



**HIGH-LEVEL POLITICAL FORUM
ON SUSTAINABLE DEVELOPMENT**

High-level dialogue on the Partnership in Action on Science, Technology and Innovation for SDGs Roadmaps

9 July, 7:30am-9:00am EST

Virtual Meeting

Supported by Ghana

Co-organized with

Japan, UN-DESA, European Commission's Joint Research Centre, UNESCO, UNECA

REPORT OF MEETING



Key outcomes and messages

- The role of STI for SDGs Roadmaps in the achievement of Agenda 2030 and sustainable post-COVID recovery is fully recognized by different stakeholders.
- STI for SDGs Roadmaps is a pathway to mobilize synergies across different policy areas and avoid negative trade-offs between competing goals.
- The work of IATT is an example of co-creation where different tools and methodologies from various partners join forces to facilitate harnessing STI for the SDGs.
- Representatives from pilot countries highlighted concrete results, the major milestones of the work on STI Roadmaps and the planned next steps.
- Over 20 countries expressed interest to participate in STI for SDGs roadmap development process.
- Explicit commitment by pilot countries were made to share lessons learnt during the programme with other countries.
- Multi-stakeholders engagement is key for the continuation of the Programme and the implementation of Roadmaps through the Partnership in Action
- Serbia proposed to co-lead together with Ghana the alliance to support the Partnership in Action on STI for SDGs roadmaps.
- There are common challenges drawn by pilot countries, including the participation of varied stakeholders, the development of technology for the SDGs, lack of data, and funding to develop and, more importantly, implement STI roadmaps.
- The need to explore alternative financial sources by developing investment cases for the prioritized challenges identified through STI for SDGs roadmapping.
- STI policies for sustainable development should go beyond R&D driven growth; they should be transformative and include digitalization and greening.
- The Global Challenge is to pursue the technology trajectory towards an ICT-based green transition.



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Background

The 2030 Agenda for sustainable development elevated Science, Technology and Innovation (STI) as key means that can facilitate the attainment of the Sustainable Development Goals (SDGs). In this context, the Annual Multi-stakeholder Forums for Science, Technology and Innovation (STI Forums), supported by the Inter-Agency Task Team on Science, Technology and Innovation for the SDGs (IATT) advocated for the important role of STI in achieving the SDGs. During the first three STI Forums, STI Roadmaps were proposed as suitable instruments that can be used by countries to integrate STI imperatives in SDGs implementation, and countries were encouraged to develop them.

STI for SDGs Roadmaps are useful in strengthening countries' ownership, elevating the policy debate on STI for SDGs, and effectively mobilizing national efforts. The roadmaps also offer opportunities for partnerships with global actors to harness STI for the achievement of the SDGs. As a forward-looking policy framework, roadmaps provide guidance on effective actions that utilize STI to achieve the SDGs at the national, regional and local levels. For this purpose, in 2019 IATT launched the Global Pilot Programme on Science, Technology and Innovation (STI) for SDGs Roadmaps with an initial group of five pilot countries (Ethiopia, Ghana, India, Kenya and Serbia). The programme aims at supporting pilot countries in developing their STI for SDGs roadmaps based on a newly developed "[Guidebook for the Preparation of STI for SDGs Roadmaps](#)". In February 2021, Ukraine also joined the programme bringing the number of pilot countries to six. The Guidebook is accompanied by two background papers: available STI roadmapping methodologies and international partnerships.

Following the successful experience of the Global Pilot Programme, in November 2020 at the margins of the 75th General Assembly, a proposal of "[Partnership in Action](#)" was launched to scale up the Global Pilot Programme on STI for SDGs Roadmaps.

In this context, the Permanent Mission of Ghana to the United Nations, in collaboration with Japan, UN-DESA, EC/JRC, UNESCO and UNECA, organized a High-level Dialogue on the Partnership in Action on Science, Technology and Innovation for SDGs Roadmaps at the margins of the High-Level Political Forum 2021 (HLPF 2021).

This event is built on the work of the UN Inter-Agency Task Team sub-working group on STI for SDGs Roadmaps co-led by UN-DESA, UNESCO, EC/JRC, the World Bank, and UNCTAD.

This event is supported by Ghana and is co-organized with Japan, UN-DESA, EC/JRC, UNESCO and ECA.

Objectives

The event aimed at discussing the path forward for the Partnership in Action, following the successful inception of the Global Pilot Programme on Science, Technology, and Innovation (STI) for the SDGs roadmaps.

The Partnership in Action is conceived as a multi-stakeholder, informal technical group to support the STI Roadmap work in the context of the Technology Facilitation Mechanism. Its aim is to create political momentum, drive practical solutions, and mobilize public and multi-stakeholder engagement.



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The Partnership in Action is proposed to scale up the work on STI for SDGs roadmaps and allow more countries to join the efforts in the development of Roadmaps. The demand to further promote the deployment of STI for SDGs roadmaps was triggered by the need to accelerate efforts to close the digital divide and support the digital inclusion of disadvantaged groups especially following the COVID-19 pandemic. The Partnership in Action will serve as a platform to strengthen the development and implementation of STI for SDGs roadmaps within the Global Pilot Programme and through which Roadmaps are currently being developed in six pilot countries (Ethiopia, Ghana, India, Kenya, Serbia, and Ukraine).

This initiative is based on interested champion countries who will provide guidance, share their experiences, further engage and support the work on STI for SDGs roadmaps, provide political support, endorse the Guidebook and share inputs for its refinement, as well as mobilize additional stakeholders and resources thus accelerating the translation of the political ambition and the preliminary findings of Roadmaps into policies and practical STI solutions.

The event is aligned with this year's theme of the High-Level Political Forum on sustainable development (HLPF) and builds on the outcome of the STI Forum 2021.

