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Contribution by ITU

to the CSTD 2024-2025 priority theme on “Technology foresight and technology
assessment for sustainable development”

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**International Telecommunication Union's (ITU) contribution to the
CSTD 2024-2025 inter-sessional panel
Priority Theme 2: Technology Foresight and Technology Assessment for
Sustainable Development**

The International Telecommunication Union (ITU) is a specialized agency of the United Nations for digital technologies. ITU is committed to leveraging technology to support sustainable development and contribute to the achievement of the United Nations Sustainable Development Goals (SDGs).

Current ITU Efforts in Technology Foresight and Assessment

1. Technology Foresight Initiatives

Focus Group on Technologies for Network 2030 The ITU's Focus Group on Technologies for Network 2030 explores future network technologies essential for the next decade. This initiative involves stakeholders from industry, academia, and government to anticipate technological trends and their societal impacts. The Focus Group on Technologies for Network 2030 includes over 200 experts from 50 organizations globally.

The ITU Kaleidoscope events ITU Kaleidoscope conferences provide a forum for academics and industry experts to present research on cutting-edge technologies. These events stimulate foresight discussions, highlighting potential future developments in ICTs and their implications for sustainable development.

AI for Good Global Summit The AI for Good platform powered by ITU and supported by 40 UN partners aims at employing AI to progress the SDGs. Since its inception in 2017, the AI for Good platform has transitioned from an annual summit to an 'All Year, Always Online' format, hosting over 150 online events per year, in addition to an annual Summit in Geneva. AI applications in various sectors, including healthcare, agriculture, and finance, can drive economic diversification by creating new industries and improving efficiency in existing ones.

Strategic Foresight 101 Course Highlight ITU's introductory course on strategic foresight, which aims to equip policymakers and industry professionals with the skills to anticipate and shape the future of digital technologies within sustainable development frameworks. The course covers practical tools and methodologies for assessing future trends and their implications for global challenges. ITU offers a course called "Strategic Foresight 101," which is a self-paced training aimed at fostering digital innovation for sustainable development. This course is designed to help participants from various sectors such as policymakers, decision-makers, innovators, and entrepreneurs to anticipate and shape the future of digital technologies. It focuses on bridging the digital divide and shaping equitable futures through strategic foresight.

2. Technology Assessment Efforts

ITU offers policy guidance and capacity-building support to member states, enabling them to assess the impacts of ICTs and implement strategies that harness technology for sustainable

development. ITU's initiatives focus on building institutional capacities and promoting best practices in technology assessment.

Global Standards Development ITU contributes to the adoption of new technologies by developing international telecommunication/ICT standards. ITU develops international technical standards to ensure new technologies are safe, interoperable, and beneficial for all. ITU has been instrumental in developing standards for 5G networks, accelerating the rollout of this transformative technology and enhancing connectivity. The foresight into 5G's potential impacts has guided policymakers and industry stakeholders in planning for future infrastructure and regulatory needs. The ITU has developed over 200 standards for 5G technology, facilitating its safe and efficient deployment. Also on the AI front, ITU has already enacted over 100 technical standards and is working on 200 more, covering application of AI not only on telecom networks but also in support of other sectors, such as health, agriculture and natural disaster management.

The [ITU Academy](#) provides training programs on technology assessment, equipping policymakers and practitioners with the skills needed to evaluate the impacts of ICTs and implement sustainable policies. These programs enhance countries' capabilities to harness technology for social and economic development.

Environmental Impact Assessments The ITU-T Study Group 5 focuses on environment and climate change, assessing the environmental impacts of ICTs. This group develops methodologies to measure and reduce the carbon footprint of ICTs, promoting greener technologies and practices. The ITU-T Study Group 5 has published more than 50 recommendations on reducing ICTs' environmental impact.

The World Summit on the Information Society (WSIS)

The [WSIS process](#), initiated in 2003 and 2005, has been instrumental in bridging the global digital divide and leveraging ICTs to advance sustainable development. It set forth a vision for using ICTs to achieve the SDGs, with a strong emphasis on sustainable development. Over the past two decades, WSIS has fostered international cooperation and policy development on digital topics. By integrating emerging technologies like AI, quantum computing, and the Metaverse, WSIS has continuously adapted to new challenges and opportunities.

