High-level Seminar and Study Visit to China on Science, Technology and Innovation (STI) for the SDGs (DRAFT)

Shanghai, China, 4-7 December 2017

Organized by DESA in collaboration with the Ministry of Science and Technology of China

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Report of the Meeting

Summary

The United Nations Department for Economic and Social Affairs (DESA), in collaboration with the Ministry of Science and Technology (MOST), China, organized a High-level Seminar and Study Visit to Shanghai, China on Science, Technology and Innovation for the SDGs from 4 to 7 December 2017. The meeting was part of the activities of the United Nations project on "Mobilizing Science, Technology and Innovation in Developing Countries for the SDGs," which is funded by the 2030 Agenda Sub-Fund of the UN Peace and Development Trust Fund.

The meeting sought to strengthen the capacity of key constituents in developing countries to benefit from science, technology and innovation (STI) for the sustainable development goals (SDGs), and to enhance the contribution of stakeholders to the Technology Facilitation Mechanism (TFM). It was attended by 104 experts, senior officials, representatives of civil society and private sector organizations, and the United Nations System from 17 countries.

The Seminar drew from practical experiences with STI facilitation to focus on challenges and opportunities for operationalizing online exchanges of STI, and also ways to better integrate complementary online and offline mechanisms, such as capacity building and finance. The Study Visit showcased several technologies and innovations for the achievement of the SDGs, which could stimulate knowledge transfer and South-South cooperation among relevant stakeholders.

The recommendations of the meeting suggested ways forward for developing the online platform for technology facilitation as a network of existing platforms and networks; focusing its development the concrete needs of users; enabling actual transfers of technology by facilitating matchmaking between seekers and providers of STI solutions for the SDGs, and by providing access to other necessary online and offline services such as finance, capacity building and intellectual property rights; building the capacity of users in how to access the online and offline services provided by the platform; and technical and human resources requirements for the operationalization of the platform.

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Introduction

1. The United Nations Department for Economic and Social Affairs (DESA), in collaboration with the Ministry of Science and Technology, China, organized a High-level Seminar and Study Visit to Shanghai, China on Science, Technology and Innovation for the SDGs from 4 to 7 December 2017. The meeting was held at the Conference Room of the Broadway Mansions Hotel, Hongkou District, Shanghai, China. The meeting was part of the activities of the United Nations project on "Mobilizing Science, Technology and Innovation in Developing Countries for the SDGs," which is funded by the 2030 Agenda Sub-Fund of the UN Peace and Development Trust Fund.

2. The objective of the meeting was to strengthen the capacity of key constituents in developing countries to benefit from science, technology and innovation (STI) for the sustainable development goals (SDGs) and to enhance the contribution of stakeholders to the Technology Facilitation Mechanism (TFM). The programme of the meeting is contained in the Annex.

3. The meeting was attended by 104 experts, senior officials, representatives of civil society and private sector organizations, and United Nations System from 17 countries: Belgium, Bhutan, Brazil, China, Ecuador, Finland, France, Germany, India, Kenya, the Netherlands, Nigeria, Samoa, Switzerland, Tanzania, Thailand, and United Kingdom.

4. Mr. LIU Zhenmin, Under-Secretary General of Economic and Social Affairs, UN DESA, opened the meeting on 4 December 2017 in a ceremony that included remarks by Mr. XU Nanping, Vice Minister of Science and Technology, China; H.E. Mrs. Marie Chatardová, President of UN Economic and Social Council, Permanent Representative of the Czech Republic to the United Nations; Mr. JIN Xingming, Deputy Secretary-General of Shanghai, China Municipal People's Government; and Mr. WANG Ruijun, Chair of the 20th session of the United Nations Commission on Science and Technology for Development.

5. The first two days of discussions focused on challenges and opportunities for operationalizing online exchanges of STI, based on experiences from private sector, NGOs and the United Nations System. The discussion also focused on offline initiatives to complement and strengthen the effectiveness of those initiatives, which included the discussion on capacity building and finance towards STI for SDGs, as well as ways to better integrate online and offline mechanisms. Results from the UNITE challenge to demonstrate crowd-sourced technical solutions for the matchmaking component of the online platform were also presented. The meeting organisers also facilitated high-level bilateral meetings, and participants also got ample opportunities for informal exchanges among themselves. During one such high level meeting, a Memorandum of Understanding (MoU) on promoting Science, Technology and Innovation for the SDGs was signed between DESA and the MOST. The meeting organisers also facilitated high-level bilateral meetings, and participants also got ample opportunities for informal exchanges among themselves.

6. The last two days of the meeting were dedicated to study visits to showcased several technologies and innovations for the achievement of the SDGs, which could facilitate effective transfer of technology as well as south-south cooperation among relevant stakeholders. The sites visited included the Green Technology Bank, Suzhou River Comprehensive Treatment and Environment Theme Park, Garden Lane Green Industrial Demonstration Park, Tongji Hongkou Green Technology Industrial Park, Shanghai Waigaoqiao No. 3 Power Plant, Urban Best Practice Area, Chongming Ecological Island, Ecological architecture demonstration site by Shanghai Chenjia Town Construction

Development, Dongtan Wetland Nature Reserve, Yingdong ecological house, and Acipensersinensis Natural Reserve. During the visit, some participants indicated their interests in follow-up collaborations.

7. This report provides a summary of discussions held during the Meeting, including the key discussion points and recommendations.

