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Contribution by ITU

to the CSTD 2024-2025 priority theme on "Diversifying economies in a world of accelerated digitalization"

International Telecommunication Union's (ITU) contribution to the CSTD 2024-2025 inter-sessional panel
Priority Theme 1: Diversifying Economies in a World of Accelerated Digitalization

The rapid pace of digitalization offers unprecedented opportunities for economic diversification and sustainable development, directly addressing Sustainable Development Goal (SDG) 9: "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation." The International Telecommunication Union (ITU) is at the forefront of these efforts, collaborating with United Nations (UN) agencies, member states, private sectors, and other stakeholders.

ITU emphasizes the importance of universal and meaningful connectivity, which is essential for fostering a prosperous and inclusive digital society. This concept is defined as a level of connectivity that allows users to experience safe, satisfying, enriching, and productive online interactions at an affordable cost. The ITU's efforts are crucial in bridging the digital divide and enabling scalable solutions to the SDGs, ensuring that all individuals and communities can participate in the digital economy. In collaboration with other UN agencies involved, ITU developed the WSIS-SDG Matrix to highlight the role of digital in advancing the achievement of the SDGs, thereby emphasizing on the alignment of the World Summit on the Information Society process with the 2030 Agenda for Sustainable Development.

Global Internet Access

According to the ITU's "Facts and Figures 2023," global internet penetration has reached 66% as of 2023, up from 43% in 2013. This rapid growth underscores the importance of digital connectivity in driving economic development. However, significant disparities remain, particularly in developing regions where internet access is still limited.

ITU supports countries to empower Least Developed Countries (LDCs), Landlocked Developing Countries (LLDCs), and Small Island Developing States (SIDS) through the provision of initiatives in the field of capacity building, fostering partnerships and advocating for digital technologies, specially to expand affordable and high-quality broadband as an essential infrastructure for the 21st century. Broadband should be considered one of the main elements that will drive scalable solutions to all 17 SDGs at both global and regional levels.

Mobile Connectivity

Mobile connectivity has been a major driver of digital inclusion. The ITU reports that there are 8.3 billion mobile subscriptions worldwide, exceeding the global population. Mobile broadband subscriptions have also seen substantial growth, reaching 78 per 100 inhabitants globally.

For many low-income countries, 3G is often the only way to connect to the Internet. However, 3G is not sufficient to access the full benefits of digital technology. 4G and 5G services remains a pathway to meaningful connectivity, especially for the progress of low-income countries and unserved and/or underserved areas. ITU-D assists Member States thorough programmes and initiatives in upgrading networks and integrating relevant mobile telecommunication technologies.

Digital Skills and Literacy

Despite increased connectivity, digital skills and literacy remain challenges. The Broadband Commission's "State of Broadband 2024" report highlights that online learning platforms are expanding rapidly, but or however, progress in digital skills for teachers and educational policies are advancing slowly. This gap between individuals using the Internet and those with digital skills demonstrates that many people may be using the Internet without being able to fully benefit from it or avoid its dangers. Enhancing digital literacy remains crucial for maximizing the economic benefits of digitalization.

The ITU-D promotes stakeholder interactions to discuss the most pressing needs that must be addressed to ensure that universal digital skills can be achieved, and the global digital skills gap be closed. ITU also provides policymakers and other stakeholders guidance to develop a national digital skills strategy as to allow them to create strategies for under-represented groups such as women and persons with disabilities, organizing campaigns and joining regional or international initiatives, and monitoring and updating the strategy. ITU also encourage ICT skills development through the ITU Academy platform and offers a large selection of online, face-to-face and blended courses.

AI deployment and capacity development

ITU is working to equip countries around the world with the knowledge and tools necessary to take advantage of AI, with the aim of ensuring that the benefits of AI are globally accessible and equitable.

World Summit on the Information Society (WSIS) process and 2030 Agenda for Sustainable Development

WSIS is a UN process on digital cooperation that involves all stakeholder and aims to bridge the digital divide and leverage ICTs for sustainable development. Its framework of the WSIS Action Lines covers digital issues, including the diversification of economies in an era of accelerated digitalization. The ITU leads the coordination and the implementation of the WSIS process with UNESCO, UNDP, UNCTAD, and other UN agencies involved. The ITU hosts an annual multistakeholder Forum that brings together governments, international organizations, civil society, the private sector, academia, and the technical community to collaborate on building inclusive information and knowledge societies. By fostering dialogue and partnerships across various sectors, WSIS significantly contributes to accelerating the

2030 Agenda for Sustainable Development. The WSIS-SDG Matrix provides a framework for mapping and aligning WSIS Action Lines with the SDGs, ensuring a coordinated approach to leveraging digital technologies for global progress. The WSIS Action Line on E-Business (AL C7: E-business), linked with SDGs 1,2,5,8,9, and 17, is crucial for advancing the 2030 Agenda for Sustainable Development by promoting the use of ICTs to enhance business processes and drive economic growth. Additionally, WSIS Stocktaking database, coordinated by ITU since 2004, has collected numerous initiatives/projects that reflect upon or contribute to digitalization, with some of them recognized as the winners or champions of the WSIS Prizes contest.

