



**United Nations – MoST Joint Capacity Building Workshop on
Science, Technology and Innovation for Sustainable Development Goals
UN DESA, MOST China
and UNESCAP**

December 9 – 17, 2019, Guilin, Guangxi Province, China

Workshop Report



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Summary

In 2015, the United Nations Development Summit adopted the 2030 Agenda for Sustainable Development and set 169 Sustainable Development Goals (SDGs) in 17 major areas such as poverty reduction, health, education and environmental protection. The implementation of the 2030 Sustainable Development Agenda is the common subject of current international development cooperation and the common responsibility of the international community. All countries, developed and developing alike, responded positively to the implementation of the SDGs and accepted them as integrated, indivisible, global in nature and universally applicable.

To help the international community achieve the SDGs, the Division for Sustainable Development Goals (DSDG) in UN-DESA is implementing a project for “Mobilizing Science, Technology and Innovation in Developing Countries for the SDGs” funded from the “2030 Agenda Sub-Fund of the UN Peace and Development Trust Fund” contributed by the Government of China. DSDG has already carried out several initiatives in tandem to the initiation of this project. As a milestone of institutional cooperation, UN DESA and the Ministry of Science and Technology (MOST) of China both signed a Memorandum of Understanding in December 2017.

United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) has also been working with member States in the Asia-Pacific region to develop STI policies for the SDGs with a focus on ensuring such policies are inclusive and “leave no one behind”. In addition, ESCAP has published several reports and policy frameworks to advance STI policy for the SDGs and has delivered capacity-building activities to policymakers in the region.

Based on the collaboration framework, DSDG together with MOST and ESCAP, in collaboration with WIPO and other UN IATT colleagues, is preparing this STI training course jointly funded by all three partners to kick off the multi-year capacity building programme in December 2019.

Sessions were designed to address various aspects of science, technology and innovation for sustainable development. The 2019 Global Sustainable Development Report (GSDR) provided a useful framework for many of the discussions, and the six entry points identified in the report—human wellbeing, sustainable economies, food and nutrition, energy decarbonization and access, urban and peri-urban development and the global environmental commons—represent systems where interventions including through science, technology and innovation (STI) can drive sustainable development transformations. The workshop has demonstrated multi-stakeholder

joint efforts which brought financial contributions from five main sources: DESA, UN-ESCAP, MoST and Guilin Government, European Commission and WIPO to travel participants and other related supports.

The outcomes of the nine-day meetings were regarded as very positive by both UN invited participants and experts from China. The meeting documents are available online and follow-up actions are under way. DESA and ESCAP will continue engaging with key stakeholders identified during the meeting for their contributions to further strengthening STI capacities, advancing the development of STI roadmaps and the online platform and off-line technology facilitation. DESA and MoST will follow up with partners on strengthening international cooperation on STI for the SDGs, through partnerships established during the workshop.



Session 1: Introduction of Global Sustainable Development Report (GSDR) – new global map for sustainable development

Moderator:

- Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP

Speakers:

- Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, DSDG, UN DESA
- Ms. Eun Mee Kim, Professor and Dean at the Graduate School of International Studies, the Director of the Institute for Development and Human Security (IDHS) and the Director of the Ewha Global Health Institute for Girls (GHIG) at Ewha Womans University, Seoul, Korea), Republic of Korea



Key messages

The GSDR identifies six entry points—systems where interventions by government, businesses, civil society and the science community can transform society and accelerate progress toward achieving the 2030 Agenda. In each of these entry points (human wellbeing, sustainable economies, food and nutrition, energy decarbonization and access, urban and peri-urban development and the global environmental commons), all actors can look to science, technology and innovation (STI) as an important toolbox for making the needed transformations. Science itself needs to adapt to the imperatives of sustainable development, with increased emphasis on sustainability science and significantly scaled up investment in science, research and development in the Global South. Home-grown capacity should be further developed and measures taken to minimize “brain drain”—steps to advance this range from removing pay walls for journal and research access to apportioning some ODA to science and higher education (which too often is now seen as a luxury) to building and

strengthening science and research institutions in the developing countries. In addition, high-quality disaggregated data is needed in all regions of the world and is critical to ensure that solutions are context specific.

The Report emphasizes that bold political will and fast action are urgently needed, particularly to address “tipping point” challenges where allowing business as usual to continue will lead to irreversible damage, including inequality, climate change and biodiversity loss. In addition, after years of good forward motion, progress toward the last mile of MDG implementation has slowed—in addressing poverty, hunger, education and maternal mortality. To make real progress in these areas, and simultaneous progress in SDG 13, 14, 15, policy makers and other stakeholders need to address synergies and tradeoffs among Goals in a clear-eyed and holistic manner, ensuring that no one is left behind and that national and local actions add up. Where the tradeoffs are particularly difficult, technology and innovation can help to bridge the gap.

In order to make genuine progress, countries must take a whole-of-government and whole-of-society approach, engaging with the media (including social media) as a powerful ally and prioritizing the needs of vulnerable groups including persons with disabilities, indigenous communities, women and others. In this regard, the GSDR is a global report but it also provides a template for making similar analyses at regional and national levels. Governments have recognized it for providing guidance on how to work across silos, and to connect policies from different sectors (e.g. Morocco’s approach to ending fossil fuel subsidies, which involved provided cash rebates to those communities most harmed by the roll back.)

Session 2: Science and technology eco-system development and innovation – A China Case Study

Moderator:

- Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP

Speaker:

- Professor Zhang Jiutian, Executive Director, Green Development Institute of Beijing Normal University

Key messages

- The rapid economic development of China over the past several decades had mainly been driven by a large amount of capital and labour. However, the

rising labour costs meant the new source of development and improvement of productivity should come from technology and innovation.

- Technology and innovation would provide solutions to social and environmental challenges.
- Innovation development is a complex and dynamic process of collaborative evolution of technology and institution.
- Many strategy and initiatives have been taken in China to build a national innovation ecosystem. For instance, in 2016, China issued the National Innovation Driven Development Strategy Outline. China places emphasis on institutional coordination to identify the important projects on innovation and implement these projects. China introduced various policies to promote financing for developing science and technology.

Session 3: Building innovation eco-system through mapping STI activities and multi-stakeholder engagement

Moderator:

- Mr. Wei Liu, Coordinator, UN Inter-Agency Task Team on Science, Technology and Innovation for the SDGs, UN DESA

Speakers:

- Mr. Has Bunton, Secretary General, National Science and Technology Council, Ministry of Planning, Cambodia
- Ms. Monika Matusiak, Senior Policy Officer, European Commission, Joint Research Centre, Seville, Spain
- Mr. Tian Feng (Ben), Dean of Intelligent Industry Research Institute, SenseTime, China



Key messages

STI strategies, policies and initiatives will be effective only if they are inclusive, context-specific and fully integrated with the broader development policy framework. The United Nations Technology Facilitation Mechanism, for instance, was designed to support and complement the 2030 Agenda, bringing technology and innovation solutions to sustainable development challenges. At the national level, the STI ecosystem includes government, academia, business need to be actively engaged, and while scientists need space and freedom for innovation, it is also important to bring find opportunities where the science can link to policy and business to advance national priorities.

There are many challenges inherent in STI policy development and research and development (R and D) investment—the timeframe is long and there is always the risk that innovation will not succeed. This can discourage investment in countries with limited resources that need to answer to the tax payers and voters. In addition, the various stakeholders—ministries, private sector and others—needed to implement STI initiatives and policies will not always see eye to eye and can have different motivations.

Addressing these challenges will entail mapping out a clear STI strategy with a strong coordinating body, bringing in the expertise of international organizations and other development partners as needed, and ensuring that long-term funding is specifically earmarked to STI development. “Smart specialization,” a strategic approach that lets countries identify and build on local strengths can also help. In addition to identifying strengths, it is important to prioritize societal needs—to move beyond what is technically possible into what is socially needed and where the demand is. Monitoring and evaluation should be built into all initiatives.

Cross-cutting support or “innovation infrastructure” should include not only science and technology parks but also capacity building, education, technology transfer and strong collaboration networks. It is important to remember that innovation goes beyond technology to include business and managerial innovation, social innovation, and others. “Don’t invest in buildings but in people,” and ensure that the investment in people should cover not only science and technology skills but also “softer” skills like collaboration and communication.

Technologies like artificial intelligence (AI) can also underpin innovation for sustainable development, providing cross-cutting innovation infrastructure. In order for this to help developing countries, there must be more engineers and programmers, more education to get these people in the pipeline, more monitors and sensors in agriculture, and a 5G network. All AI efforts should include attention to the impact on livelihoods.

Countries at different levels of development will have different needs, acknowledging that no one is starting from zero. All have strengths that can be capitalized on. It is important to shape support and strategies according to the national and regional context and to integrate into existing regional frameworks (e.g. Africa's 2063 Agenda). Policies should include specific efforts to localize STI activities including at the sub-national level throughout a country—otherwise all the progress will be in large cities.

Session 4: Institutions and infrastructure enabling environment – an application in science and technology park development

Moderator:

- Mr. Tengfei Wang, Economic Affairs Officer, ESCAP

Speakers:

- Ms. Watcharin Witthayaweerasak, General Manager, Thai Business Incubators and Science Park Association, Thailand
- Mr. Ivan Bogdanov, Head of the Industrial Partnership Office, Skolkovo Institute of Science and Technology (Skoltech), Russian Federation

Key messages

Experience of development of science and technology parks in Thailand

- Thailand Science Park is the first science park established in Thailand. Later on, more science parks have been established in different parts of the country.
- Currently, the development of science parks is anchored with Eastern Economic Corridor.
- Thai Business Incubators and Science Park Association played an important role in leveraging capabilities of Thai business incubators and science parks community in the national innovation ecosystem and connecting with local and international partners through strategic collaboration.

Experience of development of science and technology parks in the Russian Federation

- Development of science and technology parks in the Russian Federation started in the early 1990s. A few sciences and tech parks include: the MIET technopark developed by the Moscow Institute of Electronic Technology in

Zelenograd in 1991, the Science Park of Moscow State University in 1992, the Technopark in Moskvorechye developed by the Moscow Engineering Physics Institute in 1993 and the technopark developed by Kurchatov Institute in 1998.

- Since 2006, the country has been implementing a comprehensive Complex program "The establishment of technology parks in the Russian Federation in the field of high technologies" which has greatly stimulated the rapid development of science and technology parks in the country.
- Development of technoparks in Russian Federation highlights a few important roles government can play including 1) setting standards. For example, in 2018, the country's legislation defined the terms "Industrial Technopark" and "Technological Infrastructure; 2) providing basic infrastructure of the technoparks; and 3) facilitating collaboration with international experts.

The publication titled "Establishing Science and Technology Parks: A Reference Guidebook for Policymakers in Asia and the Pacific" prepared by ESCAP.

- While acknowledging that establishment of science and tech parks could be a useful way to promote the development of STI, if the precursory conditions are not in place, a science and technology park could turn into a white elephant project.
- Before a science and technology park is developed, it is essential to check whether the pre-conditions are in place. These key precursor conditions are: 1). The key tenants or the anchor tenants — such as national research institutes — are committed to staying in the science and technology park; 2) A management team with all the skills necessary for managing the science and technology park can be identified and assembled; 3) A strong science base in the surrounding areas of the science and technology park is already available; 4) The city or area where a science and technology park will be built is attractive to talented researchers and entrepreneurs; 5) An entrepreneurial culture is available in the city or country where a science and technology park will be built; and 6) Finance, especially seed and venture capital, is available in the city or country where a science and technology park will be built.

Session 5(1): Human capacity-building: STI and entrepreneurship promoting policies and practices

Moderator:

- Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, DSDG, UN DESA

Panelists:

- Dr. Chaiyatorn Limapornvanich, Innovation Strategy Manager, National Innovation Agency, Thailand
- Dr. Thazin Han, Director, Department of Research and Innovation, Ministry of Education, Myanmar

Key messages:

Session 5(1) focused on government policies that promote and support both STI human capacity-building and entrepreneurship development. Panellists discussed challenges faced in human capacity building, especially in developing countries, shared their national experiences in policy making and institutional construction and gave recommendations to other developing countries.

