

Strengthening Science, Technology and Innovation for Achieving the SDGs: Drawing Lessons from the UN Technology Facilitation Mechanism and Innovative Financing Models - Side Event to the Multi-stakeholder Hearing for FfD4

Summary by the Secretariat | 29 October 2024 | UNHQ, New York

Highlights: On October 29, 2024, DESA/DSDG and UNCTAD, alongside UNESCO, UNEP, ITU, FAO, WIPO, UN DCO, and the UN Joint SDG Fund, co-organized a side event during the Multi-stakeholder Hearing for the 4th International Conference on Financing for Development (FfD4), on [Strengthening Science, Technology, and Innovation \(STI\) for Achieving the SDGs](#) at UNHQ, New York. The event convened diverse experts from the UN, government, academia, and the private sector to address critical funding and policy gaps in STI. Discussions highlighted the role of the UN Technology Facilitation Mechanism (TFM) in supporting global STI initiatives and explored innovative financing mechanisms to help bridge STI gaps, including blended finance models and collaborative public-private approaches. This side event was a timely contribution to the lead-up to FfD4 and sought to ensure that STI policies and funding models are well-aligned to accelerate SDG progress. Key outcomes included strategic recommendations for innovative financing models, enhancing STI policy integration, STI roadmaps and capacity building, and an action plan of engagement in the run-up to the FfD4 Conference.

Key Discussions:

1. Funding Gaps and Challenges in STI Financing:

Developing countries are inequitable with developing countries struggling to secure funding for R&D and technology innovation due to fiscal constraints, weak IP protection, and high investment risks. STI financing falls short of the recommended 1% of GDP in many regions, with limited private sector investment and reliance on public funds. Developing comprehensive STI investment plans that attract additional resources was deemed essential. Moreover, discussions highlighted how insufficient digital infrastructure in low-income countries creates additional obstacles to using STI effectively. As such, international organizations should provide technical assistance to developing nations to prepare competitive applications for international STI grants and work to simplify application and reporting requirements, making the funding more accessible to institutions in developing countries.

2. Innovative Financing Models and Incentives to Mobilize Private Investment:

To address gaps in STI funding, blended finance models, social impact bonds, debt-for-STI swaps, tax incentives, and venture funds are needed to mobilize and de-risk private sector resources. USAID’s “Digital Invest Program” exemplifies this approach by using blended finance to support digital connectivity, successfully attracting private sector funding for internet service providers in low-income countries and helping bridge digital divides. Additionally, governments in developing countries must introduce financial incentives, such as tax breaks for R&D and government-backed venture capital funds, to encourage private sector investment in STI. These incentives are crucial for Small and Medium Enterprises (SMEs), which often drive innovation but lack the capital to scale their ideas, enabling a more collaborative approach to funding between public and private sectors and bridging critical funding gaps.

Examples from the UN IATT Working Group on Science, Technology and Innovation for the SDGs Roadmaps, were also presented. A £1.5 billion Fund in the UK, has simplified its grant application procedures and provided support for collaborative projects involving partners from developing countries, ensuring better access to international funding for researchers in low- and middle-income regions.

3. Public-Private Partnerships to Drive Technological Innovation:

Effective collaboration between governments, private companies, and philanthropic organizations is essential to overcoming the STI financing gap, with the Joint SDG Fund highlighted as a promising model for pooling public and private resources to amplify funding for STI. A global STI trust fund was proposed, to bring together public, private, and philanthropic resources for STI projects aligned with the SDGs. This fund would prioritize support for underserved groups in low-income countries, with a focus on women, youth, and rural populations. This approach is particularly crucial for initiatives in advanced fields like AI and biotechnology, which require large-scale funding and specialized expertise that robust public-private partnerships (PPPs) can provide. UNESCO and UNCTAD representatives advocated for the fund as a critical mechanism to meet these needs. Additionally, collaborations involving USAID, UNEP, and UNDP, were noted as successful models that integrate diverse expertise and resources.

Examples of successful PPPs in digital infrastructure and connectivity were presented, demonstrating how the public sector can leverage private sector efficiency and innovation in areas like digital connectivity, climate tech, and agriculture. Such models not only foster STI advancement but also expand access to frontier technologies, encouraging private partners to undertake challenging execution and risk through innovative financing. Together with its partners, USAID proposed to host a half-day workshop at FfD4 that would convene government stakeholders, donors, industry, and investors to discuss the need for blended finance solutions to

building open, inclusive, and secure digital connectivity infrastructure in developing countries. At this workshop, USAID would announce the first round of investments and partnerships of its new Connect One Billion Fund, a blended finance fund targeted to help small- and mid-sized internet service providers.

