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ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)**

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Contribution by Austria

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

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PRIORITY THEME 2: Technology foresight and technology assessment for sustainable development

United Nations Commission on Science and Technology for Development (CSTD)

Dear CSTD Member,

The [27th CSTD annual session](#) selected “Technology foresight and technology assessment for sustainable development”, as one of the priority themes for its 28th session (2024-2025) period).

Along with unprecedented opportunities, rapid technological developments present multifaceted challenges and risks, socio-economic disruptions and environmental impacts, among others. STI foresight (ForSTI)¹ and technology assessment (TA)² are useful tools for identifying and understanding key emerging trends and the risks and opportunities from the creation and adoption of new technologies, improving the quality of decision-making by making it better informed, more evidence-based and inclusive, promoting inclusive discussion, and identifying strategic priorities for future STI policy at the national level, and thereby enable more effective adaptation to technological and other systemically important future changes. STI foresight is a systematic process aimed at envisaging the future and strategically making decisions on STI policy and the use policy actions in the present to arrive at a preferred future.

Technology assessment is an interdisciplinary process for assessing opportunities and risks of new technologies, informing policymakers, inducing public dialogues and debates, and helping frame supportive policies and instruments. Therefore, they are policy tools that are particularly relevant to ensuring that policymakers can identify STI policy actions and implement more inclusive policy processes that move towards leaving no one behind, which is closely aligned with the theme under consideration for ECOSOC 2025 (“Advancing sustainable and inclusive solutions for leaving no one behind”).

The annual resolutions negotiated at the CSTD have consistently underscored the importance of technology foresight and TA exercises and have encouraged all stakeholders to conduct inclusive national, regional and international and foresight exercises on existing, new and emerging technologies to help to evaluate their development potential and mitigate possible negative effects and risks. By integrating these processes into strategic planning and innovation policymaking, countries could navigate better the complexities of technological changes while maximizing its benefits for national development.

Under this theme, the Commission will consider issues such as the methodology for conducting ForSTI and TA, good practices and challenges in conducting these exercises, and the effective integration of the results from these exercises into the design and implementation of STI policies that will drive progress towards achieving the SDGs. The Commission will also consider how international cooperation and the CSTD could play a role in this regard.

The CSTD secretariat is in the process of drafting an issues paper on the theme to be presented at the CSTD inter-sessional panel meeting to be held on 21 and 22 October 2024 in Geneva. In this context, we would like to solicit inputs from CSTD member States on this theme. We would be grateful if you could kindly answer the following questions based on your experience in your country or region. To facilitate your answering, we have made the questions be as specific as possible.

¹ Technology foresight is a term that can be usefully broadened to STI foresight to recognize that STI is broader than technology alone, and foresight for national policy related to technology can include STI more broadly defined. This remains narrower than “strategic foresight”, which can be applied to many areas of policy and diverse uses, and “futures”, which can include many future-oriented studies of a diverse nature.

² TA is not the same as technology needs assessment (TNA), which aims to identify technology needs for addressing climate change rather than the impacts of adopting a technology new to the country.

1. Has your country conducted ForSTI, TA or both? If yes, what were the reasons for undertaking ForSTI and TA?
 Yes, Austria has conducted both STI Foresight and Technology Assessment. Austria follows a decentralised approach with five key groups of foresight actors:
 - **Initiating institutions** to launch foresight processes for internal reasons, such as the Austrian Parliament, to open up opportunities for action and design in parliamentary work through early identification of new development.
 - **Implementing institutions** that develop and manage foresight processes and implement them at operational level. The most important of these institutions is the Austrian Institute of Technology (AIT), but there are also other players (Institute for Technology Assessment, Austrian Academy of Sciences...)
 - **In-house capacity in national administration**, in particular for the Federal Ministry of Defence, but also at the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology with the purpose of Trend Scouting and Foresight.
 - **Coordinating bodies** to provide a link between policymaking processes and foresight expertise, e.g. the (former) Council for Research and Technology Development.
 - **Educational institutions** to support future literacy in Austria, e.g. through the National Defence Academy, or the UNESCO Research and Training Centre for Future Design.
2. If you have not conducted ForSTI or TA in the past, what were the reasons for this (lack of need or requests for it, lack of familiarity, lack of capacity, lack of funding etc.)? Would you be interested in pursuing either ForSTI or TA as a policy tool in the near future?
 No response necessary.
3. What agency (or agencies), if any, is responsible for ForSTI and/or TA?
 In terms of implementation, AIT plays a major role in foresight.
4. Who was responsible for implementing the ForSTI and/or TA undertaken - national government, sub-national levels of government (state/province or other levels), industry, universities, research institutes or civil society?
 In the decentralised Austrian system, different actors are responsible for implementing Foresight and/or TA. See response to question 1.
5. In which sectors and/or for what policy processes have ForSTI and TA been undertaken, or linked to? What SDGs have they related to?
 In relation to the SDGs, the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology launched an internal pilot for Trend Scouting and Foresight in the context of Directorate General for Innovation and Technology.
 Another sector that undertakes foresight is the defence sector to develop context scenarios and ongoing monitoring of risk pictures for defence and security.
6. What specific methods (tools) and methodologies have been used for ForSTI and/or TA?
 Scenario building, Trend Scouting, Technology assessment, Use Cases, Horizon scanning, Risk analysis.
7. What challenges have you experienced in undertaking ForSTI and TA exercises? Does your country have any specific capacity needs to strengthen the conduct and use of ForSTI and TA?
 Challenges concern the lack of resources, the limited foresight capacity within public administration, underdeveloped foresight literacy, and unclear uptake of foresight results by political decision-makers.
8. Have you conducted combined ForSTI and TA in a single exercise at any time? What were the benefits and challenges of combining ForSTI and TA? Do you see this as a useful and feasible approach?
 No specific knowledge about combined projects, but, in principle, this approach makes sense when we talk about anticipatory governance of emerging technologies (see related work of the OECD).

9. Are you involved in any international cooperation or partnerships for ForSTI and TA? Which ones and what are their benefits?
At EU level, a policy learning activity has started, first through a Mutual Learning Exercise on Foresight, followed by a current network called “Eye of Europe”.
10. What role(s) can international cooperation, and the CSTD, play in promoting ForSTI and TA?
International cooperation can help stimulating foresight activities at national level, it contributes to exchange experience, and it helps improving foresight methodology and knowledge.
11. What have been some important ForSTI and TA examples undertaken in your country, especially related to national policy (prioritization, design etc.)?
 - KIRAS Foresight project “Critical infrastructures” (2020-2022)
 - Foresight and technology assessment for the Austrian Parliament (published monitoring reports, and a web-based knowledge base)
 - Defence Foresight and Risk Picture for Austria by the Ministry of Defence
12. Based on your experiences, how have ForSTI and TA improved STI decision making and the prioritization, design and implementation of STI policies?
This question can only be answered by policy-makers of institutions that conducted Foresight/TA.

Please indicate contact person(s) and agencies responsible for projects/policies and international collaboration on ForSTI and TA in case we need clarification on the inputs.

Please send your responses and any further inputs on the theme to the CSTD secretariat (stdev@unctad.org) by 24 **July 2024**. We look forward to receiving your valuable inputs.

Sincere regards,
CSTD secretariat