Challenges in human capacity building

In terms of the current situation, challenges in human capacity building include more and more automation in various industries, economies shifting towards emerging markets and growing disconnection between employer demands and skill sets from universities and traditional work experiences.

Regarding the role played by governments in developing countries, the speaker pointed out that low government budgets allocated to R&D and STI, weak encouragement for innovation/applied research and insufficient technology transfer practices are key challenges.

Government policies to promote STI human capacity-building in developing countries

Speakers suggested government should play more prominent roles in promoting STI: inspiring new generation, embracing diversity, leveraging advancement and directing new frontiers.

During the whole process of innovation, it changes from research driven to market driven. STI policy should connect the supply side and demand side.

Speakers shared their understanding on the roles played by universities, intermediaries and infrastructure in innovation development.

A comprehensive and powerful institutional mechanism is fundamental to make and implement STI policies in developing countries.

Recommendations on STI human capacity-building in developing countries

Introducing vocational education in universities and encouraging entrepreneurship are good methods to attract the younger generation into the STI system.

To improve efficiency and resolve funding problems, departments should collaborate or integrate more with each other.

Promoting communication between higher education institutions and the private sector can largely avoid the waste of innovation resources and more effectively promote the commercialization of scientific innovations.

Session 5(2): Human capacity building: Engaging women in STI

Moderator:

- Ms. Marta Pérez Cusó, Economic Affairs Officer, ESCAP

Panelists:

- Mr. Anthony C. Sales, Regional Director, Department of Science and Technology, The Philippines
- Dr. Araba Sey, Principal Research Fellow / Head of Research, UN University Institute in Macau, China
- Dr. Caitlin Bentley, Research Fellow, the 3A Institute, Australian National University, Australia

Key Messages:

There are two general reasons for including gender considerations in STI policy design and implementation. First, because it is the right thing to do. If we are to achieve the SDGs by 2030 and STI are a key means for achieving it, we cannot not include women in the decisions related to STI. The second reason is because it makes economic sense.

Data and research clearly indicate substantive gender disparities in STI and in the broader socio-economic conditions (e.g. cultural norms) that affect the opportunities and choices available for women to participate in and benefit from STI. These disparities are not related to a country's level of development. In Asia and the Pacific, the Republic of Korea and Japan have some of the lowest proportions of female researchers, 18 and 15 per cent, respectively, while Malaysia, the Philippines and Thailand have all achieved gender parity. The gender gaps are sector specific; for example, men are underrepresented in health while women are strongly underrepresented in engineering and in ICT.

Gender gaps manifest in terms of access to technology and STEM education. For instance, only three in 10 computer sciences or engineering students are women. Moreover, such gaps increase as women pursue careers in STI fields (e.g. women make up very small proportions of ICT professionals, where median levels are below 34 per cent for most regions), or take leadership positions (e.g. worldwide, only 28 countries (13 per cent) have a woman in charge of an ICT ministry). These gender gaps will be further exacerbated, and will probably look different, with future technologies. For example, in the AI industry women participation is below 30%.

The promotion of gender considerations in STI must be context specific and target specific manifestations. There are a range of options available to design and

implement more gender inclusive STI policies, strategies and programmes. Many of these options are not new, and to close gender gaps in STI, we need to address not only the symptoms but also causes, that is, the social norms and practices that underly gender inequality. The Magna Carta of Women of the Philippines provides the underlying conditions for gender-responsive STI policies as it has instituted gender responsiveness of national development plans, and supports continuing advocacy to promote economic, social and political empowerment of women. In the area of STI, it has a number of initiatives to recognize women in STI, it has gender-responsive programs and projects, and encourages STI organisations to progressively mainstream gender through levels of increasing ambition.

Greater responsiveness to gender inequalities in STI requires not only the availability of sex-disaggregated data on STI inputs, activities and outcomes, but also context-specific research that brings into light the specific challenges that women face to access STI education, benefit from science and technology or lead productive careers and take leadership roles in STI fields. It also requires greater understanding among scientists, technology designers and innovation leaders of the gender implications of research programmes, technological systems and innovation activities.

Session 6: Financing Science, Technology and Innovation

Moderator:

- Mr. Wei Liu, Coordinator, UN Inter-agency Task Team on STI for the SDG, Co-lead of the STI Roadmap Sub-working Group, DESA

Speakers:

- Mr. Jinwon Kang, Research Fellow, R&D Evaluation Center, Korean Institute of S&T Evaluation Planning, Republic of Korea
- Mr. Wei Wang, Deputy Director General, Nanjing Municipal Financial Regulatory Bureau, China



Key messages: Session 6 focused on examining financial incentives and mechanisms that help foster innovation, especially with start-up companies. Discussion dived into details on the current financial environment and what changes need to be made to improve access to financing for STIs.

There is a wide variety of financing sources for STI and technology-based small and medium enterprises (SMEs). Many of these sources combine public and private resources in innovative and context-specific ways. Institutions like the Korea Institute of Science and Technology Evaluation and Planning and the Nanjing Municipal Financial Regulatory Bureau, Nanjing Technology Bank, China are supporting innovation that crosses over from academia to business. Korea also has a Ministry of SMEs and Startups and the Korea Small Business Innovation Research Program—SMEs are a priority because though they are 50% less productive than big companies, they are 99.9% of companies and employ 82.2% of the population.

In spite of their importance, SMEs face challenges in accessing funding—banks are not willing to take the risk including because the entrepreneurs themselves are often technology people, not business people, and because the banks do not have the expertise to effectively evaluate the tech-based SMEs. To address this will require a more systematic mechanism, accessible financing. The interest rates that banks want to charge (because of the risk and their need to make a profit) are often too high for the SMEs to take on. Government entities can therefore step in and form partnerships with commercial banks, with the government assuming more of the risk (80% in the Nanjing case).

The partnerships can also include other services—capacity building, matchmaking services, training in business culture and efficiency. The same model can be used with other types of businesses, including those in the creative industry, restaurants, etc. For all of these businesses, it can be difficult to determine qualitative indicators for success. Considerations include whether the SME is investing in R and D and, in some cases, what the social and environmental impact of the SME would be. These public/private partnerships take a hybrid approach—they are not concerned solely with public interest (the way development banks are) and they are also not concerned solely with profit (the way commercial banks are).

Key conclusions

Financial incentives to help foster innovation for SMEs

Major countries' total R&D budget is gradually increasing during these past 20 years, in which the private sector's investment has been increasing faster compared to governments' investment.

The common financial problems faced by SMEs are that it's more difficult and more expensive for them to find financing.

Due to the lack of professional evaluation of SMEs and their high risk of failure, governments and banks are not willing to invest in SMEs

Financial mechanisms to help SMEs

In terms of financial support to SMEs, there are both direct ways, such as providing preferential policies in investment and loans, and indirect way such as tax subsidies.

To encourage banks to lend money to SMEs, the Nanjing Technology bank – operated for over nine years, for example, established risk sharing mechanisms with the national government that allowed them to provide benchmark loan discounts and grading subsidies to SMEs.

Supplementary evaluation system is also essential after establishing financial mechanisms to help SMEs.

Session 7: Development of national IP strategies and utilizing the IP platforms

Moderator:

- Mr. Bajoe Wibowo, Project Manager (WIPO Match), Office of the Deputy Director General, Development Sector, World Intellectual Property Organization (WIPO)

Speakers:

- Dr. Sarasija Padmanabhan, Patent Consultant, Indian Institute of Science, India
- Mr. Zhen Wang, Director of Shanghai Science and Technology Development and Exchange Centre, China
- Mr. Cong Li, Researcher, Strategy Coordination Division of Strategy and Planning Department of the China National Intellectual Property Administration (CNIPA), China

Key messages:

The underpinning of the national IP strategies and platforms are crucial for the achievement of the SDGs. This session discussed how IP policy and IP platforms can support the achievement of the SDG's.

The development of a national IP strategy strengthens a country's ability to generate economically valuable IB assets like literary and artistic works; crafts and folklore; and genetic and biological assets, in a planned, efficient and sustainable manner. India's national IPR policy is based on several areas of work. The first element is IPR awareness, outreach and promotion. For example, in India, the Honey Bee Network scouts for local inventions in remote areas and, when relevant, supports their protection. It has also extensively promoted awareness on invention, innovation and IPRs through schools and media. A second element is the generation of IPRs, which includes the

establishment of an IPR office, qualified IP examiners and IP facilitators, and IP databases. A third element is enforcement and adjudication, an area that currently is challenging. The policy also promotes technology transfer, including to other countries, and an enabling legal and legislative framework. India has over 350 geographical indications and a current challenge is how to effectively promote these.

The green technology Bank of China aims to disseminate and promote environment-friendly technologies by providing:

- A pool of technologies and financing options
- Systematic solutions to talent needs
- Services for local sustainable development and South-South cooperation.

The bank is structured at three levels. The first tier, led jointly by the leaders of the Ministry of Science and Technology and the Shanghai Municipal Peoples's Government, provides the leadership. The second tier, the management centre, provides coordination. The third tier, the market-oriented operation body, is the Green Technology Bank where market oriented service agencies provide technological assessment, transformation and financial services. This ensures that public efforts are market-oriented.

The Green Technology Bank has an information platform, commercialization platform (the most important one) and a financial platform, including a Shanghai Green Technology Venture Capital Fund of CYN 3.5 billion for supporting commercialization of green technologies.

The Bank uses five different investment models:

1. Direct investment in equity with the Green Tech. Venture Capital Fund
2. Use government funds to leverage social capital.
3. Integrating several project teams to develop a comprehensive technical solution
4. Incubating and popularizing new technologies in hot-spots and tough areas, including popularizing existing technologies in new sectors
5. Assisting companies to enter markets of countries along the routes of the One Belt, One Road Initiative.

The Bank supports cooperation at the project, strategic and overseas level.

The intellectual property strategy in China was established in 2008. The IP system has become a basic system of the market economy. As China was undergoing economic and social transition towards a knowledge and high profit-based economy, its IP system needed to improve. The Government of China decided to formulate its own national IP strategy not only to handle international challenges but also to meet domestic demands for development.

The IP strategy working mechanism has three levels: 1) the leading group headed by Wu Yi, Deputy Premier; 2) the leading group office, headed by the commissioner of SIPO and 3) a research Team with over 400 officials and specialists. The strategy itself has one theme, one guiding principle, two strategic goals, five strategic focuses, seven specific tasks and nine strategic measures.

To implement the national IP strategy, an Inter-Ministerial joint meeting was established. A five-year evaluation of the implementation of the strategy was conducted in 2013 and 2018. The benefits of IP utilization are increasingly apparent and China's ranking in the Global Innovation Index has advanced to rank 14 in 2019 from 29 in 2007.

The biggest challenge in IP is the implementation of the national IP policy and strategy and its enforcement. For India, the legislative and judiciary play a critical role in the enforcement of the IP policy and strategy. For China, three elements have been critical for enforcing the IP strategy: the combination of domestic conditions and international experience, having support at the highest level, and the combination of short-term goals with long-term ones.

Session 8: Online networks and platforms for innovation collaboration

Moderator:

- Ms. Stephanie Rambler, Sustainable Development Officer, Integrated Policy Analysis Branch, DSDG, UN DESA

Panelists

- Mr. Jaikumar Sabanayagam, Information System Officer, UN OICT, Bangkok, Thailand
- Mr. Premnath Nair, UNTIL Malaysia Lab Manager, UNTIL



Key Messages: Session 8 provided an update on the implementation of UN Technology

Facilitation Mechanism (TFM) online platform and solicited the feedback from the audience. It also offered an opportunity for creating a network of actors for brokering demand and supply for STI content and subsequent deal making.

Introduction of UN Technology Facilitation Mechanism Online Platform

The UN Technology Facilitation Online Platform was established to address the challenges of unreliable information sources, information overload, and opportunity loss due to unclear and misleading information.

To solve the above challenges, a one stop centralized platform with SDG-related information, consolidated technological support, user-friendly search function and a virtual eco-system connecting credit, legal help and training, is needed.

The features of the UN Technology Facilitation Online Platform: mobile friendly, seamless integration, push and pull through automatic updates and alerts for multiple categories.