Summary

The event opened with the welcome remarks from **H.E. Mr. Harold Agyeman**, Ambassador and Permanent Representative, Permanent Mission of Ghana to the United Nations; **H. E. Mr. Mohammad Koba**, Ambassador, Charge d'Affaires of the Permanent Mission of the Republic of Indonesia to the United Nations, Co-Chair of the 2021 STI Forum; and **H.E. Ms. Marina Ivanovic**, Deputy Permanent Representative, Permanent Mission of the Republic of Serbia to UN.

Mr. Agyeman opened his intervention highlighting the relevance of the STI for the SDGs roadmaps as suitable instruments for SDGs implementation. Subsequently, he highlighted that the experience of many countries during the COVID-19 pandemic show that when pressed, latent STI capacity can be unleashed to address national challenges collaboratively. Nevertheless, COVID-19 regressed progress towards the 2030 Agenda for Sustainable Development in long-lasting ways, therefore traditional implementation support mechanisms need boosting. The speaker concluded with the expectation that this High-level Dialogue opens paths for Partnerships in Action. He stated that now, a window of opportunity opens to engage in partnerships for STI for the SDGs roadmaps and that any ambivalences would result in unrecoverable opportunity costs. Therefore, Mr. Agyeman encouraged other countries to embrace the roadmaps.

Mr. Koba mentioned that STI has been a lifeline during the pandemic, to stay connected, allow government and business to operate, and recover. STI is not a normative good; it has the potential to reduce inequalities while at the same time it may risk the opposite effect. Therefore, the speaker called for universal access to STI so its full potential can be reached and stressed that a multi-stakeholder approach is needed for the application of STI for the SDG. Unfortunately, science does not benefit everyone yet, hence mobilizing support for STI in developing countries needs to continue. International and multi-stakeholder cooperation is also needed to strengthen local capacities through policy learning, knowledge sharing, technological development and transfer, amongst others. Finally, Mr. Koba reaffirmed the crucial support of the UN system to scale up STI capacities and the importance of the Partnership in Action initiative for this purpose. Likewise, he stated that the 2021 STI forum noted the need for the Technology Facilitation Mechanism to further promote international cooperation in policy and capacity building. This established positive momentum and invites all to keep the ball rolling.



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Ms. Ivanovic stressed that STI capacity is a fundamental pillar for the achievement of the SDGs and that STI role was particularly visible during the pandemic. Serbian STI funds supported 26 projects that remain useful and applicable to Serbian society even after the crisis ends. The speaker also highlighted today's discussions as an outstanding opportunity to overview lessons learnt from the global pilot programme of STI for the SDGs roadmap. In this context, Serbia is ready to share its experiences in the framework of the pilot programme. With the collaboration of EC/JRC and UNIDO, Serbia developed the first Smart Specialisation Strategy Action Plan, adopted by the government in April 2020; which subsequently, became the first Serbian STI for SDGs roadmap. The pilot programme fostered the understanding of how the action plan can foster linkages with the Smart Specialisation Strategy, and how the roadmaps can facilitate the digital transformation of the country. In conclusion, Ms. Ivanovic commended the Partnership in Action initiative and stated that Serbia is proud to be recognized and proposed to co-lead together with Ghana the alliance of like-minded countries that will support the initiative. The alliance will provide strategic advice on how to move forward, steer partnerships and mobilize funds.

The opening session was followed by the keynote speech delivered by **Prof. Slavo Radosevic**, Professor of Industry and Innovation Studies, SSEES, University College London and **Dr Randolph Bruno**, on *Pathways for digital and green transition in view of structural transformation and [technological upgrading](#): the role of innovation in long-term sustainable growth*. The project has as main motivations:

- Science, technology and Innovation can accelerate progress towards the SDGs
- The faster route to the SDGs leads through Technology Upgrading of economies
- Technology upgrading increasingly includes digitalization but greening is also a new indispensable imperative

In this context, the research project proposes a conceptual and measurement framework, particularly relevant for low- and middle-income countries, since it goes beyond R&D based growth. Simultaneously the framework allows the analysis of digitalization and greening pathways. The measurement framework uses three main dimensions: i) Intensity of technology upgrading, represented by production and technology capability and R&D and Knowledge Intensity; ii) Breadth of technology upgrading, represented by Infrastructure and Structural upgrading, Firm's capabilities, digitalization and greening; and iii) Interaction with the global economy, represented by technology balance of payments, share of export in complex/high-tech industries, FDI and Export Product Complexity.

The main takeaways from the presentation are:

- Technology Upgrading presents a promising alternative metric for low- and middle-income economies which goes beyond R&D based growth.
- Digitalization is highly compatible with technology upgrading at low- and middle-income levels of development.
- The challenge of "Greening" and technology upgrading for middle-income countries is that current technology trajectories are still environmentally costly.
- The Global Challenges is the pursue of technology trajectory towards ICT-based Greening.

The project also presents five policy implications:

- STI policies for sustainable development should go beyond R&D driven growth; they should be transformative and include digitalization and greening.



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- Technology Upgrading for sustainable development has as key challenge the coordination of system or market failures, in other words, how to integrate currently disconnected policy areas.
- STI for SDGs Roadmaps are one such pathway to mobilize synergies across different policy areas and avoid negative trade-offs between competing goals.
- The challenge of weak institutional capacities for systemic policies especially in low- middle-income economies.
- Development paths should be country-specific and STI for SDGs roadmaps should reflect that. Global pilot countries present significant learning exercises.

The event continued with the presentation of key achievements on STI for SDGs Roadmaps from the perspective of key partners such as UN-DESA, UNESCO, UNECA and EC/JRC.

