tailored to the situations in individual countries.
- b) *Policies at the national level:* There are a number of technology and innovation policy issues at the national level that need particular attention, such as the role of state and the private sector in promoting technology development, innovation, dissemination and adoption; balanced development strategies that take into account employment impacts; equitable educational systems focused on developing complementary skills including vocational training, university-industry linkages, and life-long learning; job mobility along with measures to tackle labor market inequalities; local technological capability; entrepreneurship, investment and innovation opportunities; and technology infrastructure that is accessible to all which will have a considerable impact on inequality gaps reduction among and within countries. In this context, all stakeholders need to work together, including governments at various levels, academic institutions, and the private sector.
- c) *Technology facilitation:* Systematic technology facilitation is needed at all levels. This requires efficient technology transfer and diffusion to all, including from developed to developing and least developed countries and through South-South and Triangular Exchanges; knowledge sharing on technology development, deployment and diffusion, as well as technology impacts; a national policy space for implementing appropriate industrial, trade and investment policies; improved market access; building of dense networks of intra- and cross-sectoral linkages; public

investment in infrastructure, interconnectivity and Internet that is accessible for all; inclusive financial systems, as well as access to financing facilitation mechanisms, with special attention on those from vulnerable and marginalized groups.

- d) *Standards*: There is a need for promotion of open standards, certifications, and knowledge sharing by public and private sectors and within countries, in order to offer capacity building on new technologies for all, facilitate broad learning about new technologies, facilitate labour markets in new skills, build entrepreneurship and innovation skills, and promote financing access, particularly for those in vulnerable and marginalized situations. In this context it will also be important to consider making a more efficient patent system ready for accelerated technological change with ever shortening technology life cycles in certain areas.
- e) *UN discussion/forum*: There is a need to institute a regular discussion on challenges and opportunities of exponential technological change and automation. The effects of technological change on sustainable development are as challenging and complex as the effects of environmental change. Therefore, solutions-focused discussions of disruptive emerging automation technologies should be a regular item on the agenda of the UN Multi-stakeholder Forum on STI for the SDGs which could bring together studies on rapid technological change and national responses, ensure information exchange and promote the participation of all relevant stakeholders. In this context, it would be useful to explore the creation of a “group of friends” open to all interested UN Member States. In a coordinated fashion, these discussions could also be brought to the High-level Political Forum, regional sustainable development forums, and other relevant forums in the UN system. Ultimately, it would be useful to institute annual, multi-stakeholder discussions on exponential technological change, possibly to be conducted in a similar way as the Internet Governance Forum.
- f) *Contributions by TFM partners*: UN partners in the Inter-Agency Task Team and the Secretary General’s 10-Member Group in support of the Technology Facilitation Mechanism (TFM) are encouraged to continue to mobilise, in an effective manner, scientific, technological communities, private sector and civil society to make the emerging body of knowledge accessible to policymakers. More broadly, they could consider strengthening systems of cooperation at the international level to maximize the benefits and avoid the negative impacts of exponential technologies.
- g) *Information dissemination and early warning*: The UN are encouraged to support open-access, online repositories of data on emerging automation technologies, universal monitoring and early warning systems, including technology foresight and futures studies, in order to count with better information about what is needed to attend the challenges of the exponential technological change on sustainable development.
- h) *Capacity building*: All relevant partners are encouraged to support technical cooperation and know how on technology facilitation of emerging technologies, including automation and artificial intelligence.
- i) *Technology assessment*: More in-depth technological studies or assessments are needed on exponential technological change, including automation technologies, and their policy implications for sustainable development, particularly in developing, middle-income countries and least developed countries. All relevant partners under the TFM and beyond are encouraged to cooperate in this regard. Economic and integrated assessment models could be useful tools for

quantifying elements of the assessment. Results could be discussed at the STI Forum, the High-level Political Forum on Sustainable Development and other international and regional forums.

- j) *Social and political impacts:* Loss of employment has been associated with many factors, including exponential technological change and automation technologies, free trade and migration trends, among others. The relative importance of these factors differs among countries and sectors and over time. Reliable information is needed for all countries, in order to inform evidence-based debates. This is of utmost importance, as misinformation on this topic might – in some cases - lead to social and political unrest.