Key differences of the UN Technology Facilitation Online Platform: content related only to the SDGs, a simple search categorized by facets, pre-vetted information from trusted partners, simple and easy accessibility, a scalable cloud-based platform, supported by UN technology team.

Future phases of UN Technology Facilitation Online Platform: machine learning based recommendation, virtual assistant-based support for more user friendliness, progressive mobile application to improve target IT process, and outreach.

Introduction of UN Technology Innovations Lab

The mission of UNTIL is to “leverage emerging technology to transform societies, nations and humanity as a whole”.

In 2018, labs in Finland, Malaysia and Egypt were built. In 2019, labs in India-Haryana was built. There are more than 10 labs under discussion now. Each lab has their own flagship projects.

UNTIL Program Cycle: pre-launch, explore, create, accelerate and implement.

Feedback from the audience

The connection between the UN online platform and other databases and the aggregation of innovative solutions from different sources are important.

UN online platform is beneficial to help developing countries establish their own STI eco-system. Some factors should also be considered, such as free access, compatibility with existing searching engines, language translation etc.

UN online platform should not only focus on hard technology transfer, but also make attempts to build soft capacity in local government and private sectors.

Session 9: Networks and platforms for innovation

Moderator:

- Mr. Wei Liu, Coordinator, UN Inter-agency Task Team on STI for the SDG, Co-lead of the STI Roadmap Sub-working Group, DESA

Speakers:

- Mr. Bajoe Wibowo, Project Manager (WIPO Match), Office of the Deputy Director General, Development Sector, World Intellectual Property Organization (WIPO)
- Mr. Xian Zhang, Assistant to the Director of South-South Cooperation Center for Technology Transfer, China
- Mr. Stefan Dierks, Research Assistant, Technology Sub-Programme of the Finance, Technology and Capacity Building Programme, UNFCCC (United Nations Framework Convention on Climate Change)

Key messages:

Online platforms and networks have great potential to connect people—those seeking technology and those offering technology—but they must be carefully designed, with attention to the needs of the user. The platforms should focus on practical solutions that can be scaled up and commercialized, with adequate consideration for intellectual property rights. Matchmaking will work only if there is a true synergy between the demand and the supply—for example, a provider must ensure that the offered technology fits the specs of the recipient country.

Platforms can have particular value if they are addressing the needs of traditionally neglected constituencies (e.g. small island developing states/SIDS). The platforms can offer goods, products, tech transfer, knowledge sharing and training, but they should strive to be truly demand driven. Triangular cooperation holds great promise (e.g. a China-Africa technology transfer project funded by Denmark.) The platforms can be most effective if they combine online and offline components like demonstration sites and training. Targeted, concrete services—like the technology needs assessments and technology action plans on the UNFCCC site (TT: Clear)—ensure that the platform will be used.

Challenges for technology transfer and partnerships include (1) national policy asymmetry among partner countries, (2) stability of partner countries' environment, (3) scale of partners' projects are too small to attract donor resources, (4) cost effectiveness, and (5) inadequate information and communication

Online platform can help with this—provide information, make it less important for developing country to come to exhibition, trade fairs. The platforms will be most effective if they are (1) conservative about project scope and required timeline; (2) manage expectation, (3) focus on serving a specific audience with concrete needs, and (4) have a project manager/champion who can oversee the project on a day-to-day basis. For 2030 Connect in particular, it will be important to work toward

concrete deliverables in areas where the UN can really add value. A technical advisory board made up of the initial partners (DESA, UNFCCC, WIPO) will be very useful in this regard.

Session 10: Science, Technology, Innovation Roadmaps for the SDGs – joint guideline and global pilot programme

Moderator:

- Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP

Speakers:

- Mr. Wei Liu, Coordinator, UN Inter-agency Task Team on STI for the SDG, Co-lead of the STI Roadmap Sub-working Group, DESA
- Ms. Monika Matusiak, Senior Policy Officer, European Commission, Joint Research Centre, Seville, Spain
- Prof. Sachin Chaturvedi, Director General at the Research and Information System for Developing Countries (RIS), New Delhi, India
- Ms. Tijana Knezevic, Senior Adviser, Ministry of Education and Science, Serbia

Key messages:

This session introduces the UN Guidebook on Development of STI for SDGs roadmaps and discusses the potential regional/national support to the work of the STI roadmaps. It starts with discussion on Technology Facilitation Mechanism (TFM) which is based on a multi-stakeholder collaboration between Member States, civil society, the private sector, the scientific community, United Nations entities and other stakeholders and implementation plan of TFM. The Global Pilot Programme is being implemented to 1) test out the draft Guidebook on Development of STI for SDGs Roadmaps as a policy-making and communication tool for Member States; 2) Build capacity for and scale up adoption of the Member States' STI for SDGs Roadmaps; 3) Promote good practices, knowledge sharing, peer learning, international cooperation and partnerships on design and implementation of such roadmaps; 4) Maximize opportunities and mitigate risks of STI and frontier technologies to accelerate achievement of the SDGs; and 5) Leveraging and mobilizing resources.

- The experience of India in implementing SDGs by leveraging science and technology is shared in the session. A series of exercises has been carried out in India in mapping STI solutions with SDGs, and new emerging technologies such as blockchain and artificial intelligence related to specific SDGs are reported. The session also discusses the key challenges on Technology Facilitation Mechanism (TFM). It is argued that, by and large, TFM is at the

nascent stage of development and it remains to be seen how TFM can be implemented.

- The session emphasizes the importance of smart specialization for sustainable development, which comprises 4 main features, namely, localization, prioritization, customization and mobilization. The strategy has been widely applied in the EU member states countries and an increasing number of countries beyond EU. Smart specialisation approach proposes knowledge-based transformation focused on the identification of a unique mix of opportunities and challenges present in each territory and further developing them through the application of science, technology and innovation.
- The session introduces Smart specialisation strategy is applied in Serbia. Serbia's smart strategy priorities are based on mapping science, innovative and economic potential with a regional dimension conducted through Quantitative analyses. Development of Qualitative analyses was conducted through interviews of all relevant stakeholders. Based on these two documents Serbia organised bottom-up a consultative process with active participation from business, academia and government sector, including civil society, in order to identify priority areas with the highest potential and competitive advantages. The country is currently in the process of building monitoring and evaluation frameworks for Serbia S3 and is wary close to the adoption of the proposed document. Key challenges for S3 developing process include 1) ensuring evidence-based approach; 2) Relevant stakeholders involvement during the whole process; 3) Continuity of long term dialogue between all stakeholders; 4) Ensuring proper implementation; and 5) Monitoring, evaluation and update action plan including SDG mapping and developing of the action plan which will correspond to STI roadmap for SDGs in the future.

Session 11: Inclusive research, technology and innovation policies

Moderator:

- Ms. Marta Pérez Cusó, Economic Affairs Officer, ESCAP

Speakers:

- Prof. Sachin Chaturvedi, Director General at the Research and Information System for Developing Countries (RIS), New Delhi, India
- Dr. Caitlin Bentley, Research Fellow, the 3A Institute, Australian National University, Australia
- Ms. Bolor-Erdene Battsengel, Access Solutions, Mongolia

- Mr. Napoleon Concepcion, Governor, BOI, The Philippines

This session introduced the concept on inclusive innovation and showcased policies that have been implemented by governments to ensure no one is left behind in the technological revolution.



Key messages:

In 2015, governments agreed on the 2030 Sustainable Development Agenda, where STI are both a goal (SDG 9) and a means of implementation. This agreement has an ambitious and transformational agenda: it aims to leave no one behind. In this sense, it is important to promote innovation to encourage not only competitiveness but also more inclusive development.

Inclusive innovation are innovations that serve the welfare of lower-income and excluded groups. These may include innovations for the poor such as Aadhaar, the digital identification system that has enabled the financial inclusion of 1.2 billion people in India. Inclusive innovations also comprise innovations by the poor or grassroots innovation.

The impact of technologies and innovations in inclusion, that is in securing equality in access to opportunities and to make decisions, is complex and multifaceted. There are no simple good or bad options. A given technology, may benefit a group of citizens while threaten others, and its impact may change in a different context and moment in time.

Inclusive innovation does not necessarily need to be technology based. Innovations in business models can also encourage inclusivity. Inclusive businesses introduce innovations in the business models to provide valuable goods and services at affordable rates or enhanced livelihoods opportunities to poor and low-income people.

Most inclusive innovations are developed by firms, entrepreneurs, citizens and development organisations. However, public policies are still required to support inclusive innovations to flourish, reach scale, or diffuse. Governments may take a leadership role to develop transformative technology-based platforms, such as

Aadhaar, that serve as the basis for the provision of valuable services at scale. Governments can integrate inclusive considerations when designing national research, technology or innovation policies. For example, in Mongolia, inclusivity has been a key consideration in the assessment of the digital readiness of the country and in designing and selecting priorities for the national digital strategy primer for Mongolia. Governments may also provide incentives for businesses to develop inclusive business models. For example, in the Philippines, the Board of Investments has a registration system for inclusive business models and the 2017–2019 Investment Priorities Plan provides fiscal incentives to firms with inclusive business models in agribusiness and tourism.

Session 12: Emerging Technology

Moderator:

- Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, DSDG, UN DESA

Panelists:

- Mr. Jonathan Tsuen Yip Wong, Chief, Technology and Innovation Section, ESCAP
- Dr. Caitlin Bentley, Research Fellow, The 3A Institute, Australian National University, Australia

Session 12 focused on government policies and initiatives that have aimed to maximize the positive impacts while minimizing the negative impact of frontier technologies.

Opportunities and challenges brought by emerging technologies

Opportunities for emerging technologies in the context of the Fourth Industrial Revolution: digital trade and finance, digital healthcare and education, smart cities, energy and transport.

Challenges in the context of Fourth Industrial Revolution: uncertainties about the future, an even larger technology divide, ethical issues.

Policy response to emerging technologies

Inclusive ICT infrastructure is essential in the incoming 4IR, where “last mile” connectivity should be a policy priority.

To strengthen workforce fit for the emerging scale and speed of the technological revolution, governments should offer opportunities for life-long learning and reskilling, strengthen social protection systems and think deeply about the future of the next generation of civil servants.

Government should establish a responsive and adaptive regulatory framework that doesn’t stifle innovation.

Incentivising responsible technology development in the private sector must be a policy priority.

The government should act as a market maker and shaper, playing a catalysing role in frontier technologies' evolution.

“Leave no one behind” is an essential principle.

In regard to AI, the following questions should be asked: context, autonomy, agency, assurance, interfaces, evaluating indicators and intention.

Inspiration for developing countries

Mutual trust and clarification of future direction are 2 prerequisites for the collaboration between governments and the private sector.

AI is coming no matter if we welcome it or not. What we should do is balance the positive and negative attitudes and try to maximize its positive effects.

Privacy leaks and job substitution are two important negative problems brought by artificial intelligence.

Session 13: Business model innovation

Moderator:

- Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP

Speakers:

- Mr. Tristan Ace, Social Enterprise Lead, British Council (Based in Hong Kong), United Kingdom
- Mr. Kyoung-Ho Baek, Executive Director, Korea Technology Finance Corporation (KOTEC), Republic of Korea
- Mr. Ahad Nazir, Head, Centre for Private Sector Engagement, Sustainable Development Policy Institute (SDPI), Pakistan

Key messages:

The session highlights the social enterprise trends in Asia: 1) Empowering women; 2) Led by young people; 3) Supporting excluded groups; 4) Innovating faster than SMEs and 5). an increasing number of social enterprises; and 6) government leadership. It reports that several countries in the region are implementing policies to support the development of social enterprises. For example, Thailand enacted Social Enterprise Promotion Act, Malaysia introduced Social Enterprise Accreditation. The key common challenges for supporting the development of social enterprises include: 1) identifying champion of gov agency; 2) difficulty in engaging with bureaucrat and government officials; 3) lack of capability of Govt civil servants to understand the agenda; and 4) difficulty for collaboration among all stakeholders.

The session reports the experiences of developing social enterprises in the Republic of Korea. Social enterprises emerged from the late 1990s. The law was made to assist social enterprises in 2006 by the Ministry of Employment and Labour and has been

evolving by Ministry of SMEs and Startups from 2017. The country is entering a new era of a social venture. Social Venture Valuation Model has been established in the country as a minimum guideline to define social venture nature. The private sector plays an important role in the development of social venture and the private enterprises are encouraged to adopt a strategy of the so-called “double bottom lines” which addresses social and economic values.