Mr. Wei Liu, on behalf of Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, Division for Sustainable Development Goals, UN-DESA, underlined the widespread acceptance of the vital role of STI on understanding, responding to, and recovering from the COVID-19 pandemic. At the same time, it is widely understood that there is no one-size-fits-all approach to apply STI for the SDGs. In this context, UN-DESA finds the STI for SDG Roadmaps encouraging; exploring new ways to work together, new partnerships and financing options. STI roadmapping enables a systematic holistic and integrated review of the possibilities to achieve the SDGs. UN-DESA has the privilege of coordinating this broad and effective partnership with UNESCO, EC/JRC, World Bank and UNCTAD. The speaker took the opportunity for congratulating the achievements under this partnership; two of these are the development of the guidebook for preparation of STI for SDG Roadmaps guidebook, and the rollout of the global pilot programme. He also recognized the UN Office of the Secretary-General's Envoy on Technology and highlighted the synergies between the STI for SDGs roadmaps and the implementation of the UN Secretary-General roadmap for digital cooperation. Concluding, Mr. Liu looks forwards to a broad range of partners to support the roadmaps initiative which is in a critical moment, with this support more developing countries could be supported.

Dr Peggy Oti-Boateng, Director, Division of Science Policy and Capacity- Building, UNESCO, started her intervention recalling that STI for SDG roadmaps was initiated by the Technology Facilitation Mechanism and became a strong instrument to harness STI and contribute to the implementation of the Agenda 2030 for Sustainable Development. In addition to the previously mentioned guidebook, the roadmaps working group has produced various associated background papers and operational notes, as well as policy briefs. Likewise, as part of the STI for SDGs roadmaps development process, the working group organized numerous expert groups meetings, workshops, side-events and other high-level forums. Dr Oti-Boateng highlighted that currently there are six pilot countries (Ethiopia, Ghana, India, Kenya, Serbia and Ukraine) with over additional 20 countries expressing interest to follow the roadmap development process. Our response to this request is the "Partnership in Action" on the STI for SDGs Roadmaps. UNESCO's contribution to Partnerships in Action initiative is centered on its standard-setting function, mainly through the use and integration into the roadmap process of standard instruments such as the Recommendation on Science and Scientific Researchers, the upcoming Recommendation on Ethics for Artificial Intelligence and Recommendation on Open Science, and the GO-SPIN Methodology (Global Observatory for STI Policy Instruments). Other contributions from UNESCO are its flagship reports, providing essential data to monitor and analyze STI systems. Examples of these reports are the UNESCO Science Report, the World Water Development Report, and Engineering for Sustainable Development report. To conclude, UNESCO commits to working with UN and international partners in STI for sustainable recovery and future resilience and is ready to support more countries that would join the programme, but also to accompany those who are in the implementation stage.



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Mr. Jean-Paul Adam, Director, Technology, Climate Change and Natural Resources Management, UNECA, commented that while Africa has been a disadvantage when responding to the pandemic, innovation came to the fore as an answer to the crisis. This situation, therefore, encourages the upscaling of the STI for the SDG roadmaps on the continent to truly transform development perspectives into truly green recovery. The speaker also saluted the coordinated partnership driving this programme, in particular the pilot countries. Mr. Adam conveyed three main messages from UNECA. First, the Africa STI Forum provides ongoing support for the implementation of STI policies and Strategies. The forum has catalyzed coordination in key issues such as AI and nanotechnology with the launch of a centre on AI in Congo Brazzaville; therefore the forum has strengthened the focus on technologies that allow building forward better. The second message is the focus on capacity building emphasizing policy decisions recommended by the Africa STI Forum and on initiatives that promote investments in capacity building from governments and the private sector. UNECA is actively supporting these developments through innovation boot camps for young people and the development of entrepreneurial universities in the continent. The final message calls for leveraging the African Digital Transformation Strategy approved in 2020, which provides an overarching direction for closing the digital divide. UNECA has supported this initiative with efforts towards the implementation of digital identity systems to ensure that no one is left behind, support digital services from governments and empowering citizens to move away from informality. Mr. Adam concluded, thanking all the partners and highlighted the support of the Department of Science and Innovation in South Africa for its support in the Africa STI Forums.

Mr. Alessandro Rainoldi, Head of Urban and Territorial Development Unit, Joint Research Centre, European Commission, started his intervention by convening that EC/JRC is pleased to be part of the IATT working group on STI for SDGs Roadmaps and to contribute to what is now a sound and structured package of tools and initiatives. The speaker highlighted that the Smart Specialisation approach has greatly benefited from the work undertaken with the IATT, in particular the activities undertaken within the Global Pilot Programme for the development of STI for SDGs Roadmaps. At the same time, the Smart Specialisation approach contributes to the roadmaps with a localization perspective, uncovering challenges and opportunities that are embedded within territories. In this sense, Mr. Rainoldi highlighted that the work of the IATT embodies co-creation; where different tools and methodologies from various partners join forces to facilitate harnessing STI for the SDGs. The EC/JRC has also started the development of a second-generation Smart Specialisation methodology with a great focus on sustainability and global challenges. In the framework of the Global Pilot Programme, the EC/JRC highly values the partnership with Serbia and Ukraine and fruitful cooperation with UNIDO. Concluding, the speaker stressed the need to scale up this programme to allow more countries to have clever, cutting-edge and realistic STI plans, building sustainable, equitable and just economies for the future. The EC/JRC is committed to continuing the support for the Partnership in Action and further development of the Global Pilot Programme.

The event continued with interventions from discussants representing ESCWA, ESCAP, FAO, UN Secretary-General's Envoy on Technology, World Bank and UNIDO.

Mr. Kareem Hassan, Executive Director of ESCWA Technology Centre, ESCWA, started his intervention highlighting the challenges the Arab region faces with lack of local skills and capacities in technology-related fields and limited efficiency of policies and enabling environment, as well as the impact of the COVID-19 pandemic. ESCWA emphasizes that there is no alternative to building strong foundations for STI to support the SDGs and to support the region's countries to develop their STI for the SDGs roadmaps. This task should not only be the role of the government or the UN, Arab communities need to take part as well. Mr. Hassan also commented that ESCWA, in collaboration with UNESCO and the University of Cambridge, established the first regional capacity-building platform on STI for the SDGs roadmaps and with the League of Arab States a regional network to mobilize resources for



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roadmapping. The speaker also highlighted the valuable cooperation with UN-DESA, ISESCO, UNCTAD, and other regional and international organizations, supporting the Regional Pilot Programme for STI for SDGs roadmaps. In this context, ESCWA looks forward to learning from the experiences of the countries participating in the global pilot programme and stresses the will to share the outcomes and experiences of ESCWA's regional programme. Mr. Hassan concluded by stressing that Partnership in Action is an opportunity to not reinvent the wheel by sharing experiences and learning from them.

