

Roundtable with 10 MG on Technology and Innovation Report 2021 Catching technological waves: Innovation with equity

Taking recommendations forward

3 May at 14:00-15:00 CEST

Summary

UNCTAD organized a side event at the STI Forum to raise awareness of countries' policy options to harness these frontier technologies and leave no one behind. The event, which was held on 3 May from 2 pm to 4 pm CET, consisted of a presentation of UNCTAD's Technology and Innovation Report 2021 (TIR) followed by a roundtable discussion by 10 Member Group representatives on the implementation of the recommendations from the report. The discussion focused on moving forward with the policy options for countries to strategically position themselves to take advantage of new waves of technological change for inclusive and sustainable development.

The roundtable was composed of the following members of the 10 Member Group: Dr. Paulo Gadelha, Coordinator of the FIOCRUZ Strategy for the 2030 Agenda, Oswaldo Cruz Foundation (FIOCRUZ) (Brazil), Dr. José Ramón López-Portillo Romano, Chairman, Q Element Ltd. (Mexico), Dr. Anne-Christine Ritschkoff, Senior Advisor VTT Technical Research Centre of Finland Ltd. (Finland), Dr. Špela Stres, Director of Innovation and Technology Transfer Center for Jožef Stefan Institute (Slovenia), Prof. Huadong Guo, Chairman of Academic Committee, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS) (China).

The side event was opened by Ms. Shamika N. Sirimanne, Director of the Division on Technology and Logistics, UNCTAD. In her remarks, she noted that the report highlighted a role for policymakers, the private sector, academia, civil society, and other stakeholders in steering the effects of frontier technologies towards positive outcomes. In this regard, the 10 Member group are internationally recognized leading figures in their respective work areas and representatives of various stakeholder groups, providing links to the academy, universities, NGOs, and the private sector. They bring diverse expertise and experience in science, technology, and innovation for the SDGs, which is crucial to help countries operationalize the recommendations of the TIR.

A brief summary of the TIR was presented by Mr. Clovis Freire, Economist, Division on Technology and Logistics, UNCTAD, and Team Leader of the Technology and Innovation Report 2021. He noted that many factors affect the dynamics of economic inequality, including wars, epidemics, and the effects of trade and globalization. However, one of these factors is the impact of technological revolutions. The report notes that the world is at the peak of the "Age of ICT" and is starting a new paradigm, the Industry 4.0. The deployment of ICT resulted in a concentration of wealth in the ownership of the major digital platforms. There are also persistent digital divides, as highlighted by the COVID-19 pandemic. How frontier technologies will affect inequalities between countries will depend on national policies and countries' involvement in international trade. The report covers 11 frontier technologies. Estimates suggest that these technologies already represent a \$350-billion

market, and one that by 2025 could grow to over \$3.2 trillion. Many of the major providers of these technologies are US and Chinese-based, responsible for 30% to 60% of patents and publications. The new 'readiness index' presented in the report provides a picture of the national capabilities to equitably use, adopt and adapt frontier technologies. He highlighted that developing countries, particularly low-income countries, cannot afford to miss this new wave of technological change. Each country will need STI policies appropriate to its stage of development to prepare people and firms for a period of rapid change. This will require a balanced approach – building a robust industrial base and promoting frontier technologies to help deliver the 2030 Agenda.

During the roundtable, the speakers praised the Technology and Innovation Report 2021 for the solid analysis, comprehensive coverage of a complex issue, and relevant and timely policy recommendations. In their interventions, they focused on several aspects related to frontier technologies and inequalities. They noted the importance of frontier technologies on health applications, highlighted during the COVID-19 pandemic, but also the challenges in communicating scientific knowledge to policymakers and the population in general. The health sector was highlighted as a sector with significant potential for driving innovation towards the SDGs in applications such as precision public health. The speakers also noted the convergence of frontier technologies and how they have features of general-purpose technologies that can broadly impact the economy and societies. They encouraged governments to take a proactive and leading role in directing innovation towards sustainable outcomes. They also highlighted the importance of education and building dynamic capabilities in firms to innovate using frontier technologies. Also critical are joint efforts and initiatives and a strengthened innovation system. In this regard, they stressed the need for international cooperation in building capacity in developing countries for innovation and technological learning and highlighted the role and contributions made by the Technological Facilitation Mechanism. The speakers reiterated the report's message that developing countries should not miss this new wave of technological change.

Key messages

- Frontier technologies have already brought enormous benefits, as highlighted by the STI response to the COVID-19 pandemic. At the same time, rapid advances can have serious downsides if they outpace the ability of societies to adapt. The implications could be serious for developing countries – if poor communities and countries are either overwhelmed or simply left behind.
- Developing countries cannot afford to miss this new wave of technological change. Each country will need STI policies appropriate to its stage of development, but all developing countries need to prepare people and firms for a period of rapid change.
- Success in the twenty-first century will require a balanced approach – building a robust industrial base and promoting frontier technologies that can help deliver the 2030 Agenda and its global vision of people-centred, inclusive, and sustainable societies.
- The basic requirements are active and effective national governance to guide technological change and international cooperation for strengthening a global framework for STI for development.
- Governments and the international community need to guide new and emerging technologies so that they support sustainable development and leave no one behind, foster supportive innovation ecosystems, and deploy technologies at scale.