Key Recommendations

8. The following conclusions and recommendations emerged from the discussions:

a) *Potential of on-line exchanges of STI for SDGs to benefit developing countries:* The Online Platform of the Technology Facilitation Mechanism (OLP) can build upon the experience gathered in similar ventures by other entities – becoming a network of networks of online and offline mechanisms, building on existing initiatives promoting science, technology and innovation for the achievement of the SDGs. In that regard, it is critical the establishment of linkages with external partners for the successful implementation of the platform. The platform should also create a partnership among existing online and offline country-level initiatives and programmes such as the Green Technology Bank (GTB), which include assessing technology needs, selection of technology with high value and low risk to transfer, precise recommendation to target countries, and applications and operation in the field with supportive teams.

b) *Importance to target the users*: In addition to its mandate, the implementation of the OLP should be based and focused on concrete needs of the users for the successful operationalization of an effective platform. The user group should cover a relative wide range of stakeholders, comprising of all STI-related parties, including government business organizations, universities and public institutes, NPOs/NGOs, and personal innovators. The identification of the needs of users from technology transfer agencies, innovative companies, and universities and institutes are especially crucial, given that they are key stakeholders of country-based innovation ecosystem. In that connection, there is a need to engage both the public and private sectors. The OLP should also serve individual users searching for STI solutions that contribute to achieving the SDGs. In that connection, it needs to take into consideration gender and intergenerational aspects, and to develop a communication strategy incorporating indigenous knowledge.

c) *Connect demand and supply*: The OLP should support actual technology transfers by facilitating matchmaking between seekers and providers of STI solutions for the SDGs. The OLP should, therefore, serve as an interpreter between user needs and technological solutions. In that connection, it is very important to devise innovative ways to identify technology needs and to automatically match with existing technology suppliers. That would also require agreements on technology classification and mechanisms for technology evaluation.

d) *Beyond matchmaking*: Technology transfer is a complex and long process that goes far beyond the matchmaking of seekers and providers of STI solutions. When minimal conditions are not met, no transfer of technology takes place. In that regard, the OLP should provide access to user-friendly packages of online and offline services and products that, in addition to matchmaking, include critical elements for technology transfer, such as capacity building, finance, and intellectual property rights. However, it is also important to set the objective of the OLP from the beginning, and more importantly, to clarify the division of labour among the key

OLP partners, as well as where the OLP ends its role in the process of technology transfer, to be able to measure success and to manage expectations properly.

e) *Capacity building*: To improve its effectiveness of the OLP, it is critical to build the capacityof users of the platform on how to access its online and offline services. In that connection, it is important to identify key stakeholders for capacity development and to consider issues of low digital literacy and the need for capacity building and information in local languages.

f) *Technical, financial and human resources required for implementation*: The operationalization of the OLP should use open data approaches and technologies. It should also be implemented in phases in an evolutionary approach, with an agreed architecture, while being conservative about project scope and timeline required. Data exchange among partner platforms is a challenge, thus the implementation of the platform requires data experts capable to connect the OLP to various existing platforms. It is crucial for the effectives and relevance of the platform that it becomes permanently 'animated'. That requires a set of skills for implementation and operationalization that is not be limited to the IT domain, but rather includes service development, process management and facilitation of networks. OLP should not rely on volunteers. To keep the network alive and active at national and regional levels, a trust fund with the UN with a viable governance structure is needed to keep platform running and relevant.

g) *Building indigenous capacity for STI*: The meeting suggested to actively search for new generation of scientists and innovators through initiatives such as outreach events to incentivise young scientists and innovators. It was also suggested to support mentorship in higher education institutions to help equip new generations with skills for knowledge transfer. With regards to indigenous capacity, it is crucial that local communities first understand technology before they can decide whether they need it. It was also highlighted the need to identify areas where technologies are missing, so the research and technology development community could be directed to them. This would also require effective South-South cooperation.

h) *Greater dissemination of knowledge and experiences:* The meeting recognised the importance of promoting the sharing of relevant national and local experiences as a way to motivate awareness and capacity development among diverse stakeholders including Government entities, businesses, youth, women and others as a vital component for disseminating and scaling up STI for the SDGs.

Summary of discussions

Opening Ceremony

Moderator and opening remarks: Mr. LIU Zhenmin, Under-Secretary General of Economic and Social Affairs, UN DESA

- **H.E. Mr. XU Nanping**, Vice Minister of Science and Technology, China
- **H.E. Mrs. Marie Chatardová**, President of UN Economic and Social Council, Permanent Representative of the Czech Republic to the United Nations
- **Mr. JIN Xingming**, Deputy Secretary-General of Shanghai Municipal People's Government
- **Mr. WANG Ruijun**, Chair of the 20th session of the United Nations Commission on Science and Technology for Development

9. In his opening address, Mr. Liu highlighted that the topic of the meeting was extremely important, as STI are critical for the implementation of the SDGs, given that they are at the heart of the transformative changes needed to achieve our collective vision. In that regard, he noted that the TFM was a major outcome of the Addis Ababa conference and the UN Sustainable Development Summit in September 2015, and that member countries have very high expectation for its operationalization. He noted that the meeting had the objective to contribute in realizing the TFM in concrete ways, by strengthening capacity of key stakeholders in developing countries to access, adopt and scale up technologies for the SDGs. He observed that the meeting marked the inception of the activities of a dedicated DESA project, supported by the UN Peace and Development Trust Fund, financed by China, that seeks to do just this. The project also seeks to improve how suppliers and users of technologies in key SDG areas find and connect to each other through online mechanisms. He stressed that the meeting brought together experts from across the world to help us understand how to strengthen both the online and offline components, as well as how they support each other. Mr. Liu also announced the signing of a Memorandum of Understanding between the Department of Economic and Social Affairs and the Ministry of Science and Technology that will ensure continuity to joint efforts to strengthen capacity in developing countries in harnessing STI for the SDGs.