Mr. Jonathan Wong, Chief of Technology and Innovation, ESCAP, highlighted the influence the STI for SDGs roadmaps programme is having on policymaking in the Asia-Pacific region, particularly regarding inclusivity, SDG orientation and multi-stakeholder participation. Mr. Wong presented an example of the case of Mongolia, where ESCAP supported putting inclusion is the heart of the country's Digital Strategy. In Cambodia, ESCAP supported the inclusion of not only economic objectives but also social and environmental objectives, during the development of the country's STI roadmap. In Indonesia, ESCAP is supporting an open policy dialogue for the development of the country's first digital skills strategy. Concluding, Mr. Wong commended partners supporting this initiative, especially the leadership of champion countries, which are providing success models on how to articulate development and implementation of STI policies to accelerate progress on the achievement of SDGs.

Mr. Selvaraju Ramasamy, Head, Research and Extension Unit, Office of Innovation, Food and Agriculture Organization of the United Nations (FAO), reaffirms FAO's belief that STI is a key enabler for the Agenda 2030 through the transformation to more efficient, inclusive, resilient and sustainable-agri-food systems for better production, better nutrition, a better environment, and a better life, leaving no one behind. The Partnership in Action initiative will serve as a key platform to support the development and implementation of STI for SDGs roadmaps that also incorporates the priorities to build sustainable and resilient agri-food systems and, therefore, scaling up efforts to strengthen the capacities of the agricultural innovation systems at the country level. FAO is keen to be part of the work of the IATT and the Global Pilot Programme on Science, Technology and Innovation for SDGs Roadmaps to support our members to better use STI for achieving SDGs, particularly by bringing agriculture and food security perspectives and building on the experiences and lessons from FAO's work on strengthening agricultural innovation systems through the Tropical Agriculture Platform partnership.

Ms. Yu Ping Chan, Senior Programme Management Officer, UN Secretary-General's Envoy on Technology, highlighted the contributions of various speakers emphasizing the importance of digitalization and digital technologies in the achievement of the SDGs and recovery from the COVID-19 pandemic, as well as the discovery of effective pathways for the international community to support digitalization and digital technologies. It is against this background, the Secretary-General put forward his Roadmap for Digital Cooperation in 2020, which lays out his vision for an open, free and secure digital future for all. The task of the Envoy on Technology Office is to coordinate the implementation of this roadmap. In this context, the Office is glad to contribute to the implementation of STI for SDG Roadmaps to promote the emphasis on harnessing the use of digital technologies for the benefit of all and the achievement of the SDGs. Other cooperation efforts are underway with the IATT such as the development of an AI Resource Guide and the exploration of possible uses of Open-Source Technologies. Concluding, Ms. Ping Chan welcomed further cooperation with all UN agencies and multi-stakeholder partners, including through a mapping of digital and technology initiators within the UN system, to promote synergies that ensure that digital technologies are part of efforts to achieve the SDGs.

Mr. Naoto Kanehira, Senior Strategy and Operations Officer, Office of the Vice President, Human Resources, World Bank Group, started his intervention by stressing the importance of evaluating multiple alternative technological pathways towards the SDGs as well as engaging with and mobilizing



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the private sector, civil society and broader local and global stakeholders. He also mentioned that this is the moment to applying lessons from the pilot countries, to further strengthen national STI systems and scaling up international STI partnerships and investments. The Partners in Action have never been timelier and more relevant in the recovery from the COVID-19 pandemic, combating climate change and pursuing green, resilient and inclusive development. Concluding, Mr. Kanehira, stated that the World Bank looks forward to exploring opportunities for further collaboration building on the achievements to date.

Mr. Fernando Santiago Rodriguez, Industrial Policy Officer, Research and Industrial Policy Advice Division, UNIDO, started his intervention celebrating the progress of the six pilot countries using STI for SDG roadmaps to connect national development strategies to the Agenda 2030 for sustainable development. UNIDO expresses its will to continue the cooperation with EC/JRC in supporting Serbia and Ukraine, as well as other joining countries. Mr. Santiago Rodriguez continued stating that through the Partnership in Action, UNIDO reaffirms its commitment to support capability building as required by Member States to achieve the SDGs. UNIDO is particularly interested in efforts towards achieving SDG 9, where the Member States have significant room for improvement. UNIDO is revamping its policy advisory services to assist the Member States to develop more inclusive and sustainable industrialization strategies and policies, including issues around digitalization and the greening of the economy. Support from the Government of Korea will help to better integrate STI and industrial development, leveraging on experiences from developing countries. Finally, stronger international collaboration is needed to succeed in securing STI and industrialization to contribute to more inclusive and sustainable development. UNIDO encourages participation in the collective development efforts undertaken by the Partnership in Action.

During the third panel, key partners shared their perspectives on the Partnership in Action on Science, Technology and Innovation for SDGs Roadmaps.

Ms. Maki Kawai, Director General of Institute for Molecular Science, National Institute of Natural Sciences, Japan; the Secretary-General member of the 10-Member Group for the TFM, started her intervention congratulating for the launch of the programme Partnership in Action. The new 10-Member Group fully supports this initiative. This vital partnership fosters multi-stakeholder collaboration and international STI cooperation to support investments in global public goods. Ms. Kawai highlighted the role of Partnership in Action to scale up the global pilot programme with the inclusion of Ukraine and highlighted that the programme is attractive and will grow further. To conclude, the speaker stressed that knowledge-based decision-making, in particular that founded on STI, is powerful when society faces difficulty. Evidence of this is the fascinating and successful development of the COVID-19 vaccine, as a result of partnerships between the multiple stakeholders embracing STI.