As the permanent secretariat of the United Nations Group on the Information Society (UNGIS), ITU has developed and maintains a digital transformation repository. This repository serves as a reference guide for UN agencies, documenting various initiatives and activities that demonstrate the direct impact of the WSIS Action Lines on SDGs. UNGIS consists of 47 UN member entities.

ITU's initiatives:

Giga

Giga, launched by ITU and UNICEF, aims to connect every school to the internet. As of 2023, the initiative has mapped over 1 million schools and connected more than 30,000 schools. This project not only enhances educational outcomes but also prepares a digitally literate workforce, essential for economic diversification.

Broadband Commission for Sustainable Development

The Broadband Commission, co-chaired by ITU and UNESCO, advocates for broadband as a key enabler of sustainable development. The Commission's 2024 report reviews how AI solutions can accelerate progress on broadband advocacy targets aimed at getting everyone online and achieving the UN Sustainable Development Goals (SDGs). The report notes that balancing the promotion of AI benefits while managing the challenges is a key task for policy-makers who are “racing to catch up" to the implications of the technologies.

AI for Good

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.

Technical Standards Development

In its pursuit of universal connectivity and sustainable digital transformation, ITU has developed standards for utilizing AI in orchestrating 5G and future networks, multimedia innovation, assessing and improving the quality of digital services, and improving energy efficiency, to name just a few examples. These efforts are amplified by close collaboration with other standards bodies and UN partners, supporting the development and publication of a comprehensive suite of standards across a variety of domains.

Global Symposium for Regulators (GSR)

GSR plays a key role in shaping the policies and regulations necessary to support the diversification of economies in a world of accelerated digitalization. GSR brings together regulators, policy makers, industry leaders, and key ICT stakeholders to set the policy and regulatory agenda for the global digital industry. The symposium focuses on maximizing the potential of digital technologies to enhance lives by addressing core issues such as advancements in generative AI and robotics, creating an inclusive and sustainable space economy, and tackling climate change challenges.

Collaborative Efforts with UN Agencies and Member States

Partnerships with Other UN Agencies

The ITU collaborates with agencies such as FAO, UNDP, UNESCO, UNICEF and WHO on initiatives that integrate digital solutions for development. Joint projects, such as digital agriculture platforms, e-learning programs, and telehealth services, contribute to economic diversification by leveraging digital technologies.

UN system-wide coordination on AI

The UN CEB-HLCP (Chief Executives Board - High-Level Committee on Programmes) Inter-Agency Working Group on AI (IAWG-AI), co-chaired by ITU and with UNESCO, leads a comprehensive coordination effort across over 40 UN entities, and has developed key initiatives like the UN System-wide Ethical Principles for AI.

HLCP and CEB have endorsed a White Paper, produced by IAWG-AI, which analyses UN current institutional models and related functions, as well as and existing international normative frameworks in the UN System that could be applied or leveraged for international AI governance.

In addition, leveraging the IAWG-AI members and AI for Good UN partners, ITU coordinates inputs and prepares the annual UN Activities on AI report, an interactive directory. Currently, 396 AI projects from 47 agencies are reported, covering all 17 SDGs with outputs mainly in software tools and reports, focusing on topics like human rights, ethics, and justice; environment; agriculture; health; education; gender; and telecommunications, and involving collaborations with the UN system, member states, academia, and the private sector.

Regional Initiatives

The ITU's regional initiatives address specific local needs and challenges. For instance, the ITU's work in Africa focuses on expanding broadband infrastructure and digital skills training, which are critical for economic diversification in the region.

One of ITU's regional initiatives in the Americas focuses on the deployment of modern and resilient ICT infrastructure, enhancing digital skills and literacy, support to the digital transformation and innovation ecosystems, and development of enabling policy and regulatory environments to connect the unconnected.

Public-Private Partnerships

Public-Private Partnerships (PPPs) are instrumental in driving digital innovation. The ITU fosters partnerships with tech companies, telecom operators, and financial institutions to expand access to digital tools and services. These collaborations support economic diversification by enabling new business opportunities, fostering entrepreneurship, and close the digital divide.

The AI for Good platform has become a powerful tool for fostering public-private partnerships, facilitating knowledge exchange, and assisting developing countries in achieving sustainable development through the practical application of high potential AI use cases.