10. H.E. Mr. Xu Nanping, in his remarks, highlighted that China is promoting the implementation of the 2030 Agenda for Sustainable Development through a five-pronged approach of practical initiatives in scientific and technological innovation. First, strengthening the strategic deployment and planning about sustainable development, focusing on many key technologies and critical issues such as resource use, environment protection and oceans. Second, strengthening the support to sustainable development through scientific and technological demonstration initiatives in key areas, which effectively has improved the environmental capacity and quality of each region, as illustrated by the combat to desertification in Qinghai province. He noted that such solutions could be promoted in countries that are part of *the Belt and Road initiative*. Third, constructing the national Sustainable Development Innovation Demonstration Zones. Fourth, establishing and operationalizing the Green Technology Bank(GTB), which he noted is different from traditional banks due to its focus on the technology transfer and trade of technologies. Fifth, promoting international cooperation, such as the ones illustrated by this High-level Seminar and Study Visit to China, and the opportunities for shared learning and follow-up cooperation.

11. In her remarks, H.E. Mrs. Marie Chatardová noted that the Agenda 2030 calls for efforts to enhance North-South, South-South and triangular regional and international cooperation on, and access to, STI and to enhance knowledge sharing on mutually agreed terms, including through a global

technology facilitation mechanism. She highlighted that the seminar and study visit was a concrete step in the implementation that mechanism, and that it was encouraging to see the United Nations working with national partners such as the Ministry of Science and Technology in China to help harness STI towards this end. She stressed that much more of this sort of cooperation was needed going forward; sharing knowledge, information and experiences; building on synergies; and providing coordinated support to developing countries to strengthen their scientific and technical capacities. In that regard, she highlighted that the multi-stakeholder forum on science, technology and innovation for the SDGs (STI Forum) provides a global platform for facilitating matchmaking and the establishment of networks between relevant stakeholders to identify and examine technology needs and gaps, and to help facilitate development, transfer and dissemination of relevant technologies for the SDGs. She informed that she would convene the third STI Forum on 5 and 6 June 2018. She noted with appreciation the coordinated support of the UN system to STI for SDGs under the TFM, and noted with appreciation the dedication and contributions to this effort of the ten internationally renowned representatives of science, private sector and civil society appointed by the UN Secretary General. She also noted with appreciation the efforts of DESA by playing an instrumental coordinating role in advancing STI for SDGs.

12. Mr. Jin Xingming, in his remarks, noted that, at that moment, Shanghai was speeding up the promotion of STI according to the request of the Central Government. He informed that Shanghai will promote advanced technologies through the Green Technology Bank, and that the city will continue its efforts to increasingly attract talents in the areas of science, technology and innovation.

13. Mr. Wang Ruijin highlighted in his remarks that it is required a combination of traditional and emerging technologies and innovations to achieve the SDGs. He highlighted the role of the United Nations Commission on Science and Technology for Development (CSTD) in promoting that. He noted that China can not only achieve its own sustainable development goals, but can help other developing countries to implement the SDGs. He highlighted three areas of work that could contribute to these efforts. First, promoting the development of TFM online platform (OLP). Second, promoting the internationalization, systematization and capitalization of the platform and improve the efficiency of technology transfer. Third, strengthening the cooperation between the United Nations and China in the terms of using Chinese expertise for the TFM and SDGs. Regarding the operationalization of the OLP, he suggested it could consider to establishing reginal operation centre in China which could be responsible for collection of technology needs, evaluations of green technologies, selection of technologies with low cost and high impact for the SDGs, as well as conferences of global/reginal STI for SDGs challenges. He noted that the OLP should foster collaboration of existing platforms, and be composed by both online and offline mechanisms supported by a dedicated UN fund.

Technical Presentation on the Green Technology Bank

Moderator: Mr. Shantanu Mukherjee, Chief of Policy and Analysis Branch, DESA-DSD, United Nations

- **Mr. WU Yuanbin**, Director-General of the Department of S&T for Social Development, MOST
- **Mr. SHOU Ziqi**, Director, Science and Technology Commission of Shanghai Municipality

14. Mr. Wu Yuanbin presented a brief introduction to the orientation and development strategy of Green Technology Bank (GTB). He noted that the positioning and concept of the GTB aims to converge advanced STI and practical elements for its development and scale up. It also seeks to strengthen the interlinkages between scientific efforts and development of technology to promote and accelerate the

transformation towards of green science and technology. In this regard, the GTB will push forward the financial services to support green technology innovation, and to build the financial service platform required. It will provide a new model for development of green enterprises, as well as for the development of regional solutions using green technology. The GTB will also focus on promoting the internationalization of green technology transfer and transformation services.

15. Mr. Shou Ziqi presented the progress of the GTB in the past 4 years since its establishment. He noted that the GTB has put in place an information platform, a financial platform and a transformation platform. In relation to the information platform, he noted that the GTB had laid out several demonstration areas of international transformation of technology, and has promoted the strengthening of exchanges, and the organization and participation of STI stakeholders in many international conferences. In relation to the financial platform, the work of the GTB in 2018 will focus on improving its organization and coordination mechanism; and strengthening the bank's fundamental guarantee of operation; including through the strengthening of management center. He noted that the transformation platform has the objective to optimize the economic, social and institutional environment in support to the green technological transformations.