Ms. Yuliia Bezvershenko, Director General of the Directorate on Science and Innovation, Ministry of Education and Science of Ukraine, informed that Ukraine supported the Agenda 2030 for Sustainable Development, adapted 17 SDGs for countries specific contexts and established the national system for their monitoring and assessment. Additionally, the speaker reported that the government is conducting efforts to mainstream the SDGs across national and sectoral development strategies, including when determining and prioritizing areas of scientific research. In this context, the Government of Ukraine recognizes STI for the SDGs roadmaps as a key instrument to move forward towards comprehensive and effective achievements of SDGs while also taking into account the challenges uncovered by the COVID-19 pandemic. At the moment, Ukraine is creating a new set of STI priorities within the country through a multi-stakeholder approach and aligned with the SDGs. This initiative will provide an evidence-based foundation for the development of the roadmap. At the same time, the government aims at bridging the gap between certain development priorities and



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implementing at the regional level through Smart Specialisation strategies, and therefore take this multi-level approach into the work on the roadmaps. Concluding, Ms. Bezvershenko expected that Ukraine's experience will be useful for other countries and will inspire them to also join this programme.

Prof Dr Viktor Nedović, Director of Serbia Accelerating Innovation and Entrepreneurship Project – SAIGE, Ministry of Education, Science and Technological Development of Serbia, reported that Serbia adopted its STI for SDGs roadmap in April 2021 and started the implementation stage. The roadmap is based on the Smart Specialisation approach explored in collaboration with EC/JRC and UNIDO. The action plan is being adopted for the period 2021-22, the timeframe selected to enable a timely revision of the objectives and identified the measures in a continuous dialogue with all stakeholders included in the process. The government has allocated almost 18 billion Serbian Dinars for the period of two years and devised in the action plan a total of 43 policy measures. Prof Nedović, hope the case of Serbia serves as a learning experience for other countries willing to design their STI strategies to address sustainable and social challenges. He also emphasized the important role of STI for SDGs roadmaps in the achievement of the 2030 Agenda and the need to expand the global pilot programme. Therefore, Serbia welcomes the Partnership in Action and expresses willingness to co-lead the Alliance. Serbia also looks forward to partnering with the IATT and all other partner organizations to build up national capabilities to support the recovery from the COVID-19 pandemic and boost international knowledge and technology flows for the SDGs, as well as to broker international cooperation for the SDGs.

Prof Sachin Chaturvedi, Director General at RIS · Research and Information System for Developing Countries (RIS), India, reported that the Prime Minister of India has nominated Professor VijayRaghavan as Principle Scientific Adviser to lead the STI for SDG roadmap in India. With the support of UN-DESA, the country is implementing a multilayer approach to produce evidence about the needs in terms of indicative technology framework, assessment mechanisms and partnerships. India has shortlisted as broad policy areas SDG2, which is about nutrition; SDG 3, which is about health; SDG 6, which is about water and sanitation; and SDG7 about clean energy. Prof Chaturvedi also reaffirmed the importance of multi-stakeholder participation and highlighted India's willingness to connect with other pilot countries. Regarding the TFM, the speaker mentioned that partnership mechanisms have to consider the post-pandemic context, especially how the relevant technologies are made available, and how we can integrate access equity and inclusion into analytical frameworks. Vaccine production and supply is a key issue, particularly in relation to the identification of production capacities to strengthen in developing countries so that quick vaccination programmes are taken forward.

Prof Tom Peter Migun Ogada, Executive Director, African Centre for Technology Studies, Kenya, shared Kenya's experience developing their STI for SDG Roadmap from 2019 to 2020. The is being coordinated by the National Commission for Science and Technology and supported by the Department of Planning and the African Centre for Technology Studies. The roadmap is aligned with the current medium-term development agenda 2018-22 and focused on SDG2, which is related to Agriculture, Food Security and Nutrition. The roadmap process included a comprehensive analysis of gaps for SDG2, particularly focusing on SDG 2.3, which was later used to identify STI entry points and prioritize technologies, especially those contributing to post-harvest loss reduction and value addition. The speaker also highlighted that the experience acquired while working on SDG2 is used to help addressing COVID-19 pandemic issues and the implementation of the roadmap on education, and manufacturing. Prof Migun Ogada expressed Kenya's appreciation for the STI for SDGs roadmaps as a very powerful tool for implementing STI policies. In 2021, the country put in place a draft Science, Technology and Innovation policy, to which the roadmap exercise contributed. In this context, Kenya also appreciates the active involvement of stakeholders during the roadmap exercise, instrumental in realizing useful outcomes from this exercise. To conclude, Prof Migun Ogada mentioned that the



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implementation of the roadmap requires resources. Therefore, Kenya supports the initiative for catalyzing international partnerships to help bring on board several countries to participate in STI for SDG roadmaps. Kenya looks forward to collaborating with other pilot countries and sharing experience, both in the region in Africa but also globally.

Mr. Desta Abera Shanko, Director, Policy, Strategy and Future Planning Directorate in Ministry Innovation and Technology, Ethiopia, informed that Ethiopia is currently revising the national STI policy, with focus on job and wealth creation. The policy aims at integrating STI to further support the national economic agenda. Likewise, the country will introduce the national digitalization system, which builds on the STI policy revision. Mr. Abera Shanko continued reaffirming the importance of the global pilot programme on STI for SDG roadmaps. Ethiopia has developed 20 sectoral roadmaps leveraging the country's competitive advantage; however, Ethiopia recognized the need for support from international partnerships to further develop the STI for SDGs roadmap. Concluding, the speaker welcomed the establishment of Partnership in Action and reaffirmed Ethiopia commitment to the roadmaps initiative and highlighted the need for international partnerships with the UN to take this initiative forward.