4. STI Roadmaps and Capacity Building in Africa and Small Island Developing States (SIDS):

A workstream under the UN IATT for harnessing the potential of STI to deliver on the SDGs, with a focus on building partnerships and STI capacity in developing countries, is the STI for SDGs Roadmaps Programme (STI4SDGs Roadmaps). The initiative is co-led by UNDESA, the European Commission/Joint Research Centre (EC/JRC) and UNESCO, with support by IATT members and other institutional partners from academia, civil society and the private sector.

As an inclusive process, the Roadmaps Programme brings together a network of partners from the UN system and beyond to develop common guidance, principles, frameworks and methodologies to support countries to harness STI in their unique contexts to achieve the SDGs. In this connection, capacity-building for STI was identified as essential, especially in Africa and small island developing states (SIDS). Emphasis was placed on building STEM expertise, digital infrastructure, and technical skills to empower local communities and enable sustainable solutions tailored to regional challenges. For example, the European Commission's Joint Research Center worked on the STI for SDGs roadmap project for five countries in particular, the Gambia, Mauritius, Namibia, Rwanda and Seychelles. Their project includes extensive stakeholder consultations and evidence-based analysis with local experts to ensure the road maps were participatory and data-driven.

In this connection, the UN IATT's Workstream on Capacity Building in STI for SDGs delivers training workshops aimed at developing nations, supporting policymakers and stakeholders in leveraging STI to achieve SDGs. Since its inception, the workstream has engaged more than 1,200 participants, from 94 countries of which 51.6% were female. Current events include online training for Asia-Pacific officials scheduled for November 2024, focusing on STI policy design, implementation, and evaluation.

5. Building Robust Data Infrastructure and Evidence-Based Policy:

Speakers emphasized the importance of establishing robust data systems to guide evidence-based policy decisions, track STI progress, and maintain accountability. Limited data availability and fragmented monitoring mechanisms were identified as significant issues that prevent effective STI implementation. In response, some participants suggested using donor-funded projects to support data collection and analysis, especially in low-income regions. The establishment of a global data-sharing platform to foster collaboration among stakeholders was proposed, aiming to standardize data collection and improve decision-making across the STI landscape. Brazil's *Connected Schools* initiative was highlighted as an effective example of leveraging policy

change for funding digital infrastructure. Through adjustments in legislation, Brazil improved connectivity in public schools, providing a model for using policy frameworks to mobilize STI funding effectively.

6. Frontier Technology for Inclusive and Sustainable Development:

Rapid advancements in artificial intelligence, biotechnology, and other frontier technologies were highlighted for their dual role as both enablers of development and potential disruptors. Ensuring these technologies are accessible to low-income countries is crucial to prevent widening the technological gap and to promote ethical use aligned with the Sustainable Development Goals (SDGs). Governments should prioritize embedding STI across sectors like health, agriculture, education, and infrastructure to leverage technology for improving public services and driving inclusive growth. For example, investments in digital health systems can enhance healthcare delivery in remote areas, while innovations in sustainable agriculture can support food security and resilience to climate impacts.

7. Sectoral Prioritization for Focused STI Integration:

Integrating STI into key sectors, such as healthcare, agriculture, education, and energy, was discussed to ensure STI investments directly contribute to sustainable development. FAO's work on digital villages and its emphasis on supporting smallholder farmers were mentioned as sectoral examples that use STI to drive sustainable agriculture. Participants called for increased research funding in these sectors, pointing to examples where a lack of funding has prevented promising initiatives from scaling. Using a challenge-led approach, as practiced by organizations like the European Commission, it was recommended to address critical sustainability issues by focusing STI efforts on these sectors.

8. STI Governance: Promoting Policy Coherence Between STI and Broader Development Policies:

There was widespread agreement on the need for national STI investments and policies to be more closely aligned with broader national integrated STI governance system and development plans. Participants pointed to issues in some countries where STI policies lack specificity, leading to fragmentation and underutilization of available resources. The lack of policy coherence across different governance levels further compounds these issues. Speakers recommended that national governments and regional organizations develop integrated, multi-sectoral and inclusive policies to ensure STI investments contribute directly to the SDGs.

9. Collaborative Regional Partnerships and Knowledge Sharing:

Strengthening North-South and South-South cooperation is essential for promoting knowledge transfer and best practices, as collaborative partnerships among governments, academia, and private sector entities can prevent duplicative efforts and encourage a unified approach to achieving SDG-aligned STI goals. The European Commission's Joint Research Center STI for

SDGs roadmap project exemplifies this through collaboration with countries like the Gambia, Ethiopia, South Africa, Ghana, and Tunisia, creating the potential to amplify the STI roadmap across Africa. Similarly, Switzerland and Peru's market-based carbon trading cooperation illustrates North-South technology transfer, where Switzerland provides financial support for Peru's sustainable clean energy projects in exchange for emissions reduction credits, facilitating resource flows and a compensatory framework for global public goods.