Session 1: Challenges and opportunities for operationalizing online exchanges of STI: General considerations

Moderator: Mr. DENG Xiaoming, Deputy Director-General of the Department of S&T for Social Development, MOST, China

Presenters:
- **Mr. Eelco Kruizinga**, Senior Principal Consultant and Deputy Director, Knowledge Management Competence Centre, the Netherlands
- **Ms. AN Guojun**, Deputy Secretary-General of Green Finance Association
- **Mr. WANG Zheng**, Director, Shanghai Science and Technology Development and Exchange Center
- **Mr. LIU Haibo**, Professor, Institutes of Science and Development, Chinese Academy of Sciences, University of Chinese Academy of Sciences, China
- **Ms. LIU, Luying,** General Manager of Sinoipro IP Management and Technology Transfer Co. Ltd., China
- **Mr. ZHANG Chunpeng**, Associate Researcher, National Center for Science &Technology Evaluation, MOST, China

16. This session focused on practical technical considerations for operationalizing the TFM's online platform. It also discussed experiences and lessons learned on the establishment of the Green Technology Bank (GTB), and on the potential contributions of the GTB for the operationalization of the Online Platform.

17. The session discussed key recommendations of the Independent Technical Assessment Report of the Online Platform for its operationalization. It noted that OLP should have a shared purpose and vision, and should not be only about an IT platform but also about the creation of a network. The information exchange platform should be fully integrated and have more content and functions than a simple one-way information platform. Main functions of the OLP should include: information aggregation, periodic updates, contents search, contents delivery, linkages with relevant outside

websites, user uploading, user's interaction, online learning. The user group should cover a relative wide range, nearly all STI-related parties, including government sectors, business organizations, universities and public institutes, NPOs/NGOs, personal innovators. Among them, users from technology transfer agencies, innovative companies, and universities and institutes are especially crucial. Main contents in the platform should cover the areas of STI-related policies, activities, news, cases, publications, education/training resources, and patent databases. There is also the need for the OLP to be gateway for information and services on finance for STI for SDGs.

18. The session discussed the challenges and opportunities in implementing these recommendations. It was noted that this is an endeavour in which stamina is critical because the OLP will be developed in phases over years. It should be recognized that the realization of some of the contents on the platform depend on linkages with external partners.

19. Experts also noted that the OLP may include two levels of links or matchmaking: one between user and supplier of STI solutions (C2C), and two the between enterprises that are in the position of user or supplier (B2B). They alerted that one need to consider that there are times in which the user and supplier of STI wish to engage in business or technology transfer but their enterprises do not have required links to operationalize that transfer. Thus, there are challenges in linking human being and challenges in linking enterprises that must be taken into consideration. Some experts noted that there are minimal conditions to be met for the technology transfer to occur, and they may include appropriate regulations.

20. The session also discussed how the online platform can best serve its provider and client communities. Noting that there is a lot of work to be done not only for IT but also in other areas, experts stressed that it was critical to focus on the users for the successful operationalization of an effective OLP. In that connection, experts stressed the need to educate the users of the platform to improve its effectiveness.

21. The session discussed key practical considerations for the technical operationalization of the Online Platform based on the results of the Independent Technical Assessment. Experts were of the view that the OLP should use open data approaches and technologies, and should have an evolutionary approach, but with an agreed architecture. Some experts were of the view that that the initial efforts for the operationalization of the platform should focus on selected few areas (e.g. health, education, water) and build from there.

22. It was also highlighted the need to combine online and offline initiatives as part of the OLP. In this regard, the meeting noted some trends in green finance and noted an emerging consensus of a new stage of prosperity driven by green economy. Some experts noted that green development has become a new engine of growth and noted the intention of China to direct its development strategy towards green cities, green technologies and innovation. They noted the need for green finance to be part of the total finance of a green development for China. Experts also mentioned industry funds for green sectors and noted several financial mechanisms that are being implemented to finance green development. Experts also mentioned the need for a more diversified set of financial products to support green development.

23. Experts also noted the importance of technology classification and evaluation. In this regard, they suggested the OLP to start with a few key areas of SDGs based on technological classification and then select the appropriate evaluation methods, tools and experts to assess STI that can contribute to achieving the SDGs. Experts also noted the need to identify the key elements of technology evaluation

for the OLP. In this regard, the meeting noted that the National Center for Science and Technology Evaluation of China has built a scientific and effective technology evaluation index system. It includes a technical level, social and economic value, IP and team support. It was suggested that the OLP should build upon such scientific and standardized Index System of technologies, and use various evaluation methods and tools comprehensively. It was also suggested the OLP to cooperate with countries to set up a technology services system both online and offline, and to explore a mechanism of connecting technology evaluation to funding. Experts noted the importance of selecting projects and technologies with high potential social and economic value, and relatively low-risk for transfer. Experts suggested the OLP to establish a working mechanism to link the technology evaluation to country's needs.

24. The session also focused on the lessons learned from the establishment of the Green Technology Bank and how could they inform the operationalization of the Online Platform. The meeting noted a detailed presentation provided related to the information platform of the GTB, which will implement the evaluation of technologies, feasibility studies and implementation and promotion of projects. The meeting also noted the functionalities and plans for the GTB and a set of ten green technologies for replication.

Session 2: Capacity building towards STI for SDGs

Moderator: Mr. QIN Wenbo, Deputy Director General, Shanghai Science and Technology Committee, China

Presenters

- **Ms. Sheila Shefo Mbiru**, Knowledge Management and Capacity Development Officer, the Low Emission and Climate Resilient Development Project, Kenya
- **Mr. Huang Jing**, The Administrative Center for China's Agenda 21
- **Mr. Fang Jianping**, Vice President of Shanghai Aerospace Industry (Group) Co., Ltd.
- **Mr. WU Daohong**, Shenwu Technology Group Corp
- **Mr. Clément Gévaudan**, Senior Program Associate, Global Development Network, New Delhi

25. The session focused on the experience and lessons learned from existing capacity building programmes on STI, and how they can be used or adapted to improve progress towards the SDGs. The session highlighted that building indigenous capacity for STI is an essential element for harnessing them towards the SDGs, complementing other efforts such as those through online platforms.