Dr Wilhemina Quaye, Director, CSIR-Science and Technology Policy Research Institute, Ghana, started her intervention appreciating the support from UNESCO and the Ministry of Environment, Science, Technology and Innovation for their support in developing the country's STI for SDGs Roadmap. The speaker highlighted that Ghana is on the implementation stage of the roadmap. The following are the areas of importance: resilient agriculture through research on improved crop varieties to increase our yields; value addition through emerging technologies; and improving access to quality health through STI, especially STI contribution on the response to COVID-19, with STI looking at E infrastructure, public health and emergency response; amongst others. In this context, the roadmap lays out all the activities that Ghana wants to embark on and ensures alignment with the national development strategy, as well as coherence with governance initiatives already implemented in the country. Dr Quaye also stressed that the roadmap is also a stage for resource mobilization; therefore, Ghana welcomes the Partnership in Action initiative and invites the Development Cooperation community to support Ghana's resource mobilization efforts. Concluding, the speaker stressed that the roadmaps look into strengthening the home-grown solutions and ensuring that the county is ready for the adoption of emerging technologies that are not yet present in the country.

The event continued with interventions from discussants representing Tunisia, Mexico, South Africa and the African Union.

Prof Samia Charfi Kaddour, General Director of Scientific Research, Ministry of Higher Education and Scientific Research, Tunisia, informed that Tunisia set up a National Research system with a large number of research laboratories financially supported. Likewise, after a large consultation, the government defined national priorities for scientific research, which are really completely aligned to SDGs. Today, Tunisia focuses on enhancing knowledge sharing and technology transfer from research to society to achieve a digital and green transition that improves the lives of our society and reaches sustainable development. The speaker continued mentioning that the Tunisian Ministry of Higher Education and Scientific research is aware of the importance of joining the global pilot programme on STI for the SDGs roadmaps; therefore, Tunisia is working on the expression of its interest to join the pilot countries. In this context, Tunisia opted for the Smart Specialisation methodology and in line with guidebooks elaborated by the IATT and EC/JRC, to whom the speaker expresses gratitude for their support for Tunisia becoming the first country from the African and Arab region that has adopted this methodology. To conclude, Prof Charfi Kaddour welcomed the establishment of the Partnership in Action, which will support the work on STI for SDG roadmaps.



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Ms. Gloria Marmolejo, Vice-president for R&D&I, Agri-food Councils of Mexico; State Council for Science and Technology, Colima State, Mexico, reported that Mexico adopted the Smart Specialisation Strategy that defines STI as an engine of development in the country's territories and today it is focused on sustainable development. The strategy is implemented under the leadership of the productive sectors and regional governments. The strategy identified three development pillars, governance, infrastructure and innovation ecosystems; and four transversal axes, digitalization, social and transformative innovation, sustainability and communications. In the agri-food sector, Mexico is promoting the change of mindsets by applying the three pillars, creating and promoting programmes for the transversal axis, such as agriculture innovation centers in a few states of Mexico, experimental development of resilient crops as well as programmes for science popularization amongst kids. Ms. Marmolejo concluded by stating that knowledge is the basis of the Sustainable Development of the territories. Therefore, we must invest in STI with a roadmap.

Dr Dumisani Mthembu, Senior Specialist, Multilateral Environmental Agreements, Department of Science and Innovation, South Africa, recalls South Africa's transformation journey on STI can be traced back to 1996 when the country adopted the white paper on science and technology. Thereafter, between 1996 and 2019, the country went through a number of transformative endeavours from the STI perspective. Today, South Africa's national system of innovation has made significant progress, expanding the STI institutional landscape, and policy and regulatory environment and has adopted a new white paper on science, technology and innovation that was developed to respond to broad issues that South Africa is facing. South Africa also developed a national development plan, which is being implemented in three phases. During the current second phase, the country is undertaking efforts to lay foundations for more intensive improvements in the innovation sector, across government, state and business. Dr Mthembu continued stressing that the Department of Science and Innovation, is particularly interested in the Partnership in Action programme to explore how countries like South Africa can be assisted as they participate in the next wave of countries to join the pilot programme. With all the institutional framework in place, South Africa sees the STI for SDG roadmaps as a mechanism that can be used effectively to rally the National System of Innovation and help governments to respond to the SDGs. Concluding, the speaker reaffirms that South Africa looks forward to learning from the experiences of other countries as the country embarks on this journey.

Mr. Hambani Masheleni, Head of STI Division, African Union, stated that the SDG roadmaps are creating a conducive environment towards the establishment of global partnerships that enable the achievement of the SDGs through shared responsibility. The AU reaffirms that north-south, south-south and regional collaboration are essential to delivering upon the SDGs. Therefore, it is necessary to utilize the diversity, capacities and expertise within us as partners. The speaker stated that the AU is glad to have Member States participating in the STI roadmaps and reaffirmed the commitment to mobilize more countries to come on board and to create opportunities to raise the visibility of the STI for SDG roadmaps within the African continent. To conclude, Mr. Masheleni encouraged intra-Africa collaboration for the roadmaps and highlighted the power of Science Diplomacy, to jointly address global challenges such as the COVID-19 pandemic.

The moderator, **Mr. José Ramón López-Portillo Romano**, Chairman, Q Element Ltd., the Secretary General member of the 10-Member Group for the TFM, Mexico, closed the panel discussion stating **that** in a world of accelerating technological change and global challenges, no country will overcome existential risks, if others are excluded from the effective implementation of STI roadmaps towards the SDGs. He stressed that developing good STI roadmaps is resource intensive and takes time. Internationally, there is a lot of expertise available on how to construct a good road map, although it is not available where it is needed. Therefore, the speaker praised the IATT commenting that, despite very limited resources, its work provided a crucial support to cover this vital need. Mr. López-Portillo Romano, continued by stating that these efforts are not enough and the UN is underfunded to be able



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to find or reallocate resources towards this initiative. This is why establishing new partnerships is a creative way to delivering on the ground and raise new funds. Active partnership with government representatives and other stakeholders should lead to establishing an alliance to support the Partnership in Action of STI for SDG roadmapping group in New York through advice and fundraising. Finally, the speaker called for new forms of fundraising, tapping on opportunities provided by the willingness of many organizations and people who are prepared to contribute to the work of the UN, particularly towards the implementation of the SDGs.