Experience of developing social enterprises in Pakistan is also shared in the session. The key challenges for developing social enterprises of social enterprises in Pakistan are related to 1) Culture, awareness and understanding; 2) Tax treatment of social enterprises; 3) Access to procurement opportunities; 4) Funding and Finance; 5) Legal and regulatory issues and 6) Capacity building and skills, networks and market access. Despite these challenges, many initiatives have been taken in the country to promote the development of social enterprises. For instance, the country is in the process of preparing a draft legislation for the Social Enterprise Act.

Session 14: Country Experience and Practice in Promoting Sustainable Development by Scientific and Technological Innovation

Moderator:

- Prof. XU Zhengzhong, Deputy Dean of the Institute for International Strategic Studies, Director of the International Organizations Institute of Chinese Academy of Governance, China

Panelists:

- Mr. Afework K. Gizaw, State Minister, Ministry of Science and High Education, Ethiopia
- Ms. Inger Midtkandal, Science and Technology Counsellor to the Research Council of Norway, Norway
- Ms. Monica Matusiak, Senior Policy Officer, European Commission, Joint Research Centre, Seville, Spain

Key Messages: Session 14 introduced Country Experience and Practices in Promoting Sustainable Development by Scientific and Technological Innovation.

National experience and practice in Ethiopia

Ethiopia’s Growth and Transformation Plan (GTP) Priorities are aligned with the UN Sustainable Development Goals (SDGs), focusing on agriculture, manufacturing

industry, human resources development and so on.

Combining SDG and STI, Ethiopia has developed a four-level national innovation system: the prime minister and S&T council as the top leadership, MoSHE and S&T related Ministers as the execution body, the innovation support & research system as the third level, and its people and culture as the base level.

There are 5 priorities in STI policy for Ethiopia among 11 critical policy issues: human resource development, national technology roadmap, expenditure on R&D, patents registration and linkage between industry and high education institutions.

The alignment of STI and other policies/strategies with continental (STISA) or Global (SDGs) are encouraged.

There is usually a disconnect between policy/strategy and implementation in Ethiopia, which is also a common problem in developing countries. In this context, there is a need to re-visit the policy, its strategy and implementation bottle necks to reflect more realistically to existing institutional capabilities and national needs.

National experience and practice in Norway

The research in Norway emphasized resolving sustainability related problems and was meant to enhance sustainability and increases green competitiveness.

Norway has set 21-processes with direction on R&I strategy given by industry.

The speaker pointed out the importance of collaboration of top down measures, i.e. ownership by Ministries, and bottom up measures, i.e. stakeholder engagement and participation. While incorporating SDGs into domestic policies, the SDGs give justification, momentum and direction.

National experience and practice in Moldova

In Moldova, STI is actively used to achieve SDGs. Smart specialisation is one of the priorities of the National Program in the fields of Research and Innovation.

Session 15: China's policy and experience on science technology and innovation

Moderator:

- Mr. Afework K. Gizaw, State Minister, Ministry of Science and High Education, Ethiopia

Panelists:

- Prof. XU Zhengzhong, Deputy Dean of the Institute for International Strategic Studies, Director of the International Organizations Institute of Chinese Academy of Governance, China

- Prof. CHEN Jun: Academician, National Geomatics Center of China, Ministry of Natural Resources, China
- Mr. GONG Ke: WFEO president



Key messages: Session 15 introduced China’s experience with developing its own science and technology ecosystem. The session focused on lessons learned and how other countries can apply those lessons to their unique situations.

China sustainable agricultural practice of Zhonghe Modern Agriculture Industry Group in Henan Province to implement SDGs:

Prof. Xu highlighted that the deployment of sustainable agricultural innovation resolves the mechanism designing problem for its integration into processes of SDG implementation. One of the most remarkable success of agricultural innovation in China is the Zhonghe Modern Agriculture Industry Group in Henan Province. Founded in 1995, Zhonghe successfully accomplishes agricultural modernization through 3 interactive open platforms: Eco-Industrial Innovation, Farmers Professionalization, and Land Integration. It has changed more than 70,000 people’s life and created jobs for tens thousands of people. It creates a whole industry chain and transforms the local rural society to a modern society in a steady manner. The success is built on the interaction among three elements: industry, population and land.

The objective of the Zhonghe Modern Agriculture Industry Group is industrialization of agriculture, balance between industrialization and environmental protection, and modernization of local society. The main methodologies used are clustering the land to optimize utilization of land and labor, creating a diverse supply chain to modernized agriculture and using a circulatory system of production and consumption for sustainable economy.

Experience from the three elements interaction:

Adjusting measures to local conditions: the three elements interaction has made proper use of the local agricultural comparative advantages and therefore further enhanced outstanding regional competitive advantages.

Industrial layout: the three elements interaction manages agriculture in an industrial way, integrating all kinds of production factors into the modern industrial system and exploring the whole industrial chain management of agriculture.

Human capital cultivation: the three elements interaction transforms farmers into new-type professional farmers, builds up a human capital cultivating system and supports Rural Revitalization.

Social governance innovation: the three elements interaction has innovated the way of social governance, solved the fundamental problem of unbalanced urban and rural development for a long time, and established a mechanism to link the interests of the government, enterprises and farmers

Experience from SDGs local monitoring-China's pilot practice

Prof. Chen emphasized the importance of establishing a cooperative partnership among all stakeholders to mobilize resources and developing a set of data driven and evidence-supported approaches with a geographic perspective in monitoring SDGs practice.

Deqing Model is a successful example of SDGs local monitoring conducted by Prof. Chen's team. They derived an overall picture about local SDGs status, gaps and challenges, and established a practical and replicable approach.

Experience from AI Innovation and Development Pilot Zone

Prof. Gong presented the case that the National AI Innovation and Development Pilot Zone is a region that relies on local government, demonstrates AI technology innovation and application, conducts S&T policy experiments and governance experiments.

The apply tractions are promoting the deep integration of innovation and industrial chain, promoting the application of AI in the economic and social fields and promoting the iterative upgrading of AI technology and system with large-scale application.

The advantages of AI Pilot Zone is that they can improve information network as infrastructure (5G and IPV6); lay emphasis on application scenarios; reduce digital divide to obtain digital dividend; turn governance principles into reality to ensure trustable, reliable and controllable AI application; accelerate pilot zone development of AI economy; pay more attention to promoting AI to serve the sustainable development goals and realize "intelligent development centered on the sustainable development of mankind".

The speaker gave suggestion on further enhancing the advantages of open data and create data ecological system.

Session 16: The Introduction of National Sustainable Development Demonstration Zone

Moderator:

- Ms. Mia Mikic, Director, Trade, Investment and Innovation Division, ESCAP

Panelists:

- Mr. SUN Xinzhang, Deputy Director, Division of Strategic Research and Regional Development, The Administrative Centre for China's Agenda 21, China

Key message: Session16 introduced the concept and experience of China's National Sustainable Development Demonstration Zone.

Introduction of progress on China's National Innovation Demonstration Zone for Sustainable Development

The State Council issued the plan for the construction of the demonstration zones which proposed to build about 10 demonstration zones during the "13th Five-Year Plan" period based on the experience of the National Sustainable Development Pilot Zones to form a series of replicable innovative demonstration models.

4 leading concepts of Innovation Demonstration Zones are innovative development philosophy, multi-participation, demand driven and open minded & mutual share.

The speaker stated that China looks forward to cooperation with other countries in the following fields: ecological tourism, smart and green city, sustainable agriculture, water and air pollution control, and capacity building activity.

Session 17: Guilin's Experience and Practice in Promoting Sustainable Development by Scientific and Technological Innovation

Moderator:

- Mr. SUN Xinzhang, Deputy Director, Division of Strategic Research and Regional Development, The Administrative Center for China's Agenda 21, China

Panelists:

- Mr. BAI Songtao, Deputy Secretary of the CPC Guilin Municipal Committee, China



Key message: Session 17 explored in detail Guilin’s unique experience in promoting sustainable development. Discussion focused around lessons learned and how other countries can leverage Guilin’s experience to better promote their own sustainable development plans.

Guilin’s experience on sustainable development

Speakers introduced that there are 5 main measures in Guilin to promote sustainable development.

Guilin has innovated institutional mechanism to guarantee the process of sustainable development. The municipal government set up multi-level leading groups to conduct, monitor and evaluate sustainable development. They introduced policies to promote the development high-tech industries and talent introduction. Besides, the legal system is refined to encourage sustainable development.

Guilin municipal government gave high priority to ecological environmental management, actively implementing river resource conservation and air pollution control.

Guilin encouraged the development of green industries, such as high-tech industry, eco-agriculture, eco-tourism, and health industries.

Guilin carried out scientific and technological innovation projects to serve as the foundation of sustainable development. They gave support to innovative projects, launched innovation sharing platform and actively conduct talent introduction.

Guilin lay emphasis on enhancing people’s well-being, implemented poverty alleviation program, urban refining program and rural area transformation program.

Session 18: Taiyuan's Experience and Practice in Promoting Sustainable Development by Scientific and Technological Innovation

Moderator:

- Mr. SUN Xinzhang, Deputy Director, Division of Strategic Research and Regional Development, The Administrative Center for China's Agenda 21, China

Panelists:

- Mr. CHEN Peizhong, Deputy Director of Taiyuan Science and Technology Bureau, China-

Key message: Session 18 explored in detail Taiyuan's unique experience in promoting sustainable development. Discussion focused around lessons learned and how other countries can leverage Taiyuan's experience to better promote their own sustainable development plans.

Introduction of Taiyuan

Taiyuan is surrounded by mountains three sides, with a river cross the city. With pleasant climate and abundant cultural heritage, Taiyuan is a famous tourist city in China. Taiyuan is rich in mineral resources, which made it an important resource-driven industrial city. In recent years, Taiyuan is facing the challenge of economic transformation, environmental protection and innovative improvement.

Taiyuan's experience on Sustainable Development

Taiyuan launched a long-term sustainable development strategy based on United Nations 2030 Agenda, incorporating 11 SDGs among 17 in the strategy. To improve the environment quality, they gave high priority to water resource conservation and energy structure transformation.

Taiyuan innovated institutional mechanism to specifically support sustainable development, conducted annual evaluation of sustainable development on local counties.

Taiyuan lay emphasis on technology driven sustainable development, attributed 2 billion RMB of municipal fund every year to promote technology innovation and human resource capacity building.

Taiyuan actively shared and absorbed valuable experiences on sustainable development domestically and internationally, hoping to build friendly collaborative partner relationship with other cities.

Taiyuan's outlook for the future

In the long run, Taiyuan planned to build a comprehensive sustainable city, with local innovation system, social security and welfare system, ecology first management system, liveable city system and modern economy system.

Session 19: Shenzhen's Experience and Practice in Promoting Sustainable Development by Scientific and Technological Innovation

Moderator:

- Mr. SUN Xinzhang, Deputy Director, Division of Strategic Research and Regional Development, The Administrative Center for China's Agenda 21, China

Panelists:

- Mr. LIU Qing, Shenzhen Municipal Science and Technology Innovation Commission, China
- Mr. WU Hanrong, Director / Researcher, Division of Exchange and Cooperation, Department of Science and Technology, Guangdong, China

Key messages: Session 19 explored in detail Shenzhen's unique experience in promoting sustainable development. Discussion focused on lessons learned and how other countries can leverage Shenzhen's experience to better promote their own sustainable development plans.

Background of Shenzhen Demonstration Zone

Shenzhen is a coastal city in the South of China, adjacent to Hong Kong. It has superior geographical location, abundant natural water resource and strong economic strength.

In March 2018, China State Council approved to establish National Demonstration Zones for Sustainable Development Agenda in Shenzhen. Shenzhen will lead the sustainable development theme with an innovated mega.

Construction Roadmap and Achievements of Shenzhen Demonstration Zone

The key targets of Shenzhen's sustainable development are innovative and influential; green and low-carbon; smart and convenient; leave no-one behind; partnership and sharing.