26. The session discussed the experiences and lessons learned in implementing capacity building programmes on STI for SDG-related areas. The meeting noted the capacity building elements of the Low Emission and Climate Resilient Development Project, which has been implemented to help the Kenyan government to reduce greenhouse gas emissions, adapt to climate change and encourage the use of clean energy, advocate sustainable development and the development of clean energy technologies, and provide support to local communities. The project has implemented a dedicated training platform capable of building a global capacity to help national officials better manage the budget during climate change projects. As lessons learned from the Project that can inform the development of the OLP, experts noted the need to have engagement of all key stakeholders at all levels of government; the importance to have high-level buy-in; the need to build institutional capacity; to

enhance monitoring and reporting to improve the training programmes; to tailor-made programmes for needs of the people being trained; and to take into consideration gender and intergenerational aspects. It was also emphasized the need to develop a communication strategy incorporating indigenous knowledge.

27. Experts also noted that that technological innovation plays a great role in our society, and we must make full use of the effectiveness of our resources, while fully utilizing our human capital. In this regard, three challenges were highlighted. First, science is not seen as a priority and individuals are not sufficiently incentivized to become scientists and innovators. To address this challenge, it was suggested to actively search for this new generation of scientists and innovators through initiatives such as outreach events. Second, there are fewer scientists in developing countries, who may spend a lot of time on management. Therefore, they don't have much time to innovate, to carry out new projects, and have no time to train new generations of scientists. A way to address that challenge is to support mentorship in higher education institutions to help equip new generations with skills for knowledge transfer. Third, agendas that are developed in the North, don't always fit local priorities and context. To address that, there is the need to make the most of existing forces in the South, as well as to foster regional networks.

28. The meeting noted how China is currently promoting the implementation of the sustainable development agenda in science and technology innovation initiatives. Achieving sustainable development goals requires further strengthening of capacity-building. In that regard, it is important to identify key stakeholders for capacity development.

29. The session also discussed how these capacity building programmes could contribute – either on-line or off-line – towards improving the effectiveness of the TFM's Online Platform. Experts suggested that a key functionality of the portal would be to facilitate learning opportunities, responding to user needs (use user data to improve functionality). They noted the need for face-to-face engagements to complement online features. It was also emphasized the need to look at three levels (systemic, institutional, individual) in a holistic manner for building a successful online platform. Other experts also suggested the creation of an enabling environment in the OLP that could integrate young talents, mentorship and South-South networks; promote monitoring at local level; and implement capacity development through the analytical lens of scientific community.

30. Experts noted the need to consider how to involve indigenous people (e.g. reach women's communities). It was argued that it was important that local communities first understand technology before they can decide whether they need it. Other experts noted the need to address the issue of time lag between starting to build capacity and use of technology. They argued that such time lag would have incurred in costs for the user as in the case of the adoption of mobile phones in Africa. Others noted that South-South cooperation could be helpful to overcome these time lags. Experts also discussed how to identify proper classifications of technologies as well as ways of effective matching technologies. It was noted that the contribution of research communities can be improved through effective framing of research questions. It was also highlighted the need to identify areas where technologies are missing, so the research and technology development community could be directed to them. Regarding the OLP, experts highlighted that, to make it effective, there are needs to consider offline services to complement online offers, to know and listen to the users of the platform, and to create a database of STI for SDG needs (at local and national level) first and then match these needs.

Session 3: Experience of the private sector on STI deployment through online platforms

Moderator: Mr. Clovis Freire, Economic Affairs Officer, DESA-DSD, the United Nations

Presenters

- **Mr. Paulo Gadelha**, Former President, Fiocruz, Brazil
- **Mr. TIAN Feng**, Director, Ali Cloud Research Centre, Alibaba
- **Mr. Christian Brodhag**, President of Construction 21, France
- **Ms. Catherine Adeya**, Former Ag. CEO, Konza Technopolis Development Authority, Kenya
- **Mr. Abiodun Egbetokun**, Principal Research Officer at the National Centre for Technology Management, Nigeria

31. This session focused on the private sector's experiences and lessons learned related to the implementation of online platforms for the dissemination of STI solutions. The discussions covered a wide range of topics related to the global dynamics of STI, including the asymmetries on the prioritization decisions, R&D expenditures, sustainability of innovation systems and knowledge appropriation; governance and road maps; issues of intellectual propriety versus universal rights and common goods, and need to consensus on ethical criteria; as well as knowledge ecology, open sources, co-design and co-production.

32. In the case of technological eco-systems, the meeting noted the innovations of Chinese-based companies such as Alibaba, and its platform model in support to a digital economy and technology transfers. The model is comprised of a platform economy that consists of a cloud platform that supports e-commerce, mobile payment and logistics, and all of that is built on top of networks, user requirements and data. The meeting also noted how several products and services provided by Alibaba are operationalized through the combination of infrastructure services, data platform and vertical technologies of business and algorithm platforms. Experts also noted the extensive use of AI and data intelligence in the products and services discussed.

33. The session discussed the lessons learned from various countries in how they have connected users and providers of STI through both online and offline means. The meeting noted the experiences of de Fundacao Oswald Cruz (FIOCRUZ), Brazil, in the development and implementation of the platforms SISS-Geo, an information system of wildlife health, and AGORA, a collaborative tool for open science technology and education for health. Exerts noted the work carried out to ensure the user view in the development of SISS-Geo, which required 11 expeditions to remote areas in Brazil, reaching over 56 communities, 860 families and 2,560 indigenous people. The meeting also noted the approach adopted in the development of the platform AGORA, which employed crowdsourcing and was developed in 3 months, from the conception to the implementation of a minimum viable product.