The upcoming AI for Good Impact Initiative will play a crucial role in mobilizing the necessary resources to broaden AI applications globally, ensuring equitable progress across all SDGs and regions.

In partnership with the Partner2Connect Digital Coalition, ITU invites contributions from diverse sectors for projects and financial commitments, focusing on AI-enhanced access to technology and connectivity and accelerating adoption through skills development and digital inclusion.

Future Actions for Enhancing Economic Diversification

As digitalization continues to accelerate, the ITU will focus on several key areas to further enhance its contributions:

- **Expanding Access and Connectivity**
  To achieve universal broadband access, ITU is intensifying its efforts to advocate for policies that encourage investment in broadband infrastructure. Innovative solutions such as satellite internet and emerging technologies like 5G and fiber-optic networks, are pivotal in bridging connectivity gaps, especially in remote and underserved areas.

- **Strengthening Partnerships**
  Building stronger collaborations with governments, international organizations, and the private sector to ensure coordinated efforts in achieving universal connectivity and digital inclusion. Launched in 2021, the Partner2Connect Digital Coalition is a multistakeholder initiative spearheaded by ITU in collaboration with the Office of the Secretary-General's Envoy on Technology, and aligned with the UN Secretary-General's Roadmap for Digital Cooperation. This coalition aims to advance meaningful connectivity and digital transformation in the hardest-to-reach communities, particularly in LDCs, LLDCs and SIDS. ITU invites both public and private sectors to contribute pledges through the P2C Digital Coalition, offering a platform to forge new partnerships and mobilize resources to bridge the digital divide and extend online access to underserved populations. To date, investment commitments totaling $4.8 billion have been made towards global connectivity, bringing the overall pledges to $50.96 billion. This amount represents over half of the $100 billion target set for 2026 to close the digital divide.

- **Promoting Digital Literacy and Inclusion**
  Developing comprehensive digital literacy programs is essential for ensuring all segments of society can participate in the digital economy. Targeted initiatives for women, youth, and marginalized communities can enhance economic inclusion and diversification.

- **Supporting Innovation and Entrepreneurship**
  The ITU can support the development of digital innovation hubs and incubators, fostering entrepreneurship and supporting startups. Facilitating access to finance for digital entrepreneurs is also crucial for scaling new digital enterprises.

- **Enhancing Data and Analytics Capabilities**
  Promoting the use of big data and AI can improve decision-making and efficiency across sectors. Developing robust data governance frameworks ensures data privacy and security while enabling economic development.

Challenges Developing Countries Face in Adapting Frontier Technologies and AI

Specific Challenges:

- Infrastructure deficits: Many developing countries lack the necessary digital infrastructure, such as high-speed internet and reliable power supply, which are foundational for adopting frontier technologies.

- Skilled workforce shortage: There is a significant gap in the availability of skilled professionals who can develop, implement, and manage AI and other advanced technologies.
- Ethical use of technology: lack of specific regulation of AI and data privacy concerns.
- Financial constraints: Limited access to funding and investment hampers the ability to research, develop, and deploy new technologies.
- Regulatory and policy barriers: Inadequate or outdated regulatory frameworks can inhibit innovation and the adoption of new technologies.
- Data accessibility and quality: Reliable and comprehensive datasets are critical for training AI systems, yet many developing countries struggle with data collection and management.
- Digital divide: Significant disparities in access to digital technologies exist between urban and rural areas, as well as among different socio-economic groups.

Successful Examples of Adoption or Development of AI and Frontier Technologies:

- AI for Good platform: An ITU initiative established by ITU in 2017, identifies practical applications of AI to accelerate progress toward the SDGs. It also connects AI innovators with public and private-sector decision-makers to help scale up AI solutions globally.
- Global Initiative on AI for Health: Continues the collaboration with WHO, now amplified by WIPO to foster adoption of AI applications in healthcare, improving healthcare delivery in underserved regions.
- Giga: A partnership between ITU, UNICEF, and others, to connect every school in the world to the internet, leveraging AI to optimize network planning and deployment.
- Technical standards development, notable examples include:
    - In partnership with WHO, ITU has published 35 specifications and reports on AI in healthcare through the ITU-T Focus Group on Artificial Intelligence for Health (FG-AI4H), addressing technical matters as well as ethics and governance.
    - ITU collaboration with FAO has published standards for AI and IoT in agriculture, enhancing food security and sustainability.
    - Working with WMO and UNEP, ITU has developed standards for using AI in the management of disasters stemming from natural hazards.