Major projects are within the domain of environment, society and innovation. To improve environmental sustainability, Shenzhen conducted resource utilization and ecological environment protection projects. To enhance social governance, Shenzhen

launched Healthy Shenzhen and governance modernization projects. To strengthen innovative force, Shenzhen built innovative services system and diverse community system.

Major tasks are as follows: build platform for international communication and cooperation, strengthen technology innovation for sustainable development, compile reports on sustainable development, actively establish Shenzhen Institute for sustainable development, investigate on sustainable development legislation.

Shenzhen has set goals for different periods. By 2020, achieve domestic leading level; by 2025, achieve international advanced level; by 2030, achieve first-class international level.

Experience to promote Sustainable Development through STI in Shenzhen

Shenzhen has four main measures to promote sustainable development through STI: improve original innovation, deal with unbalanced development, establish an open ecosystem of STI, and promote international STI cooperation.

There are many successful STI supported sustainable projects in Shenzhen. For example, the local company, Tencent applied AI technology to help doctors diagnose diseases. Shenzhen built China's first and world fourth gene bank to store, manage and make good use of genetic resources.

Special Session on STI for SDGs Roadmaps: country expectations and international support

Moderator:

- Dr. Wei Liu, Coordinator, UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs, UNDESA

Key message: This special session cultivated peer-learning environment among countries based on the current state of national STI for SDGs roadmap preparation and advanced the planning for international partnerships to support international partnerships. The Special Session was structured into three parts: a quick recap, Country-level Roadmaps and Multi-Stakeholder Involvement and International Partnership.

Session 1: Welcome and Overview

Presenters:

- Mr. Naoto Kanehira, Senior Private Sector Specialist, Finance, Competitiveness and Innovation Global Practice, the World Bank

- Dr. Carl Dahlman, Senior Policy Advisor, the Growth Dialogue (online participation)

Session 1 gave a quick review of the material and discussion from Session 10 on the Global Pilot Programme on STI for SDGs roadmaps and the draft Guidebook on Development of Science, Technology and Innovation roadmaps. This session established the focus of the Special Session on the pilot country experiences and to dive deeper into the Guidebook.



Session 2: Country-level Roadmaps

Moderator:

Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP

Panelists:

- Prof. Tom Peter Migun Ogada, Chairperson, National Commission on Science, Technology and Innovation, and Executive Director, African Centre for Technology Studies (ACTS), Kenya (online participation)
- Ms. Nimita Pandey on behalf of Prof. Sachin Chaturvedi, Director General at the Research and Information System for Developing Countries (RIS), India
- Ms. Tijana Knezevic, Senior Adviser, Ministry of Education, Science and Technological Development (MoESTD), Serbia

Discussants:

- Dr. Wei Liu, Coordinator, UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs, UNDESA
- Mr. Naoto Kanehira, Senior Private Sector Specialist, Finance, Competitiveness and Innovation Global Practice, the World Bank

Session 2 included presentations by the participating pilot countries to present the current status and experiences of their pilot projects for developing country-level

roadmaps, followed by a moderated panel discussion to identify emerging commonalities, good practices, and lessons learned.

Current status of pilot countries

The Serbian speaker represented the owner organization of the Serbian pilot programme: MoESTD. She noted that through 4S Process, Serbia identified 4 priorities: ICT, Food, Creative industries, and Future machines & Manufacturing Systems, and began implementation stage, supported by EU JRC as well as UNIDO. She also mentioned that the research scale of Serbia is smaller than that of EU member countries, but Serbia is actively involved in international projects on science, technology and innovation.

The Indian presenter mentioned that the Office of the Principal Scientific Advisor (PSA) as secretary of the prime minister's advisor is the nodal agency to manage STI for SDGs programmes. PSA works in consultation/coordination with Niti Aayog (the National Institution for Transforming India) and Ministry of Foreign Affairs with its emerging priority area: food-water-energy-(health) nexus. The Research and Information System for Developing Countries (RIS) is commissioned by PSA and Niti Aayog to be the knowledge accumulator and carrier of the STI for SDGs Roadmaps activities to provide support and advice from a policy perspective, particularly in international coordination and cooperation, e.g. with African countries.

Kenya has prioritized two SDGs: Goal 2 and 9, as its roadmaps initially focuses on focuses on agriculture and manufacturing, with ICT as a cross cutting enabler. While targeting on agro-processing, which is an intersection between the two goals and IACT, Kenya's preliminary assessment work has identified that focus on SDG 2.3 would have the highest impact. The National Commission on Science, Technology and Innovation, a lead government agency, which is mainly responsible for formulating STI for SDGs roadmaps works in collaboration with National Treasury, Ministry of Foreign Affairs and other relevant line ministries, and is supported by African Centre for Technology Studies (ACTS), which provides technical support to the government and attaches great importance to knowledge accumulation and experience utilization not only within Kenya but also for other African countries.

Experiences of pilot countries

The speakers believed that the pilot project can give us a deeper understanding of these countries. We can use past successful experiences as examples and templates to play a demonstration role in future STI for SDGs cooperation.

Different ministries and commissions need to establish cooperative relations to better achieve STI for SDGs priority areas, identified through pilot activities.

It is of great significance for the developed and developing countries to leverage TFM to strengthen international STI partnerships.

Discussion to identify commonalities, practices and lessons

The participants agreed that it is essential to secure global assistance on STI for SDGs

roadmaps, i.e. through involving science academies and expats communities.

The speakers noted that the roadmap of STI should be combined with the national development agenda at a higher level, as well as the countries' policies related to STI and SDGs.

They also emphasized the importance of making full use of existing technologies, adapting to local conditions in specific locations, and involving stakeholders in the whole process of STI for SDGs Roadmapping exercises.

Session 3: Multi-stakeholder Involvement and International Partnerships

Moderator:

Dr. Michiharu Nakamura, Member of the UN 10 Member Advisory Group on the Technology Facilitation Mechanism, Senior Advisor (Former President), Japan Science and Technology Agency, Japan

Panelists:

- Mr. Bill Colglazier, editor-in-chief, Center for Science Diplomacy, American Association for the Advancement of Science, Washington, DC, USA (former 10 Member Advisory Group and the Science Advisor of US Secretary of State)
- Prof. Nebojsa Nakicenovic, Deputy Director, International Institute for Applied System Analysis (IIASA), Austria
- Mario Cervantes, Senior Economist, Science and Technology Policy Division, OECD
- Ms. Monika Matusiak, Senior Policy Officer, European Commission, Joint Research Centre, Seville, Spain
- Mr. Naoto Kanehira, Senior Private Sector Specialist, Finance, Competitiveness and Innovation Global Practice, the World Bank
- Ms. Mia Mikic, Director, Trade, Investment and Innovation Division, ESCAP

Key message: This session focused on how the IATT can systematically enhance international cooperation and multi-stakeholder involvement for the five pilot countries by linking and coordinating parallel activities that could potentially be complementary and synergetic.

Enhancement of Multi-stakeholder Involvement and International Cooperation

The discussion panel talked about how in STI for SDGs roadmaps development, the importance of the demand side cannot be over emphasized; as International organizations cannot replace national governments, nor should they replace local governments and managers, international organizations has critical role to play in helping governments understand local/regional needs to be reflected in the roadmaps OECD, for example, has committed in increased involvement in STI for SDGs

Roadmaps activities, while recognizing the importance of mobilizing science and aid communities and funding agencies, advancing frontier technologies, and monitoring and evaluating progresses being made.

Many speakers pointed out the role of private sectors, and how the State Administration should ensure that the private sector is more involved in the use of resources, so that it has more ownership of the SDG roadmap.

Several panelists also discussed the ways to involve social scientists in roadmapping exercises and encouraged to make the scientific community of non-governmental sector play the increasing role in feedback mechanism in the SDG roadmap. Speakers also encouraged multi-disciplinary, interdisciplinary and stakeholder cooperation at the government level, while called for the need to build layers of communities to support the development of STI for SDGs Roadmaps.

The presenters mentioned that local workshops are effective way to involve local stakeholders, to use local resources, and promote STI use and guidebook.

IATT was also encouraged to accumulate the case studies and knowledge of STI for SDGs roadmaps development from each pilot country and seek guidance from larger audience in the international organizations such as the UN and EC, so as to make the goals and tasks of each country and organization more international.

Session 4: Wrap up and the way forward

Moderator:

- Dr. Michiharu Nakamura, Member of the UN 10 Member Advisory Group on the Technology Facilitation Mechanism, Senior Advisor (Former President), Japan Science and Technology Agency, Japan

Speaker:

- Dr. Wei Liu, Coordinator, UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs, UNDESA

In order to provide a good environment for the development of STI for SDGs roadmaps, participants recognized the importance of involving all stakeholders, and coordinating and collaborating among public and private sectors, academic and civil societies; Capacity building and formulating private sector partnerships are reemphasized.

For the future development of STI for SDGs Roadmaps, we should explore the establishment of a sustainable framework in a broader context.

UN team is exploring fundraising plans to support expansion of Global Pilot Program and strengthening of international STI cooperation. Interested donors and partners should be encouraged to engage IATT for partnership discussions. For any questions and feedback, please contact IATT Secretariat at: <https://sustainabledevelopment.un.org/tfm#un>

Annex I: Meeting Programme

Time		Programme
Monday December 9 2019	8:30-9:00	Welcome tea/coffee
	9:00-9:30	<p>Opening Ceremony:</p> <p>Chair: Mr. He Bing, Deputy Director General, ACCA21/MoST</p> <p>Mr. Chen Linhao, Deputy Director General, Dept. of International Cooperation, MoST</p> <p>Senior official from Dept of Science and Technology, Guangxi Province, China</p> <p>Mr. Bai Songtao, Deputy Secretary General, Guilin Municipality</p> <p>Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, DSDG, UN DESA</p> <p>Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP</p> <p>Mr. Afework K. Gizaw, State Minister, Ministry of Science and High Education, Ethiopia</p> <p>Mr. Has Bunton, Secretary General, National Science and Technology Council, Ministry of Planning, Cambodia</p>
	9:30-9:50	Group Photo
	PART ONE: CREATING AN ENABLING ENVIRONMENT FOR STI FOR THE SDGS	

Time	Programme
9:50-10:50	<p>Session 1:</p> <p>Introduction of Global Sustainable Development Report (GSDR) – new global map for sustainable development</p> <p>This session will introduce the GSDR and explain the key findings and recommendations from the report. Discussion will focus on how to apply GSDR’s approach for policy-making and concrete actions.</p> <p>Moderator: Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, DSDG, UN DESA</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Ms. Eun Mee Kim, Professor and Dean at the Graduate School of International Studies, the Director of the Institute for Development and Human Security (IDHS) and the Director of the Ewha Global Health Institute for Girls (GHIG) at Ewha Womans University, Seoul, Korea), Republic of Korea <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What are the key recommendations from the Global Sustainable Development Report? Any initial feedback? • How can stakeholders/countries utilize the lessons and recommendations from the GSDR to strengthen their own sustainable development plans? • What are potential challenges for stakeholders/ countries when applying the recommendations from the GSDR? • What are the three most important recommendations for policy-making and concrete actions on creating an enabling environment for STI for the SDGs in the context of the GSDR?