34. The meeting also noted the platform of Construction 21, a social media to accelerate building and city sector transition to sustainable development. The platform serves as an international network of over 11 platforms worldwide, which are managed in each country by a non-profit organization and coordinated by an international association at global level. It thus combines a local and global approaches to organize social networks, develop competencies in green business and foster innovation. Some of the lessons learned highlighted from the experience of Construction 21 were that: awards can be a successful tool to incentivise providers of STI solutions to contribute to the platform; governance based on national chapters could tap into national innovation systems (NIS) and increase the national relevance of the platform; national portals in national languages, as well as translation process and

multilingual database of relevant terms, facilitate the access of national stakeholders to global knowledge; partnership with media could also support help NIS partners to better communicate, strengthening the NIS; dissemination of knowledge online could be facilitated if capacity of users to use online tools is increased through digital literacy training sessions; agile development using smart phones and social networks could attract new users; and the organization of physical meetings could strengthen the engagement and interactions of online communities.

35. The meeting noted the experience of the Kenya ICT Action Network (KICTANet), a multi-stakeholder platform for people and institutions interested and involved in ICT policy and regulation. Experts noted how the network used online and offline processes to keep the stakeholders engaged with access to information, match-making of people, and collaborative initiatives. It was noted that to keep stakeholders engaged it was necessary to build trust. In that regard, offline initiatives were critical.

36. The meeting also noted the how the users and providers of STI are connected in Nigeria, both online and offline.

37. The session also discussed how these initiatives could inform the operationalization of the TFM's Online Platform.

38. Experts discussed that to achieve the main goal of harnessing STI for SDGs, the OLP must contribute to a more inclusive STI dynamics and governance. It was noted that matchmaking, tech transfer and tech co-development shall include all dimensions of the innovation system. Innovative computational technologies must be developed by multi-professional teams with community participation and knowledge ecology approach. Experts were of the view the OLP must seek bold solutions and be under the care of stable institutions and partners, building on existing initiatives, and structure as a network of networks.

39. Other experts highlighted that the online platform should support actual technology transfers via matchmaking, not be simply an information repository for policy/scientific information. An online platform alone is insufficient, and must be linked to the provision of technology transfer services offline. They also stressed that a key group of platform users is public agencies and private suppliers of such services within country-based innovation ecosystem. The platform is best structured as a network of country-based networks, which will distribute effort, financial costs and service provision and lower overall cost. They noted that the platform will need a small team once it is fully operative, but it is crucial that it be permanently 'animated'. The skill set of the human resource should not be limited to the IT domain, but rather focus on service development, process management and facilitation of networks. They also alerted that the OLP should not rely on volunteers to keep the network alive; viable governance structure needed to keep platform running and relevant.

40. Experts also noted that it is crucial to do things on the ground if the online platform would have the desired impact. Some specific examples of what to do were highlighted, including: considering extensive use of local expertise to achieve an adaptive and responsive platform; establishing a sustainable monitoring and assessment mechanism; and considering convening regular events to keep the activity alive. It was also suggested that the OLP should curate several existing initiatives and programmes in countries, such as available innovation hubs, sorted by sector of activity; available STI databases and efforts; existing publications, sorted into open access and paid access; and existing online platforms. Experts also highlighted the need to engage both the public and private sectors. The public sector creates the context within which things work, and the private sector is more active in making things work. Experts also noted the need to consider issues of low digital literacy and the need for

capacity building and information in local languages (e.g. experience from Bhutan).

Session 4: Sharing cross-country experiences in deploying STI science, technology and innovation deployment for the SDGs through online platforms

Moderator: Mr. LIU Wei, Coordinator, the UN Inter-Agency Task Team on Science, Technology and Innovation for the SDGs, DESA-DSD, United Nations.

Presenters:

- **Ms. Yesim Baykal**, Senior Programme Officer, Global Challenges Division, the World Intellectual Property Organization, Geneva
- **Mr. Asher Lessels**, Programme Officer, UNFCCC
- **Mr. Huang Ping**, Director, China International Technology Transfer Center
- **Mr. Zhou Jiefu**, Chief Engineer, China energy Conservation and Environmental Protection Group
- **Ms. Ru Guo**, Tongji University, Deputy Director of Environmental Planning and Management

41. The session discussed the experience and lessons learned within the United Nations System and beyond in implementing online platforms for the dissemination of STI solutions for specific areas of the SDGs. The meeting noted the experience of the WIPO Green platform, a marketplace for sustainable technology focusing on SDGs 2, 6, 7, 9, 13 and 17. WIPO Green performs matchmaking activities though online and offline mechanisms to connect seekers of innovative solutions with the relevant green technology. The offline activities include the organization of a matchmaking seminar for face-to-face negotiation and training in IP licensing. The meeting noted that a matchmaking project in East Africa identified 70 needs for green technology solutions in Ethiopia, Kenya and Tanzania, in areas related to water treatment, energy and food processing. It also noted the benefits of uploading technologies solutions and needs in the WIPO Green platform, including: free-of-charge international promotion; connection to a large network of green technology providers and experts; identification of potential collaborators, investors, licensees etc; and the possibility to participate in WIPO Green activities (e.g. matchmaking events, Green tech exhibitions, partners events, discount on WIPO Arbitration and Mediation services, etc.). Experts have noted some lessons learned from the WIPO Green experience. They stressed, once again, that an online database is not enough. Offline activities (face-to-face) are needed to keep the network alive. They also noted that it was very important to identify the needs for technologies, which could be such on the case of WIPO Green through a special form to assist countries in articulating their needs. It was also highlighted that technology transfer is a complex and long process, and that a "technology package" which include most of the required elements (e.g. information, finance, IP, etc..) could facilitate that process. Experts also noted that it was important to set the objective of the OLP from the beginning, and more importantly, to define where the OLP ends its role, to be able to measure success and to manage expectations properly.