The annual [WSIS Forum](#) addresses pressing digital issues and brings multistakeholder together for discussion to shape the future of the digital landscape. Please see the [WSIS+20 Forum High-Level Event Outcome Documents](#), including the [Chair's Summary](#), which highlights the emerging trends from all stakeholders. The [WSIS Stocktaking](#) database is an online repository that collects initiatives, projects, and best practices aligned with the WSIS Action Lines. It provides a comprehensive overview of ongoing efforts and achievements, helping to track progress and facilitate knowledge sharing among stakeholders. The [WSIS Prizes](#) contest recognizes outstanding contributions to implementing the WSIS Action Lines for information and knowledge societies. ITU, in collaboration with all UN WSIS Action Lines facilitators have highlighted the [WSIS+20 Review Action Lines Milestones, Challenges and Emerging Trends beyond 2025](#). As part of the WSIS Forum, hackathons and other platforms promoting digital innovation are organized in collaboration with UN agencies and other stakeholders. Some examples include:

- WSIS Forum 2023: [Hackathon – Digital GovHack: Advancing the Digital Economy by Leveraging Emerging Technologies](#)
- WSIS Forum 2022: [Hackathon – ICTs for Indigenous Languages: ICTs for Preservation, Revitalization and Promotion of Indigenous Languages: Leaving no one behind, no one outside](#)
- WSIS Forum 2021: [Hackathon – Ageing Better with ICTs: Building a Brighter Future for Older Persons Through ICT Innovation](#)

As the WSIS+20 review approaches, it will evaluate the progress and achievements of the first two decades, reaffirming WSIS' role as a dynamic and inclusive framework that evolves with technological advancements and continues to expand digital cooperation.

Collaborative Initiatives with UN Agencies and Member States

The ITU collaborates with the United Nations Environment Programme (UNEP) on initiatives like the Sustainable Digital Development project. This project assesses the environmental impacts of digital technologies and promotes sustainable practices in the ICT sector. The Sustainable Digital Development project has engaged over 30 countries in assessing the environmental impact of ICTs.

At COP28, ITU spearheaded the launch of [Green Digital Action](#), in collaboration with over 40 partners including governments, businesses, civil society organizations, and other UN agencies. This initiative aims to place digital solutions at the forefront of climate action, enhancing their role in addressing climate change. ITU also supports the [UN Early Warnings for All Initiative](#), which focuses on advancing early warning systems to boost resilience against climate-related hazards. ITU is leading the "Warning Dissemination and Communication" pillar of the EW4A initiative, with support from IFRC, REAP, UNDP and WMO.

ITU serves as the secretariat and rotating chair/vice-chair of the [United Nations Group on the Information Society \(UNGIS\)](#). In collaboration with all stakeholders, UNGIS also ensures coordination within the United Nations development system in the area of science, technology and innovation.

Through the [Broadband Commission for Sustainable Development](#), co-chaired by ITU and UNESCO, the ITU assesses the impact of broadband technologies on education, health, and economic growth. The annual flagship report "State of Broadband 2024" offers an overview of how AI applications are already shaping development across various fields such as e-government, education, digital health, digital finance, and the environment, while also addressing associated risks and implications for the digital divide. The report aims to inform policymakers on AI advancements and the Commission's goals. It emphasizes the urgent need for policymakers to leverage AI's benefits while mitigating potential risks, ensuring equitable access to digital opportunities for all.

ITU is currently chairing the Steering Committee of [Partnership on Measuring ICT for Development](#). Other members of the Steering Committee include UNCTAD and UN DESA. The Partnership will focus on new areas, including ICT in health and ICT in employment.

The UN CEB-HLCP (Chief Executives Board - High-Level Committee on Programmes) [Inter-Agency Working Group on AI](#), co-chaired by ITU and with UNESCO (IAWG-AI), leads a

comprehensive coordination effort across over 40 UN entities, and has engaged in foresight workshops led by UNESCO.

ITU has also hosted a foresight workshop on frontier technologies, organized by the UN University Centre for Policy Research in collaboration with the UN Office of the High Commissioner on Human Rights, the Tech Hub at the Geneva Graduate Institute, and the Simon Institute for Longterm Governance in September 2023.

Together with WIPO and WHO, ITU launched the global initiative on [AI for health \(GI-AI4H\)](#), leveraging the 5-year groundbreaking work of the Focus Group on AI for health to enable and to facilitate the adoption by countries and other relevant stakeholders of AI solutions in health ecosystems through the implementation of targeted projects and programmes to deliver on the health-related SDGs.

Future Actions for Enhancing Technology Foresight and Assessment

1. Strengthening Multistakeholder Collaboration

ITU continues to foster multistakeholder collaborations involving UN agencies, member states, and the private sector. Enhanced collaboration can improve technology foresight and assessment, ensuring that emerging technologies contribute positively to sustainable development.

2. Expanding Research and Development

Investing in research and development (R&D) is crucial for advancing technology foresight. ITU supports R&D initiatives that explore the long-term impacts of emerging technologies, informing policy and regulatory frameworks that promote sustainable development.

3. Enhancing Data Collection and Analysis

Robust data collection and analysis capabilities are essential for effective technology assessment. The ITU can develop tools and methodologies for monitoring technological trends and assessing their impacts, providing valuable insights for policymakers and stakeholders.

4. Promoting Ethical and Inclusive Technologies

The ITU advocates for the development of ethical and inclusive technologies that address societal challenges. By promoting ethical guidelines and inclusive practices, the ITU can ensure that technological advancements benefit all segments of society and support sustainable development.