Time	Programme
	<p>Session 2: Science and technology eco-system development and innovation – A China Case Study</p> <p>This session will introduce China’s experience with developing its own science and technology eco-system. The session will focus on lessons learned and how other countries can apply those lessons to their unique situations.</p> <p>Moderator: Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP</p> <p>Speaker:</p> <ul style="list-style-type: none"> • Prof. Daijan Zhu, Director of Institute of Sustainable Development and Management, Tongji University, China <p>Interactive Discussion</p> <p>Guiding Questions:</p> <ul style="list-style-type: none"> • What were the major challenges and problems that China had to overcome? • How can the lessons learned in China’s case be leveraged by other countries to avoid the same problems? • What are the three most important recommendations for policy-making and concrete actions on creating an enabling environment for STI for the SDGs?
12:00-14:00	Lunch

Time	Programme
14:00-15:00	<p>Session 3: Building innovation eco-system through mapping STI activities and multi-stakeholder engagement</p> <p>This session will introduce global and national initiatives on development of STI strategies or policies aligned to national development objectives.</p> <p>Moderator: Dr. Wei Liu, Coordinator, UN Inter-Agency Task Team on Science, Technology and Innovation for the SDGs, UN DESA</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Has Bunton, Secretary General, National Science and Technology Council, Ministry of Planning, Cambodia • Ms. Monika Matusiak, Senior Policy Officer, European Commission, Joint Research Centre, Seville, Spain • Mr. Feng Tian (Ben), Dean of Intelligent Industry Research Institute, SenseTime, China <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • From the perspective of an LDC, what are the key challenges for developing an innovation eco-system? What kind of support can development partners offer to help overcome such challenges? • What has been EU's experience in developing an innovation eco-system? Many developing countries are at different stage of development, what lessons can these countries learn from the EU experience? What kind of support they can provide on mapping and promoting STI activities and multi-stakeholder engagement? • From the private sector perspective, what are the key initiatives on building innovation eco-system? What kind of support they can provide on mapping and promoting STI activities and multi-stakeholder engagement?
15:00-15:15	Tea/coffee Break

Time	Programme
	<p>Session 4: Institutions and infrastructure enabling environment – an application in science and technology park development</p> <p>This session will discuss the challenges in establishing and managing science and technology parks. Speakers will share national experiences. In addition, the ESCAP publication titled “Establishing Science and Technology Parks: A Reference Guidebook for Policymakers in Asia and the Pacific” will be presented in this session.</p> <p>Moderator: Mr. Tengfei Wang, Economic Affairs Officer, ESCAP</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Ms. Sri Setiawati, Director of the Center for Research, Science and Technology, Ministry of Research, Technology and Higher Education, Indonesia • Ms. Watcharin Witthayaweerasak, General Manager, Thai Business Incubators and Science Park Association, Thailand • Mr. Ivan Bogdanov, Head of the Industrial Partnership Office, Skolkovo Institute of Science and Technology (Skoltech), Russian Federation <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What are has been your personal or country’s experience developing national science and technology parks? • What were some of the key lessons learned from those experiences?
17:30-19:00	Dinner

Time		Programme
Tuesday December 10, 2019	9:00-10:30	<p>Session 5: Human capacity-building: STI and entrepreneurship promoting policies and practices</p> <p>This session will focus on government policies that promote and support both STI human capacity-building and entrepreneurship development.</p> <p>Moderator: Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, DSDG, UN DESA</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Dr. Chaiyatorn Limapornvanich, Innovation Strategy Manager, National Innovation Agency, Thailand • Dr. Thazin Han, Director, Department of Research and Innovation, Ministry of Education, Myanmar <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What are the government policies in your countries for human capacity building towards STIs? • What are the key challenges for implementing such policies? • What support do you think the development partners should provide in order to build human capacity in developing countries?
	10:30-10:45	Tea/coffee Break

Time	Programme
	<p>Session 5 continued ...</p> <p>Human capacity building: Engaging women in STI</p> <p>This session will discuss government policies supporting the role of women in the knowledge economy and technology development in Asia and the Pacific.</p> <p>Moderator: Ms. Marta Pérez Cusó, Economic Affairs Officer, ESCAP</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Anthony C. Sales, Regional Director, Department of Science and Technology, the Philippines • Dr. Araba Sey, Principal Research Fellow / Head of Research, UN University Institute in Macau, China • Dr. Caitlin Bentley, research fellow, the 3A Institute, Australian National University, Australia <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • Why do we need to take women and gender considerations into account when designing a national science, technology or innovation policy, establishing a research programme, or promoting digital technologies? • Based on your experience, what options do we have to design and implement more gender inclusive STI policies? • A necessary step is to generate awareness among practitioners on gender inequalities in STI. What are effective means to generate greater awareness on and responsiveness to gender inequalities in STI?
12:00-14:00	Lunch

Time	Programme
14:00-15:30	<p>Session 6: Financing Science, Technology and Innovation</p> <p>This session will focus on examining financial incentives and mechanisms that help foster innovation, especially with start-up companies. Discussion will dive into detail on the current financial environment and what changes need to be made to improve access to financing for STIs.</p> <p>Moderator: Mr. Bajoe Wibowo, Project Manager (WIPO Match), Office of the Deputy Director General, Development Sector, World Intellectual Property Organization (WIPO)</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Jinwon Kang, Research Fellow, R&D Evaluation Center, Korean Institute of S&T Evaluation Planning, Republic of Korea • Mr. Wang Wei, Deputy Director General, Nanjing Municipal Financial Regulatory Bureau, Nanjing Technology Bank, China <p>Interactive Discussion</p> <p>Guiding Questions:</p> <ul style="list-style-type: none"> • What are some major barriers that have limited access to financing for SME and start-ups? • What are some non-traditional, alternative financing options for SMEs and start-ups? • What are the three most important recommendations for policy-making and concrete actions to improve access to financing for SMEs and start-ups?
15:30-15:45	Tea/coffee Break

Time	Programme
	<p>Session 7: Development of national IP strategies and utilizing the IP platforms</p> <p>The underpinning of the national IP strategies and platforms are crucial for the achievement of the SDGs. Further, this session will focus on understanding how IP policy, IP platforms and the SDG's can all be used synergistically to move forward productively.</p> <p>Moderator: Mr. Bajoe Wibowo, Project Manager (WIPO Match), Office of the Deputy Director General, Development Sector, World Intellectual Property Organization (WIPO)</p> <p>Speaker:</p> <ul style="list-style-type: none"> • Dr. Sarasija Padmanabhan, Patent Consultant, Indian Institute of Science Campus, India • Mr. Wang Zheng, Director of Shanghai Science and Technology Development and Exchange Centre, China • Mr. Li Cong, Researcher, Strategy Coordination Division of Strategy and Planning Department of the China National Intellectual Property Administration (CNIPA), China <p>Interactive Discussion</p> <p>Guiding Questions:</p> <ul style="list-style-type: none"> • What are some common barriers that have limited the development of effective national IP policies and how can these barriers be addressed? How can a national IP policy support the achievement of the SDGs? • Who are the target user group(s) for the IP platforms/tools? • How can a new user to leverage the existing IP platform(s)/tools to find the solutions for the work? • What are the three most important recommendations for policy-making and concrete actions for creating an IP policy and platforms for the SDGs?
15:45 – 17:00	
	<p>17:30 - Dinner</p>
	<p>PART TWO: PLATFORMS AND MECHANISMS FOR STI COLLABORATIONS</p>

Time	Programme
<p>Wednesday December 11, 2019</p> <p>9:00 – 10:30</p>	<p>Session 8: Online networks and platforms for innovation collaboration</p> <p>This session will provide an update on implementation of the UN Technology Facilitation Mechanism online platform and solicited the feedback from the audience. It will also offer an opportunity for creating a network of actors for brokering demand and supply for STI content and subsequent deal making.</p> <p>Moderator: Ms. Stephanie Rambler, Sustainable Development Officer, Integrated Policy Analysis Branch, DSDG, UN DESA</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Jaikumar Sabanayagam, Information System Officer, UN OICT, Bangkok, Thailand • Mr. Huang Ping, China International Technology Transfer Centre, China • Mr. Premnath Nair, UNTIL Malaysia Lab Manager, Malaysia <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • How can the online technology transfer services via the TFM be linked to offline technology transfer service? • Which areas has the TFM online platform seen potential positive results and which areas need further improvement? • What are the practical work-plan on the development/ launch of the TFM online platform? How can the stakeholders engage and support this?

Time	Programme
	<p>Session 9: Networks and platforms for innovation</p> <p>This session will discuss the role of the TFM online platform for the last-mile delivery of public service to MSMEs entrepreneurs, WIPO Match platform, and seek for feedback from potential users of the online platform from MSME's perspective.</p> <p>Moderator: Mr. Wei Liu, Coordinator, UN Inter-agency Task Team on STI for the SDG, Co-lead of the STI Roadmap Sub-working Group, DESA</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Bajoe Wibowo, Project Manager (WIPO Match), Office of the Deputy Director General, Development Sector, World Intellectual Property Organization (WIPO) • Mr. Xian Zhang, Assistant to the Director of South-South Cooperation Center for Technology Transfer, China • Ms. Abimbola Alawode, CEO Rhabe Ventures Limited - (South Coordinator Conduit of Excellence), Nigeria • Mr. Stefan Dierks, Research Assistant, Technology Sub-Programme of the Finance, Technology and Capacity Building Programme, UNFCCC (United Nations Framework Convention on Climate Change) <p>Interactive Discussion</p> <p>Guiding Questions:</p> <ul style="list-style-type: none"> • How can the online technology transfer services via the TFM be linked to offline technology transfer service? • Which areas has the TFM online platform seen potential positive results and which areas need further improvement?
12:00-14:00	Lunch

Time	Programme
14:00-15:30	<p>Session 10: Science, Technology, Innovation Roadmaps for the SDGs – joint guideline and global pilot programme</p> <p>This session will introduce the UN Guidebook on STI roadmaps for the SDGs. It will also discuss the potential regional/national support to the work of the STI roadmaps. There will be a special session on Sunday morning on this topic for pilot countries to share their experience, to advance the discussions to further define the next steps.</p> <p>Moderator: Mr. Xian Zhang, Assistant to the Director of Technology Transfer South-South Cooperation Center, China</p> <p>Speaker:</p> <ul style="list-style-type: none"> • Mr. Wei Liu, Coordinator, UN Inter-agency Task Team on STI for the SDG, Co-lead of the STI Roadmap Sub-working Group, DESA • Ms. Monika Matusiak, Senior Policy Officer, European Commission, Joint Research Centre, Seville, Spain • Prof. Sachin Chaturvedi, Director General at the Research and Information System for Developing Countries (RIS), New Delhi, India • Ms. Tijana Knezevic, Senior Adviser, Ministry of Education and Science, Serbia <p>Interactive Discussion</p> <p>Guiding Questions:</p> <ul style="list-style-type: none"> • What is the work of the UN in the area of STI for SDGs Roadmaps? • What are the key recommendations from the UN Guidebook on STI roadmaps for the SDGs? Any initial feedback? • What are the key elements on the Smart-specialization Approach and its main applications? • What is the Global Pilot Programme on the STI Roadmaps? • What were the main challenges or problems that pilot countries faced when developing their STI Roadmaps? • What international mechanisms can assist countries to learn from each other and promote more effective collaboration on their STI Roadmaps? Any recommendations?

Time	Programme
	<p>Session 11: Inclusive research, technology and innovation policies</p> <p>This session will introduce the concept on inclusive innovation and showcase policies that have been implemented by governments to ensure no one is left behind in the technological revolution.</p> <p>Moderator: Ms. Marta Pérez Cusó, Economic Affairs Officer, ESCAP</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Napoleon Concepcion, Governor, Board of Investment (BOI), The Philippines • Prof. Sachin Chaturvedi, Director General at the Research and Information System for Developing Countries (RIS), New Delhi, India • Dr. Caitlin Bentley, research fellow, the 3A Institute, Australian National University, Australia • Ms. Bolor-Erdene Battsengel, Access Solutions, Mongolia <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • In your experience, what are some of the challenges today to design or implement more inclusive science, technology and innovation policies and strategies? • Follow-up questions based on the discussions.
17:30 – 20:00	Dinner
PART THREE: STI FRONTIERS, OPPORTUNITIES AND CHALLENGES	

Time		Programme
Thursday December 12, 2019	9:00-10:30	<p>Session 12: Emerging technology</p> <p>This session will focus on government policies and initiatives that have aimed to maximize the positive impacts while minimizing the negative impact of frontier technologies.</p> <p>Moderator: Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, DSDG, UN DESA</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP • Ms. Shahida SULTANA, Deputy Secretary, Access to Information (a2i) Programme, Government of Bangladesh • Dr.. Caitlin Bentley, research fellow, the 3A Institute, Australian National University, Australia <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What are ESCAP's key observations on the development of frontier technologies in Asia and the Pacific? • What are the key challenges for an LDC or developing country to embrace the opportunities brought about by frontier technologies and what are possible solutions to overcoming such challenges? • How can developed countries support developing and LDCs benefit from frontier technologies? • What incentives do developed countries need to provide such support?
	10:30-10:45	Tea/coffee Break

Time	Programme
	<p>Session 13: Business model innovation</p> <p>This session will focus on emerging business practice innovations such as social enterprise, inclusive business and impact investing.</p> <p>Moderator: Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Kyoung-Ho Baek, Executive Director, Korea Technology Finance Corporation (KOTEC), Republic of Korea • Mr. Tristan Ace, Social Enterprise Lead, British Council (Based in Hong Kong), United Kingdom • Mr. Ahad Nazir, Head, Centre for Private Sector Engagement, Sustainable Development Policy Institute (SDPI), Pakistan <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • Why are innovative business models seen as important by governments? • How has your government created an enabling environment for innovative business models? • How could government policy support social enterprise, inclusive business and impact investing to move from the margins to the mainstream?
12:00 – 14:00	Lunch

Time	Programme
14:00-15:30	<p>Session 14: Country Experience and Practice in Promoting Sustainable Development by Scientific and Technological Innovation</p> <p>Moderator: Professor Xu Zhengzhong, Deputy Dean and Professor, The Institute for International Strategic Studies, Chinese Academy of Governance, China,</p> <ul style="list-style-type: none"> • Mr. Afework K. Gizaw, State Minister, Ministry of Science and High Education, Ethiopia • Ms. Inger Midtkandal, Science and Technology Counsellor to the Research Council of Norway, Norway • Ms. Olga Duhlicher, Senior Consultant, Ministry of Education, Culture and Research, Moldova <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What has been the national experience for leveraging STI for sustainable development? What are the key lessons learnt? • What are the experiences of institutional cooperation in your countries for developing STI? • What lessons can developing countries and the least developed countries learn from the EU?