42. The session also noted the TT:CLEAR online platform, the UNFCC platform that serve as an entry point for information and work on climate technologies in UN climate change. The information shared through this platform, includes: process of development of climate technology projects and policies, and TEC recommendations for climate action. As lessons learned from the establishment of the TT:CLEAR platform, experts noted that it was important to be conservative about project scope and avoid scope creep, as well as to be conservative with timeline required. It was also noted the importance

to ensure that a project manager can oversee project on a day-to-day basis to ensure its successful completion.

43. Based on the lessons learned, the session discussed how to minimize risks and maximize opportunities in the operationalization of the TFM's Online Platform. Experts noted that the operationalization of the OLP need to be based on concrete needs in addition to its mandate. That would reduce the risk of it not being perceived as relevant to the various groups of users. It is also necessary to manage expectations, given the multitude of stakeholders. In that connection, it is important to identify a project champion that has a good communication channel with those various stakeholders to be able to set expectations properly.

44. The session also discussed Chinese examples of platforms for technology transfer. The meeting noted the experience of the China International Technology Transfer Center (CITTC), a professional platform to promote technology transfer at national and international levels. It serves as a window for international advanced technologies to enter the Chinese market, as well as a bridge between technology produced in China to the global market. Therefore, the objective of the CITTC is to build international technology exchange and encourage Chinese companies to go Global. The platform provides a full package of technology transfer services, from policy consulting to training, from technology assessment to B2B matchmaking. It integrates a massive amount of information about Chinese and international technology transfer projects, and it has attracted about 150 domestic and international technology transfer services agencies and created partnerships with other institutes abroad. Other partners include key labs and engineering centres, capital science and technology resource platform, Beijing innovation alliance (which includes over 10,000 enterprises), Venture capital association of Beijing, and Beijing invention association. Experts also noted the online and offline services provided by the platform.

45. The meeting also noted the technology transfer products and services provided by the China Energy Conservation and Environmental Protection Group, which focused on water, atmospheric pollution prevention, solid waste, environmental technology. Experts noted the challenges associated with ensuring clean water and the different technologies used in this regard. It was also highlighted the water-energy nexus and it was discussed ways to reduce energy needs in water sector. The meeting also noted the initiatives being implemented in China and the technologies used for atmospheric pollution prevention, as well as for waste treatment.

46. The meeting also noted the Chinese development strategy focusing on green development. Experts noted the objectives of the GTB to address the challenges in the transfer of green technology. One challenge highlighted was the difficulty to formulate a standardize definition for green technologies. In that connection, some experts proposed a definition that considers green technology as a dynamic technical system that aims to promote the harmonious development of human and nature to achieve regional and sustainable development to improve the efficiency of resource and energy and to avoid and eliminate or reduce pollution such as process flow, products, equipment, and technical services. Another challenge highlighted is that domestic and international standards are not aligned. Experts noted the Green Technology Classification Standard used in China based on current and future issues related to resources and environment.

47. The session also discussed how these initiatives could inform and contribute to the operationalization of the TFM's Online Platform. Experts noted that those platforms could connect to the OLP and provide information regarding climate change-related information on technology needs, action plans and technology policies.

Session 5: Accelerating innovation – integrating on-line and off-line mechanisms; and connecting demand to supply

Moderator: Mr. Yuan Quan, Hongkou District of Shanghai, District Vice Executive

Presenters:

- **Ms. Nina Harjula**, Chairman of the Board, Nordic Innovation Accelerator, Co-founder and Board member, Global Cleantech Cluster Association: G-HUB
- **Ms. Grace Kim**, Manager of Global Innovation Exchange, Sr. Advisor - Applied Innovation & Acceleration, U.S. Global Development Lab, US Agency for International Development (tbc)
- **Mr. Jonathan Tsuen Yip Wong**, Chief, Technology and Innovation, Trade, Investment and Innovation Division, UN ESCAP, Thailand

48. The session discussed experiences and lessons learned from 'innovation accelerator hubs' and other such initiatives in disseminating and facilitating STI solutions in an integrated manner. The meeting noted the experience of the Global Cleantech Cluster Association and the Nordic Innovation Accelerator, an online hub concept converging physical cluster collaboration into a digital deployment network. In that network, the seekers of STI solution are large corporations, cities and NGO's with technology needs, while the providers (or solvers) are the SMEs, startups and researchers with innovative solutions. The network also connects corporate venture, venture capitalists, and institutional funds to provide the necessary funding. A critical success factor of the platform is its global focus with local ecosystems engagement, which allows to reach a global promotion channel while building trust among users. Another critical factor is the fact that users are content owners in the platform. Companies generate the content by posting requests for STI solutions and the platform provides interactive smart tools that allow for the digitalization of application, evaluation and the contact between seeker and solver. Some of the lessons learned highlighted by experts included the importance of understanding various stakeholder expectations to build a sustainable business model, related earnings logic and trust. In this regard, the focus on global reach was considered incentive because it opens value creation opportunities for all stakeholders. Experts also noted that value creation challenges can be tackled by timely information, proactive communication and additional open innovation services to complement stakeholder weaknesses and challenges. They also noted, once again, that digital mechanisms should be complemented by spatial (physical) mechanisms. Platform needs active management and require knowledge on how to run an online community with regular online and offline activities. Thus, they called for attention on the importance of studying hybrid mechanisms in the context of B2B innovation platforms.