Finally, the closing remarks are delivered by **H.E. Mr. Andrejs Pildegovičs**, Ambassador and Permanent Representative of Latvia to the United Nations, Co-Chair of the 2021 STI Forum, **H.E. Mr. Kimihiro Ishikane**, Ambassador and Permanent Representative of Japan to the United Nations; **H.E. Mr. Silvio Gonzato**, Ambassador, Deputy Head of Delegation of the European Union to the United Nations; **Mrs. Cynthia Asare-Bediako**, Chief Director, Ministry of Environment, Science, Technology and Innovation, Ghana; and **H.E. Mr. Harold Agyeman**, Ambassador and Permanent Representative, Permanent Mission of Ghana.

Mr. Andrejs Pildegovičs expressed that STI for SDGs Roadmaps and the Global Pilot Programme represent tangible results of STI Forums and the work undertaken in the context of the TFM. The Partnership in Action initiative is a welcome for scaling up and promoting this work. He thanked pilot countries, champions and interested countries for sharing their experience. Mr Pildegovičs emphasized the importance of promoting multi-stakeholder partnerships and stakeholder engagement in all stages of STI for SDGs Roadmap development and implementation, yet stakeholder participations is reported as one the challenges. He encouraged continuing exchanging best practices for incentivizing multi-stakeholder engagement. Mr. Pildegovičs highlighted the role STI in addressing COVID-19 pandemic and other global challenges. Common commitment to 2030 Agenda and SDGs, and extensive guidance developed through the SDGs for STI Roadmaps provide the groundwork for successful international cooperation. He concluded by thanking organizers and participants of the high-level dialogue.

Mr. Kimihiro Ishikane started his intervention by highlighting that pilot countries are using STI roadmaps as a key strategic policy intelligence tool involving the highest level of government to identify gaps in the technology market, R&D needs and STI capabilities. Japan is particularly honored to be able to support the important work of the global pilot programme and supporting the work of the UN technology facilitation mechanism. During this session, speakers have demonstrated conviction on the contribution of the roadmaps for interdisciplinary and collaborative work across silos and among all STI stakeholders, as well as on aligning the national STI agenda with SDGs. On the other hand, there are several common challenges drawn by pilot countries experiences, including the participation of varied stakeholders, the development of technology for the SDGs, lack of data, and funding to develop and, more importantly, implement STI roadmaps. In this context, Mr. Ishikane proposed three concrete steps forward. First, encourage colleagues from the pilot countries to find effective linkages between STI for SDGs roadmaps and their national action plans as well as bilateral and multilateral development aid effort. Secondly, develop and implement investment cases for the prioritized SDGs identified in the roadmap with special attention to inclusiveness and empowerment of people being left behind. Finally, pursue the mobilization of markets as well as investment and finance by the private sector, research institutions and other STI stakeholders. In conclusion, Japan calls for greater recognition of the transformative power of STI and support for the Partnership in Action. Japan will seek an alliance with IATT, Member States and STI stakeholders to sharpen our vision and to contribute to the global efforts to build back better from COVID-19.

Mr. Silvio Gonzato underlined the need to scale up the efforts and open the global pilot programme to more countries. This is a timely effort needed to develop and operationalize knowledge-based



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pathways towards sustainable recovery, which is top of the Global Agenda these days. To achieve this more countries need to join efforts. In this context, the speaker believes that the Partnership in Action, supported by the alliance of like-minded countries, will play a key role in steering donors and in mobilizing resources. Mr. Gonzato recognized the appreciation from various countries to the work of the EC/JRC supporting these initiatives and reaffirmed the EU willingness to join the alliance and support Partnership in Action to keep working together with all of you on scaling up our efforts to scale up the STI for SDG roadmaps initiative.

Mrs. Cynthia Asare-Bediako, opened the floor expressing agreement with previous speakers on the need to mobilize extra resources through partnerships in favor of STI ecosystems. The COVID-19 is a wake-up call for all countries to support this mobilization. Ghana is already at the implementation phase of the STI for SDG roadmaps and acknowledges that closing that technology and innovation gaps in the developing world cannot just be handled by anyone particular country. Therefore, Partnership in Action demands the responsibilities of all stakeholders in the STI ecosystems, including public-private partnership at different scales and levels of governance and the youth developing innovative concepts, amongst others. Ms. Asare-Bediako also encouraged and invited development partners to consider Ghana's STI for SDG framework and cooperate with Ghana, and all like-minded STI for SDG partners in moving this agenda forward. The speaker concluded her intervention by congratulating everybody who has participated in this process.

Mr. Harold Agyeman thanked all panelists and all the contributors for the wonderful and extensive insights during today's discussion. He echoed the ideas shared by the Deputy Permanent Representative from Serbia, that Ghana and Serbia are taking the lead in establishing a multi-stakeholder Technology Facilitation Mechanism Alliance to support the Partnership in Action of STI for SDGs Roadmaps. All partners are invited to join. The speaker also calls to strengthen the global Secretariat and country teams that provide support at the country level. Mr. Agyeman concluded by stressing the need to explore new forms of fundraising, to further strengthen and broaden opportunities.

Participation

The virtual event was attended by **135 participants**, including speakers and audience. Participants were representatives of countries and organizations working on STI for SDGs.