Time	Programme
	<p>Session 15: China’s policy and experience on governance for science technology and innovation</p> <p>This session will introduce China’s experience with developing its own science and technology eco-system. The session will focus on lessons learned and how other countries can apply those lessons to their unique situations.</p> <p>Moderator: Ms. Monika Matusiak, Senior Policy Officer, European Commission, Joint Research Centre, Seville, Spain</p> <p>Speaker:</p> <ul style="list-style-type: none"> • Prof. Xu Zhengzhong, Deputy Dean of the Institute for International Strategic Studies and Director of the International Organizations Institute of Chinese Academy of Governance, China • Prof. Jun Chen, Academician, National Basic Geographic Information Center, Ministry of Natural Resources, China • Prof. Gong Ke, President, the World Federation of Engineering Organizations, WFEO <p>Guiding questions:</p> <ul style="list-style-type: none"> • What were the major challenges and problems that China had to overcome? • How can the lessons learned in China’s case be leveraged by other countries to avoid the same problems? • What are the three most important recommendations for policy-making and concrete actions on creating an enabling environment for STI for the SDGs?
17:30 – 20:00	Dinner

Time		Programme
Friday December 13 , 2019	9:00-10:10	<p>Session 16: The Introduction of National Sustainable Development Demonstration Zone</p> <p>Moderator: Ms. Mia Mikic, Director, Trade, Investment and Innovation Division, ESCAP</p> <p>Speaker:</p> <ul style="list-style-type: none"> • Mr. Sun Xinzhang, Deputy Director, Strategic Research and Regional Development Division, China Agenda 21 Management Center, China <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What were the reasons/needs for developing national sustainable development demonstration zones? • What were the key challenges for developing national sustainable development national sustainable demonstration zones? • What lessons can other countries learn from China in developing national sustainable development zones?
	10:10-10:30	Tea/coffee

Time	Programme
	<p>Session 17: Guilin’s Experience and Practice in Promoting Sustainable Development by Scientific and Technological Innovation</p> <p>This session will explore in detail Guilin’s unique experience in promoting sustainable development. Discussion will focus around lessons learned and how other countries can leverage Guilin’s experience to better promote their own sustainable development plans.</p> <p>Moderator: Mr. Sun Xinzhang, Deputy Director, Strategic Research and Regional Development Division, China Agenda 21 Management Center, China</p> <p>Speaker:</p> <ul style="list-style-type: none"> • Mr. Bai Songtao, Deputy Secretary General, Guilin Municipality <p>Interactive Discussion</p> <p>Guiding Questions:</p> <ul style="list-style-type: none"> • What were major hurdles or challenges and how were they addressed? • What were the knowledge, research and implementation gaps? • What are the three most important recommendations for policy and concrete action?
12:00-14:00	Lunch

Time	Programme
	<p>Session 18: Shenzhen’s Experience and Practice in Promoting Sustainable Development by Scientific and Technological Innovation</p> <p>This session will explore in detail Shenzhen’s unique experience in promoting sustainable development. Discussion will focus around lessons learned and how other countries can leverage Shenzhen’s experience to better promote their own sustainable development plans.</p> <p>Moderator: Mr. Sun Xinzhang, Deputy Director, Strategic Research and Regional Development Division, China Agenda 21 Management Center, China</p> <p>Speaker:</p> <ul style="list-style-type: none"> • Mr. Peizhong Chen, Deputy Director of Taiyuan Science and Technology Bureau, China <p>Interactive Discussion</p> <p>Guiding Questions:</p> <ul style="list-style-type: none"> • What were major hurdles or challenges and how were they addressed? • What were the knowledge, research and implementation gaps? • What are the three most important recommendations for policy and concrete action?
15:10-15:30	Tea/coffee

Time	Programme
15:30-17:00	<p>Session 19: Taiyuan’s Experience and Practice in Promoting Sustainable Development by Scientific and Technological Innovation</p> <p>Moderator: Mr. Sun Xinzhang, Deputy Director, Strategic Research and Regional Development Division, China Agenda 21 Management Center, China</p> <p>Speaker:</p> <ul style="list-style-type: none"> • Mr. Qing Liu, Shenzhen Municipal Science and Technology Innovation Commission, China • Mr. Wu Hangrong, Director, Division of Exchange and Cooperation, Department of Science and Technology, Guangdong, China <p>Interactive Discussion</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What were major hurdles or challenges and how were they addressed? • What were the knowledge, research and implementation gaps? • What are the three most important recommendations for policy and concrete action?
17:00-17:30	<p>Session 20: Review of the Week and Looking Forward</p> <p>This session will briefly reflect and put into context what was taught and discussed during the week. It will highlight the take-away messages and bring the key practical questions to the study visits arranged in the following week. It will also brief the participants about the plan for the study visit.</p> <p>Moderator: Mr. Sun Xinzhang, Deputy Director, Strategic Research and Regional Development Division, China Agenda 21 Management Center, China</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Shantanu Mukherjee, Chief, Integrated Policy Analysis Branch, DSDG, UN DESA • Ms. Mia Mikic, Director, Trade, Investment and Innovation Division, ESCAP • Representative from ACCA21

Time	Programme
Saturday December 14, 2019	Site Visit (Courtesy of Guilin Government)

Time	Programme	
<p>Sunday December 15, 2019</p>	<p>10:00am – 12:30am Special Session on STI Roadmaps for the SDGs: country expectations and international support (for more details, please see a separate concept note and programme)</p> <p>Moderator: Mr. Wei Liu, Coordinator, UN Inter-agency Task Team on STI for the SDG, Co-lead of the STI Roadmap Sub-working Group, DESA</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Dr. Michiharu Nakamura, Member of the UN 10 Member Advisory Group on the Technology Facilitation Mechanism, Senior Advisor (Former President), Japan Science and Technology Agency, Japan • Ms. Mia Mikic, Director, Trade, Investment and Innovation Division, ESCAP • Mr. Naoto Kanehira, Senior Private Sector Specialist, Finance, Competitiveness and Innovation Global Practice, the World Bank • Ms. Monika Matusiak, Senior Policy Officer, European Commission, Joint Research Centre, Seville, Spain • Mr. Tijana Knezevic, Ministry of Education, Science and Technological Development of Serbia <p>Interactive Discussion</p> <p>Break</p> <p>2pm – 3:30pm STI Working Group Meeting/tele-conference + in-person (closed)</p>	
<p>Monday December 16 ,2019</p>	<p>9:00-12:00</p>	<p>Site Visit in Guilin</p>
	<p>12:00-14:00</p>	<p>Lunch</p>
	<p>14:00-17:30</p>	<p>Site Visit in Guilin</p>
	<p>17:30-</p>	<p>Dinner</p>

Time		Programme
Tuesday December 17 , 2019	9:00-12:00	<p>Site Visit in Guilin</p> <p>Group work: Leveraging STI for SDGs: a reflection of the study during the meeting – to be organized by ESCAP and MoST</p> <p>In this session, the participants will be divided into several groups. Each group needs to prepare a presentation which should reflect what the participants have learnt during the meeting. The selected topic can be related to a country, a (sub)region, with a compilation of recommendations for STI policies and actions. The topic can be related to one session or a few sessions of this workshop.</p> <p>Each group will present their work in the afternoon.</p> <p>More details will be circulated prior to the session.</p>
	12:00-14:00	Lunch
	14:00-17:30	Learning exchange& Closing Ceremony
	17:30-	Farewell dinner

**Programme of the Special Session on STI Roadmaps for the SDGs:
country expectations and international support**

Main Session	
10:00 – 10:10	<p>Session 1: Welcome and Overview/quick recap</p> <p><i>After opening and welcome remarks by the co-host/moderator, this session will give a quick review of the material and discussion from Session 10 on the Global Pilot Programme on STI for SDGs roadmaps and the draft Guidebook on Development of Science, Technology and Innovation roadmaps. This session will establish the focus of the special session on the pilot country experiences and to dive deeper into the Guidebook.</i></p> <p><u>Moderator:</u></p>

	<p>Dr. Wei Liu, Coordinator, UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs, UNDESA</p> <p>Overview and updates of the draft Guidebook</p> <p><u>Presenter:</u> Dr. Carl Dahlman, Senior Policy Advisor, the Growth Dialogue (online participation)</p>
10:10-11:30	<p>Session 2: Country-level Roadmaps</p> <p><i>The second section consists of presentations by the participating pilot countries to present the current status and experiences of their pilot projects for developing country-level roadmaps, followed by a moderated panel discussion to identify emerging commonalities, good practices, and lessons learned.</i></p> <p><u>Moderator:</u> Mr. Jonathan Tsuen Yip Wong, Chief of Technology and Innovation, ESCAP</p> <p><u>Presenters/Panelists:</u></p> <ul style="list-style-type: none"> • Prof. Tom Peter Migun Ogada, Chairperson, National Commission on Science, Technology and Innovation, and Executive Director, African Centre for Technology Studies (ACTS), Kenya (online) • Prof. Sachin Chaturvedi, Director General at the Research and Information System for Developing Countries (RIS), India • Ms. Tijana Knezevic, Senior Adviser, Ministry of Education and Science, Serbia <p><u>Discussant:</u></p> <ul style="list-style-type: none"> • Dr. Wei Liu, Coordinator, UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs, UNDESA • Mr. Naoto Kanehira, Senior Private Sector Specialist, Finance, Competitiveness and Innovation Global Practice, the World Bank <p><u>Guiding questions for country presentations:</u></p> <ul style="list-style-type: none"> - What is the team structure for your country? Which national government agencies and IATT agencies (as focal points/supporters) are involved? What are the specific roles of each member, and how/why they have been drawn in the team? Is there any plan for bring in more members and if so, why/how? - What are the overall objectives, targets and envisaged scope of the pilot exercise in your country? What are focused areas, how are the priorities established and who in government has orchestrated the decisions? Are these a novel set or derived from existing national development plans, SDG scorecards, or STI strategy? - How are your country assessing/diagnosing the current situation and integrate policy planning and implementation (plus M/E) in the area of intersection among SDGs, STI and national development? <p><u>Guiding questions for panel discussion:</u></p>

	<ul style="list-style-type: none"> - What worked well and/or challenging so far in going through some of the “6 steps¹” and utilizing “3 core inputs”² and why? - What are common/popular features in country pilots, i.e. in team structure, focused areas? How do pilot countries involve the key stakeholders with relevant data, expertise and networks? - Are there critical gaps in (domestically available) data, information or expertise that need to be filled? How are pilot countries building STEM/STI talent pipeline and skills as they design and implement roadmaps? <p><u>Interactive discussion</u></p>
11:30-12:30	<p>Session 3: Multi-stakeholder Involvement and International Partnerships</p> <p><i>Keeping in mind the identified commonalities and gaps discussed in the previous session, the Third Session focuses on how the IATT can systematically enhance International Cooperation and multi-stakeholder involvement for the five pilot countries by linking and coordinating parallel activities that could potentially be complementary and synergetic.</i></p> <p><u>Moderator:</u> Dr. Michiharu Nakamura, Member of the UN 10 Member Advisory Group on the Technology Facilitation Mechanism, Senior Advisor (Former President), Japan Science and Technology Agency, Japan</p> <p><u>Panelists:</u></p> <ul style="list-style-type: none"> • Mr. Bill Colglazier, editor-in-chief, Center for Science Diplomacy, American Association for the Advancement of Science, Washington, DC, USA (former 10 Member Advisory Group and the Science Advisor of US Secretary of State) (online presentation) • Prof. Nebojsa Nakicenovic, Deputy Director, International Institute for Applied System Analysis (IIASA), Austria (online presentation) • Mr. Mario Cervantes, Senior Economist, Science and Technology Policy Division, OECD • Ms. Monica Matusiak, Senior Policy Officer, European Commission, Joint Research Centre, Seville, Spain • Mr. Naoto Kanehira, Senior Private Sector Specialist, Finance, Competitiveness and Innovation Global Practice, the World Bank • Ms. Mia Mikic, Director, Trade, Investment and Innovation Division, ESCAP <p><u>Guiding questions:</u></p>

¹ **Six steps:** (1) Define objectives and scope, (2) Assess current situation, (3) Develop vision, goals and targets, (4) Assess alternative pathways, (5) Develop detailed STI for SDGs roadmaps for implementation, and (6) Monitor, evaluate and update plan.

