HARNESSING SCIENCE TECHNOLOGY AND INNOVATION FOR SUSTAINABLE DEVELOPMENT

UN DESA has been on the forefront of helping countries to steer developments in science, technology and innovation to serve sustainable development. In 2018-2019, the Department organized the largest Forum on Science, Technology and Innovation for the Sustainable Development Goals to date and analysed the impacts of frontier technologies on the way we work, produce and co-exist.

UN DESA...

- Analysed the impact of frontier technologies on sustainable development in the World Economic and Social Survey 2018.

- Strengthened the science-policy interface by supporting the independent group of scientists preparing the 2019 Global Sustainable Development Report (GSDR).

- Mobilized a wide range of experts on technology and innovation for development, at the Science, Technology and Innovation (STI) Forum.

- Promoted effective e-governance for the implementation of the 2030 Agenda, through the 2018 UN E-Government Survey.

- Brought together diverse actors at the Internet Governance Forum (IGF) to amplify digital cooperation.

Harnessing science, technology and innovation for sustainable development

New frontier technologies — everything from renewable energy technologies to biodegradable plastics, artificial intelligence and electric vehicles — hold immense potential to improve people's lives and significantly accelerate efforts to achieve the Sustainable Development Goals and address climate change. But without appropriate policies, they can also drive greater inequality and increase social exclusion.

Scanning the frontiers of technology's impact

Staying ahead of the curve in its social and economic research in 2018-2019, UN DESA offered a glimpse into the future by thoroughly analysing the impacts of frontier technologies – such as artificial intelligence and robotics – on employment, the global economy, the environment and inequalities.

Through its newly launched Frontier Technology Quarterly, UN DESA keeps its finger on the pulse of the latest developments in frontier technologies and analyses their implications for the 2030 Agenda – from the good, bad and ugly consequences of genetic manipulation to the radical transformation of the data economy.

UN DESA is uniquely placed to objectively assess the impact that emerging technologies have on sustainable development outcomes, including their effects on employment, wages and income distribution. This enables Member States to steer the pace and sequence of technological breakthroughs towards sustainable development.

The **World Economic and Social Survey 2018** found that renewable energy technologies and efficient energy storage systems are already enhancing environmental sustainability, allowing countries to "leapfrog" over existing technological solutions. New technologies have enhanced access to medicines and improved the well-being of the most vulnerable. Mobile technologies and innovations in digital finance have made financial services accessible to millions in developing countries. But while technological change holds the promise of considerable benefits to people, the economy and the environment, when left unmanaged or mismanaged, new technologies will likely widen inequality within and between countries. Artificial intelligence, machine learning, and robotics automation, among other technologies, can enhance economic efficiency but, at the same time, divide the world into winners and losers.

2019 ECOSOC Forum on Financing for Development follow-up, April 2019. Photo: UN DESA/P. Vasić

Connecting data, science and policy

The 2030 Agenda emphasizes the importance of bringing the latest scientific knowledge, quality data, and evidence to bear when making policy decisions to advance sustainable development. To strengthen this science-policy interface, UN DESA coordinated the UN system's support to the Independent Group of Scientists that prepared the **2019 Global Sustainable Development Report** (GSDR), aimed at analysing SDG progress and identifying key areas where policy interventions can set the world on a more sustainable path. UN DESA also gathered important insights from the natural and social scientists by organizing a series of expert meetings on the SDGs under review at the July HLPF.

To support the integration of data and information to monitor and implement the 2030 Agenda for Sustainable Development, the secretariat of the High-Level Committee on Management (HCLM) of the UN System Chief Executives Board for Coordination, in collaboration with UN DESA has developed a proposal for common

Internationalized Resource Identifiers (IRIs) for Goals, Targets, Indicators and related statistical series. These common identifiers will contribute to the transformation of the current SDG-related document and data assets into a homogeneously classified information space, and provide the foundation to enhance the automatic retrieval, processing, and integration of information related to SDGs on the semantic web.

Mobilizing experts on technology and innovation for sustainable development

To facilitate interaction and networking between government officials, innovators, entrepreneurs and other stakeholders, UN DESA convened the fourth annual Science, Technology and Innovation (STI) Forum in May 2019, under the theme *STI for ensuring inclusiveness and equality, with a special focus on SDGs 4, 8, 10, 13, and 16"*. The fourth STI Forum attracted hundreds of participants representing a cross-section of scientists, innovators, technology specialists, entrepreneurs, policy makers and civil society representatives. They discussed policies and

actions necessary to harness STI for achieving the SDGs under review at the 2019 HLPF. The Forum also addressed STI roadmaps for the SDGs, gender and STI, indigenous peoples and STI, and involvement of young people in STI. One innovative aspect of the STI Forum this year was its emphasis on women in science.

UN DESA continues to serve as the secretariat for the Inter-agency Task Team on Science, Technology and Innovation for the SDGs (IATT) and for the Group of high-level representatives of scientific community, private sector and civil society (10-Member Group) appointed by the UN Secretary General. The two groups mobilize experts from within and outside the UN system to advance the SDGs through STI in various contexts.

Over the year, IATT membership increased to 41 UN entities and more than 100 active staff members – an unprecedented level of cooperation on science and technology across the UN.

The IATT and the 10-Member Group closely collaborated

to operationalize the Technology Facilitation Mechanism (TFM) Online Platform, 2030 Connect, which supports technology matchmaking and sharing technology knowledge and information. The prototype now includes a wide range of resources, from publications to training opportunities, to technology offers and requests.

Bringing the world together on internet governance

The thirteenth annual Internet Governance Forum (IGF), organized by UN DESA in Paris from 12 to 14 November 2018, brought together representatives from Governments, the technical community, business and civil society to boost digital cooperation within and among countries. Recognizing the need for a paradigm shift in the way Governments and societies govern themselves, the IGF went beyond gathering the traditional digital community and invited scientists from other disciplines, such as philosophers and anthropologists to inform the discussions
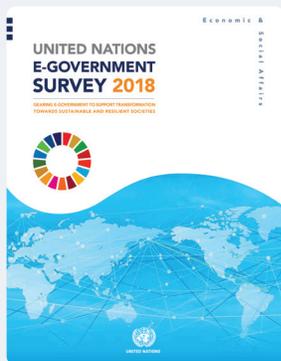
The biennial **United Nations E-Government Survey** presents a systematic assessment of the use of digital technologies to transform the public sector by enhancing its efficiency, effectiveness, accountability, inclusiveness, trustworthiness and supporting people's participation and engagement. By studying broad patterns of e-Government around the world, the Survey ranks the e-Government development status of the 193 United Nations Member States. The Survey was recognised by the UN Secretary-General's High-level Panel on Digital Cooperation as an added-value product in ranking, mapping and measuring e-Government in supporting the implementation of the SDGs. The 2018 edition of the Survey examined how Governments can use e-Government and digital technologies to build sustainable and resilient societies.

Internet Governance Forum, November 2018, Paris, France. Photo: UNESCO/Christelle Alix