10. Promoting Regional STI Hubs and Networks:

Developing regional STI hubs can help create concentrated ecosystems where talent, training initiatives, infrastructure, and funding intersect to promote innovation. Participants suggested, for example, to establish a UN hub for sustainable built environments and a Global Sustainability Science Center for knowledge exchange and innovation between researchers, start-ups, industries, and policymakers. Governments in developing regions can establish special economic zones (SEZs) or innovation districts focused on specific sectors like green technology or digital solutions. Regional STI networks can be promoted through funding for cross-border R&D projects, allowing developing countries to pool resources, share knowledge, and benefit collectively. For example, Kigali Innovation City in Rwanda is an emerging hub that seeks to attract investment in technology and innovation by providing tax incentives and a favorable regulatory environment.

Key Recommendations:

1. Implement Innovative Financing Mechanisms: Use blended finance models, debt-for-STI swaps, and social impact bonds to attract private sector investment in STI and share financial risk between public and private sectors, making STI investments in sectors like agriculture, health, and climate more viable and sustainable.

2. Encourage Multi-Sectoral Collaboration and Knowledge Sharing: Develop a unified STI strategy that incorporates inputs from diverse stakeholders and can attract more investments and minimize redundancy in STI initiatives. Key models to learn from include the success of the Joint SDG Fund pooling resources and public-private partnerships (PPPs) to expand digital infrastructure.

3. Enhance Capacity Building through STI4SDGs Roadmaps: Support African and Small Island Developing States (SIDS) as well as other regions with participatory and data-driven STI roadmaps that address regional challenges. These roadmaps should include multi-stakeholder input from communities, government bodies, private sector, and research institutions to ensure relevant and evidence-based roadmaps.

4. Facilitate Regional Partnerships and Knowledge Sharing: By fostering regional collaboration between nations, for example between neighboring African countries on the STI

Roadmaps for Sustainable Development Goals, it's possible to amplify STI solutions tailored to mutual challenges.

5. Establish Global Hubs for Collaborative Research and Innovation: Promote Regional STI Hubs and networks for cross-border R&D projects. Governments can also establish special economic zones (SEZs) or innovation districts focused on sectors like green technology, sanitation, food, biodiversity, and health.

6. Increase Allocation of Official Development Assistance (ODA) to STI: In order to combat the lack of funding towards STI goals, a larger portion of ODA could be allocated to STI projects. Despite the far-reaching benefits of STI, only about 5% of ODA is invested into STI. Expanding ODA would be particularly beneficial in fields like public health, renewable energy, and digital literacy, which have wide-reaching impacts on sustainable development.

7. Align National STI Investments and with National Policies and SDGs: Countries should develop STI investment plans that are aligned with national and international development goals towards STI governance as an integrated system. Governments should prioritize embedding STI into sectors like health, agriculture, education, and infrastructure to reach underserved communities.

Conclusion and the Way Forward

The side-event revolved around the principle that the UN should continue to support Member States to build robust STI ecosystems and secure the necessary financial and institutional support for sustainable development. Participants stressed the importance of strengthening digital infrastructure, enhancing STEM skills, and fostering regional partnerships to ensure that STI initiatives are tailored to address specific regional challenges, particularly in Africa and SIDS.

A significant emphasis was placed on building robust data infrastructure to support evidence-based policy, with the aim of standardizing data collection and fostering global knowledge sharing through collaborative platforms. By integrating STI across key sectors like health, agriculture, and education, and increasing Official Development Assistance (ODA) for STI projects, the side-event underscored a holistic approach that promotes sustainable and inclusive growth, especially in regions facing funding and infrastructure challenges.

This summary synthesizes key points from the side-event discussions and includes brief written inputs submitted this week, ensuring that the conference's STI-related agenda aligns with the challenges and solutions highlighted during the workshop. This summary, compiled by the Secretariat along with its recommendations, can serve to inform the 4th International Conference on Financing for Development (FfD4). To build on this momentum, a proposal has been made to hold a UN IATT side event on STI financing during FfD4 in Seville, Spain, from June 30 to July 3, 2025. Such an event would benefit the advancement of STI to support the implementation of

the SDG goals. This summary may also support discussions related to FfD4 and inform this potential side event.