² Three core inputs: (1) stakeholder consultations, (2) technical and managerial expertise, and (3) data and evidence base

	<ul style="list-style-type: none"> • How can IATT systematically help promote multi-stakeholder engagement, i.e. mobilizing private sectors in developing the pilot countries' roadmaps while understanding the needs and aspirations of subnational governments, cities, local communities, civil society? • How can IATT, global pilot programme partners and other international donors work together to coordinate their activities in STI-ODA intersections? How can they build STI capability, boost STI flows, and broker STI coalitions? What can they do to help pilot countries improve efficiency, effectiveness of their own government expenditures (i.e., not just ODA) on STI for SDGs? • What could be the effective roles of pilot partners/donors, private sectors, international organizations/multilateral institutions, as well as international (and diaspora) science, engineering, and medical communities? How can they be institutionalized and plugged into country pilot efforts? <p><u>Interactive discussion</u></p> <p><u>Wrap up and the way forward</u></p> <p>Dr. Michiharu Nakamura, Member of the UN 10 Member Advisory Group on the Technology Facilitation Mechanism, Senior Advisor (Former President), Japan Science and Technology Agency, Japan</p> <p>Dr. Wei Liu, Coordinator, UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs, UNDESA</p>
12:30-14:00	<i>Group photo and lunch break</i>

Annex II: Countries and Participants (as of Dec. 4th, 2019)

	Country	Participant	Position
1	Australia	Dr. Caitlin Bentley	Research fellow, the 3A Institute, Australian National University
2	Bangladesh	Dr. Md. Selim Reza	Deputy Secretary, Ministry of Science and Technology, Government of Bangladesh
3	Cambodia	Mr. Has Bunton	Secretary General, National Science and Technology Council, Ministry of Planning
		Mr. Somethea Buoy	Director, GS-NSTC
4	China	Dr. Yonglong Lu	Research Center for Eco-Environmental Science, Chinese Academy of Sciences
		Mr. Ruijun Wang	Chair of the 20th Session of the UN Commission of Science, Technology for Development (CSTD), Head of the Department of Science and Technology of Guangdong Province, China
		Mr. Dongbai Ye	Director General, Department of International Cooperation, Ministry of Science, Technology, China
		Mr. Jing Huang	Director General, ACCA21, Ministry of Science, Technology, China
		Mr. Gang Zong	Sinoipro IP Management and Technology Transfer Co. Ltd., President & CEO
		Mr. Bai Songtao	Deputy Secretary of the CPC Guilin Municipal Committee
		Mr. Ping Huang	China International Technology Transfer Center
		Mr. Qing Liu	Shenzhen Municipal Science and Technology Innovation Commission
		Mr. Wang Wei	Deputy Director General, Nanjing Municipal Financial Regulatory Bureau, Nanjing Technology Bank
		Mr. Sun Xinzhang	Deputy Director, Strategic Research and Regional Development Division, China Agenda 21 Management Center
		Mr. Jun Chen	National Basic Geographic Information Center, Ministry of Natural Resources
		Mr. Xian Zhang	Assistant to the Director of South-South Cooperation Center for Technology Transfer

		Mr. Peizhong Chen	Deputy Director of Taiyuan Science and Technology Bureau
		Mr. Zheng Wang	Director, Shanghai Science & Technology Development and Exchange Center
		Prof. Xu Zhengzhong	Deputy Dean of the Institute for International Strategic Studies and Director of the International Organizations Institute of Chinese Academy of Governance
		Mr. Feng Tian (Ben)	Dean of Intelligent Industry Research Institute, SenseTime (World's Most Valuable AI Startup)
		Prof. Daijan Zhu	Director of Institute of Sustainable Development and Management, Tongji University
		Prof. Gong Ke	Nankai University, President of the World Federation of Engineering Organization
		Ms. Kaidi Guo	School of Environment, Tsinghua University
5	Djibouti	Mr. Abdourahman Youssouf Aboubaker	Ministry of Economy and Finance Industry Officer (MEFI), Directorate of Industry, Head of Industrial Development Department
6	Ethiopia	Dr. Solomon Benor	Director, Research, Community Service, Technology Transfer, and University-Industry-Linkage Directorate, Ministry of Science and Higher Education, Federal Democratic Republic of Ethiopia
		Mr. Afework Kassu Gizaw	State Minister, Ministry of Science and Higher Education
7	India	Dr. Sarasija Padmanabhan	Patent Consultant, Indian Institute of Science Campus
		Prof. Sachin Chaturvedi	Director General at the Research and Information System for Developing Countries (RIS)
8	Indonesia	Dr. Mustangimah Marsono	Deputy Director for Research Capacity Building
		Mr. Sunandar Nanag Ecin	Head of Subdivision for Monitoring and Evaluation, Directorate General for the Strengthening of Research and Development
		Ms. Sri Setiawati	Director of the Center for Research, Science and Technology, Ministry of Research, Technology and Higher

			Education
9	Japan	Dr. Michiharu Nakamura	Member of the UN 10 Member Advisory Group on the Technology Facilitation Mechanism, Senior Advisor (Former President), Japan Science and Technology Agency
11	Kyrgyzstan	Mr. Talgar Batyrbekov	Senior Specialist, State Service of Intellectual Property and Innovation under the Government of the Kyrgyz Republic
12	Lao People's Democratic Republic (the)	Ms. Viengsavanh Bouttanavong	Director of International Division, Department of Planning and Cooperation, Ministry of Science and Technology
13	Malaysia	Mrs. Rozani Ezrina Sarbini	STI Services and Enculturation Division, Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC)
14	Moldova	Ms. Olga Duhlicher	Senior Consultant, Ministry of Education, Culture and Research
15	Mongolia	Ms. Bolor-Erdene Battsengel	Access Solutions
		Mr. Batnairamdal Otgonshar	Advisor to Chief of Cabinet Secretariat, Government of Mongolia
16	Myanmar	Dr. Thazin Han	Director of Research and Innovation, Ministry of Education
17	Nepal	Mr. Prasanta Bohara	Senior Divisional Mechanical Engineer, Ministry of Industry, Commerce and Supplies
18	Nigeria	Ms. Abimbola Alawode	CEO Rhabe Ventures Limited - (South Coordinator Conduit of Excellence)
19	Norway	Ms. Inger Midtkandal	Science and Technology Counsellor to the Research Council of Norway
20	Pakistan	Mr. Ahad Nazir	Head, Centre for Private Sector Engagement, Sustainable Development Policy Institute
21	Philippines (the)	Ms. Melissa Cabanes Bulao	Senior Science Research Specialist, R&D Management Division, Philippine Council for Health Research and Development
		Mr. Anthony C. Sales	Regional Director, Department of Science and Technology
		Mr. Napoleon Concepcion	Governor, Board of Investment (BOI)
22	Republic of Korea	Ms. Eun Mee Kim	Professor and Dean at the Graduate School of International Studies, the

			Director of the Institute for Development and Human Security (IDHS) and the Director of the Ewha Global Health Institute for Girls (GHIG) at Ewha Womans University
		Mr. Jinwon Kang	Research Fellow, R&D Evaluation Center, Korean Institute of S&T Evaluation Planning
		Mr. Kyoung-Ho Baek	Executive Director, Korea Technology Finance Corporation (KOTEC)
23	Russian Federation	Mr. Ivan Bogdanov	Head of the Industrial Partnership Office, Skolkovo Institute of Science and Technology (Skoltech)
24	Serbia	Ms. Tijana Knezevic	Senior Adviser, Ministry of Education and Science
25	Sri Lanka	Mr. Janaka Karunasena	Principal Scientific Officer, Head / TD, NSF Sri Lanka
26	Thailand	Ms. Watcharin Witthayaweerasak	General Manager, Thai Business Incubators and Science Park Association
		Dr. Chaiyatorn Limapornvanich	Innovation Strategy Manager, National Innovation Agency
27	United Kingdom	Mr. Tristan Ace	Social Enterprise Lead, British Council (Based in Hong Kong, China)
28	United Republic of Tanzania	Dr. Primi Mmasi	Project Coordinator, Projects and Programmes Coordination Unit, Department of Policy and Planning, Ministry of Industry and Trade, Dodoma, Tanzania
29	Zambia	Ms. Tasila Banda Mwewa	Learning, Monitoring and Evaluation Specialist, National Technology Business Centre
30	European Commission (EC)	Dr. Monika Matusiak	Senior Policy Officer, European Commission /Joint Research Centre
31	United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)	Ms. Mia Mikic	Director, Trade, Investment and Innovation Division
		Mr. Jonathan Tsuen Yip Wong	Chief of Technology and Innovation
		Ms. Marta Pérez Cusó	Economic Affairs Officer, Trade, Investment and Innovation Division
		Mr. Tengfei Wang	Economic Affairs Officer, Trade, Investment and Innovation Division
		Ms. Phadnalin Ngerlim	Programme Assistant, Trade, Investment and Innovation Division

32	United Nations University Institute on Computing and Society (UNU CS)	Dr. Araba Sey	Principal Research Fellow / Head of Research (Based in Macau, China)
33	World Intellectual Property Organization (WIPO)	Mr. Bajoe Wibowo	Project Manager (WIPO Match), Office of the Deputy Director General, Development Sector
		Ms. Tamara Nanayakkara	Head, Innovation Policy Section, Dept for Transition and Developed Countries; WIPO China office
		Mr. Li Cong	Researcher, Strategy Coordination Division of Strategy and Planning Department of the China National Intellectual Property Administration (CNIPA)
34	World Bank	Mr. Naoto Kanehira	Senior Private Sector Specialist, Finance, Competitiveness and Innovation Global Practice
35	United Nations Department of Economics and Social Affairs (UN DESA)	Mr. Shantanu Mukherjee	Chief, Integrated Policy Analysis Branch, DSDG
		Mr. Wei Liu	Coordinator, UN Inter-agency Task Team on STI for the SDG, Co-lead of the STI Roadmap Sub-working Group
		Ms. Stephanie Rambler	Sustainable Development Officer, Integrated Policy Analysis Branch, DSDG
36	United Nations Framework Convention on Climate Change (UNFCCC)	Mr. Stefan Dierks	Research Assistant, Technology Sub-Programme of the Finance, Technology and Capacity Building Programme
37	United Nations Office of Information and Communications Technology (UN OICT)	Mr. Dinh-Huy Banh	Chief Enterprise, Application Center
		Mr. Jaikumar Sabanayagam	Information System Officer
38	United Nations Technology Innovation Lab (UNTIL)	Mr. Premnath Nair	Malaysia Lab Manager