Annex I: Programme

PROGRAMME	
7:30-7:40am EST (10 minutes)	Moderator Prof Elmer William Jr Colglazier , Senior Scholar, Visiting Scientist, Center for Science Diplomacy, American Association for the Advancement of Science, former co-chair of the 10 Member Group to support the TFM Welcome and opening remarks (2-3 minutes each)



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	<p>H.E. Mr. Harold Agyeman, Ambassador and Permanent Representative, Permanent Mission of Ghana to the United Nations</p> <p>H. E. Mr. Mohammad Koba, Ambassador, Charge d’Affaires of the Permanent Mission of the Republic of Indonesia to the United Nations, Co-Chair of the 2021 STI Forum</p> <p>H.E. Ms. Marina Ivanovic, Deputy Permanent Representative, Permanent Mission of Republic of Serbia to UN</p>
7:40-7:50am EST (10 minutes)	<p>Keynote speech (7-8 minutes for both speakers; 2-3 minutes for moderator): <i>Pathways for digital and green transition in view of structural transformation and technological upgrading: the role of innovation in long-term sustainable growth</i></p> <p>Prof Slavo Radosevic, Professor of Industry and Innovation Studies, SSEES, University College London</p> <p>Dr Randolph Bruno, Associate Professor in Economics, SSEES, University College London</p>
7:50-8:15 am EST (25 minutes)	<p>Moderator:</p> <p>Ms. Quarraisha Abdool Karim, Associate Scientific Director of CAPRISA; Professor in Clinical Epidemiology, Columbia University, New York, Pro-Vice Chancellor for African Health, University of KwaZulu-Natal, South Africa, co-chair of the 10-Member Group to support the TFM</p> <p>Information session – main achievements on STI for SDGs Roadmaps from perspectives of key partners</p> <p><i>Panelists (key achievements - 3 minutes max each):</i></p> <p>Mr. Wei Liu, Coordinator, UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs (IATT), Division for Sustainable Development Goals, UN DESA</p> <p>Dr Peggy Oti-Boateng, Director, Division of Science Policy and Capacity- Building, UNESCO</p> <p>Mr. Jean-Paul Adam, Director, Technology, Climate Change and Natural Resources Management, UNECA</p> <p>Mr. Alessandro Rainoldi, Head of Urban and Territorial Development Unit, Joint Research Centre, European Commission</p>



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	<p>Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, Division for Sustainable Development Goals, DESA (tbc)</p> <p><i>Discussants (key messages in 1-2 minutes):</i></p> <p>Mr. Kareem Hassan, Executive Director of ESCWA Technology Centre, ESCWA</p> <p>Mr. Jonathan Wong, Chief of Technology and Innovation, Trade, Investment and Innovation Division, ESCAP</p> <p>Mr. Selvaraju Ramasamy, Head, Research and Extension Unit, Office of Innovation, Food and Agriculture Organization of the United Nations (FAO)</p> <p>Ms. Yu Ping Chan, Senior Programme Management Officer, UN Secretary-General's Envoy on Technology</p> <p>Mr. Naoto Kanehira, Senior Strategy and Operations Officer, Office of the Vice President, Human Resources, World Bank Group</p> <p>Mr. Fernando Santiago Rodriguez, Industrial Policy Officer, Research and Industrial Policy Advice Division, UNIDO</p> <p>Q&A session with the public (through chat box of virtual conference room)</p>
8:15-8:47 am EST (32minutes)	<p>Moderator:</p> <p>Mr. José Ramón López-Portillo Romano, Chairman, Q Element Ltd., the Secretary General member of the 10-Member Group for the TFM, Mexico</p> <p>Partnership in Action on Science, Technology and Innovation for SDGs Roadmaps - comments from perspectives of key partners</p> <p><i>Panelists (key achievements - 3 minutes max each):</i></p> <p>Ms. Maki Kawai, Director General of Institute for Molecular Science, National Institute of Natural Sciences, Japan; the Secretary General member of the 10-Member Group for the TFM</p> <p>Ms. Yuliia Bezvershenko, Director General of the Directorate on Science and Innovation, Ministry of Education and Science of Ukraine</p> <p>Mr. Desta Abera Shanko, Director, Policy, Strategy and Future Planning Directorate in Ministry Innovation and Technology, Ethiopia</p> <p>Prof Dr Viktor Nedović, Director of Serbia Accelerating Innovation and Entrepreneurship Project – SAIGE, Ministry of Education, Science and Technological Development of Serbia</p> <p>Dr Wilhemina Quaye, Director, CSIR-Science and Technology Policy Research Institute, Ghana</p>



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	<p>Prof. Sachin Chaturvedi, Director General at RIS · Research and Information System for Developing Countries (RIS), India</p> <p>Prof. Tom Peter Migun Ogada, Executive Director, African Centre for Technology Studies, Kenya</p> <p><i>Discussants (1-2 minutes)</i></p> <p>Mr. Hambani Masheleni, Head of STI Division, African Union</p> <p>Prof. Samia Charfi Kaddour, General Director of Scientific Research, Ministry of Higher Education and Scientific Research, Tunisia</p> <p>Ms. Gloria Marmolejo, Vice-president for R&D&I, Agri-food Councils of Mexico; State Council for Science and Technology, Colima State, Mexico</p> <p>Dr Dumisani Mthembu, Senior Specialist, Multilateral Environmental Agreements, Department of Science and Innovation, South Africa</p> <p>Q&A session with the public (through chat box of virtual conference room)</p>
8:47-9:00am EST (12 minutes)	<p><i>Closing remarks (3 minutes each)</i></p> <p>H.E. Mr. Andrejs Pildegovičs, Ambassador and Permanent Representative of Latvia to the United Nations, Co-Chair of the 2021 STI Forum</p> <p>H.E. Mr. Kimihiro ISHIKANE, Ambassador and Permanent Representative of Japan to the United Nations</p> <p>H.E. Mr. Silvio Gonzato, Ambassador, Deputy Head of Delegation of the European Union to the United Nations</p> <p>Mrs. Cynthia Asare-Bediako, Chief Director, Ministry of Environment, Science, Technology and Innovation, Ghana</p> <p>H.E. Mr. Harold Agyeman, Ambassador and Permanent Representative, Permanent Mission of Ghana to the United Nations</p>