- The Focus Group on AI and Autonomous Driving developed a report on Automated driving safety data protocol - Ethical and legal considerations of continual monitoring.
- ITU-T Study Group 13 (Future networks) is maintaining the AI standardization roadmap including existing standards and standards under development across various standards bodies. It includes an overview of AI-related ITU standards and related texts developed by ITU-T Study Groups. For more info see:
- Supplement 72 to ITU-T Y.3000-series - Artificial intelligence standardization roadmap (11/22)
- ITU-T Study Group 16 is working on new standards to provide a framework for authentication of multimedia content. This project is also be supported by initiatives in collaboration with ISO and IEC on AI watermarking and multimedia authenticity in the AI for Good Global Summit in Geneva in May 2024.

- Support for AI deployment and capacity development:
  - Through its pre-standardization and standardization work, ITU has cultivated common understandings on AI policy, regulation, and technology. We have offered AI ethics training in healthcare with WHO, collaborated with FAO on an AI toolkit for agriculture, and organized hackathons and trainings on AI for disaster preparedness with WMO and UNEP.
  - The future AI Readiness Framework and recently launched AI for Good Innovate for Impact programme are designed to elevate global AI literacy, share best practices, and foster innovation aligned with the SDGs. ITU's Giga project with UNICEF employs AI strategically to expand Internet connectivity to connect schools worldwide.
  - The ITU's AI for Good initiatives, including the Neural Network smart-matching platform with 27 000 members from over 180 countries, the AI4G Infinity Framework (a comprehensive and practical power-tool which will help onboard industries, startups, academia and policy makers in the AI value-chain), and the AI Scholar Programme, enhance AI capacity development. AI for Good is piloting projects that use AI to transform AI for Good webinars into academic courses and will provide an "AI standards co-pilot" service to help draft ITU standards, promoting inclusive AI expertise and application.
  - The Early Warnings for All Initiative, led by WMO, UNDRR, and ITU aims to ensure that every person on Earth is protected by early warning systems by 2027. ITU is coordinating the AI subgroup that cuts across several pillars with technical AI partners like Google, Microsoft, Planet, International Committee of the Red Cross, and others.

- Additionally, ITU's Bridging Standardization Gap (BSG) programme, has furthered this effort by offering fellowships to African winners of AI for Good robotics and machine learning challenges to support their participation of the AI for Good Global Summit 2024.

- AI governance, policy, and regulatory assistance:
  - The 'AI Governance Day – From Principles to Implementation', organized as part of the AI for Good Summit, convened government leaders, policy-makers, researchers and technologists to streamline efforts, maximize the use of existing and ongoing work on AI governance frameworks, facilitate the exchange of knowledge on AI policies, regulation, and implementation among all ITU Member States and stakeholders.
  - ITU's commitment to bridging the AI gap is exemplified by the outcomes of the 2021 World Telecommunication/ICT Policy Forum and the 2024 Global Symposium for Regulators which features an AI and Robotics track curated by AI for Good. In September 2023, ITU launched the AI Landscape Survey for Member States to gather information about their AI-related policy and regulatory initiatives and how these efforts align with their ongoing Digital Transformation endeavors. Responses have been received from 69 Member States comprising 12 developed countries and 57 developing countries, including 10 Least Developed Countries. The Survey results reveal a critical gap in AI-specific strategies among Member States but also identified a notable trend towards integrating AI in digital transformation efforts.
  - Through ITU's AI for Good initiatives, such as its AI start-up and robotics competitions, machine learning challenges, and the ITU Journal, we are currently amassing a repository of AI knowledge and applications that impact the SDGs. Moving forward, this foundation will enable us to establish, to contribute to the wealth of knowledge to drive sustainable development aligned with the SDGs.

- UN system-wide coordination on AI through IAWG-AI, co-led by ITU and UNESCO, aims to bring together UN system expertise on AI in support of the CEB and HLCP. It combines the ethical and technological pillars of the UN to provide a solid foundation for current and future system-wide efforts on AI with a view to ensuring respect for human rights and accelerating progress on the SDGs.

Examples of Inclusive Policies for Innovation and Economic Diversification: Inclusive Policies:

- Digital inclusion programs: ITU's Connect 2030 Agenda where ITU and its membership are united in the aim of connecting all of humanity through modern communication

technologies, aligned align with ITU's overarching goals: Universal Connectivity and Sustainable Digital Transformation.

- Women in Tech initiatives: Programs aimed at increasing the participation of women in the tech sector, addressing gender disparities in digital skills and employment.
- Capacity building workshops: ITU regularly conducts workshops and training sessions to build local expertise in AI and digital technologies, tailored to the specific needs of developing countries.

Strengthening Industrial Capabilities through Partnerships: Mechanisms for Strengthening Industrial Capabilities:

- University-Industry collaborations: Facilitating partnerships between universities and industries to promote research and development of new technologies.
- Public-Private Partnerships: ITU fosters collaborations between governments and private sector entities to enhance technological capabilities and infrastructure.
- Tech transfer programs: Initiatives to transfer technology and knowledge from developed to developing countries, ensuring local adaptation and scalability.