49. The meeting also noted the experience of the Global Innovation Exchange, a technology platform that aims to accelerate innovation in developing countries using its ever-growing database of innovations and funding to reveal curated content and industry insights. The platform provides an open, public and single database to match innovation and funding, increasing access to information, and tackling the challenges of lack of shared business intelligence, duplication of initiatives, and barriers to scale and sustainability. It was highlighted the need to find a balance between quantity and quality of information online, otherwise the platform could become a repository of many low-quality ideas. It is also important to identify the primary customer of the platform, given that different stakeholders have different needs. Experts also noted that data exchange among partner platforms is a challenge, even

when there is a API, because that does not preclude the need for a data experts capable to understand and use the API. Experts also highlighted the importance of the OLP to have a focus and do not try to perform many functions at once.

50. The meeting noted the experiences of the online platforms of the National Institute for Health and Care Excellence of the UK, the National Innovation Centre of the UK, as well as the AMPLIFY and the Multiplier platforms. Experts noted some lessons learned from the implementation of these platforms. For example, trust in information offered on platform need to be gained, it cannot be taken as granted; it is important to start the development of a platform with needs assessment to ensure the effectiveness of the solution; it is also important to offer offline workshops to increase the capacity of the users to access the platform. Experts also noted the need to tap in local and regional (grassroots) innovation hubs, online and offline.

Session 6: Connecting STI to finance

Moderator: Mr. ZHANG Dongfeng, Deputy Director of National Science and Technology Venture Capital development Center

Presenters:

- **Ms. Saimei Zhang**, GM, Shanghai Innovital Capital
- **Mr. Songphon Munkongsujarit**, Senior Consultant, Innovation and Technology Assistance Program, National science and Technology Development Agency, Thailand
- **Mr. Bo Bai**, CEO of US-China Green Fund
- **Mr. Dietrich Van der Weken**, General Manager and COO, Global Science, Technology and Innovation Conference (G-STIC)
- **Ms. Vera Florida**, Senior Reseacrher, STIPRO, Tanzania
- **Mr. Deng Ke**, Head of Digital Business, UCF Group
- **Mr. Xu Zhengzhong**, Professor of Chinese Academy of Governance

51. The session discussed the ways in which financing can be most effective in scaling up STI solutions for the SDGs, including various innovative instruments for the purpose. An area of focus was issues related to green finance, green technology matchmaking mechanism and offline components about green technology transfer and finance. The meeting also discussed blockchain computing technology and innovations in that area in the financial sector.

52. The session discussed the Chinese experience in establishing and operating funds in support to STI for sustainable development. The meeting noted the experience of the National Science and Technology Venture Capital Development Center, and noted that as an important part of green finance, equity investment funds play an important role in direct financing especially for some green technologies with high growth and high risks. Experts presented the steps that were taken for the establishment of the Shanghai Green Technology Venture Capital Fund (3.518 billion Yuan), the structure of the fund, and how this contributes to building a green financial system to promote green economic growth. They noted that the focus of initial investment will be on new energy, new material,

medical health, energy saving and environmental protection and pollution control.

53. The meeting noted the experience of the US-China Green Fund, which aims at promoting adoption and dissemination of green technology through investments and US-China cross-border innovative collaborations in finance, green technologies and business models. The fund aims to contribute to: tackle China's environmental pollution and reduce carbon emissions; introduce advanced US technology and resources to China; obtain policy and capital support in China market for adoption of green technologies; create green jobs and growth in the US and China; and improve US-China bilateral relations. The meeting noted that the fund seeks to obtain policy guidance from the US and China's governments, and work with local governments to establish partnerships and concrete policy support. The fund then promote research through the Green Technology Research Institute, which supports the investment team of the fund to conduct applied research on technology commercialization. Research also assists international green technology and equipment to adapt to the Chinese market. The fund also integrates US-China green technology and provides comprehensive solutions and business models across the value chain. More importantly, it provides capital support to companies and projects, and utilize innovative financing to reduce capital costs. For the execution of the projects, the fund selects locally viable business models in leveraging a private equity investor's perspective. The meeting also noted some of the completed investments of the fund, including on projects to recover waste heat to provide district heating, distribution of photovoltaic platforms, energy savings for commercial buildings, data center energy efficiency with water cooling, industrial energy savings, and smart parking technology to address congestion.

54. The session discussed the experiences of national and international programmes and initiatives in support of innovation. In this regard, the meeting noted the Innovation and Technology Assistance Program (IATP) of the National Science and Technology Development Agency of Thailand, which has the objective to stimulate economic growth of Thailand through the proper usage of technology and innovation. The programme provides technical advisory services and financial assistances to small and medium enterprises (SMEs) in Thailand via intermediary agent called Industrial Technology Advisor (ITA). These agents are organizations that act as agent or broker in any aspect of the innovation process between two or more parties (e.g. SMEs, technology experts, etc). ITAP provides 50% reimbursement of project cost for SMEs after the project is completed and evaluated. It introduces SMEs to other STI related support programs, some of which are related to financial support such as tax incentive for R&D activities, innovation coupon for technology upgrade. It also connects SMEs with the partner financial institutions (e.g. Thailand SME Development Bank for loan for upgrading technology infrastructure, Thai Credit Guarantee Corporation for credit guarantees for viable SMEs). The meeting noted the example of a family-based SME producing dried bananas that was assisted by ITAP to upgrade the traditional open-air sun drying production method to the use of greenhouse solar dryer, resulting in more efficient production and better-quality products. Based on that experience, experts noted that SMEs have limited resources (e.g. time, money, personnel) and it is necessary for government to assist them in the beginning. However, the government cannot help all SMEs. Thus the assistance should come with capacity building for sustainable growth by themselves, especially providing financial resources should be based on the market mechanism. Experts highlighted that online and offline features of the OLP could be very useful for innovation intermediaries such as the ITAP to facilitate their work in promoting transfer of technology.

55. The meeting also noted the experience of the Global Science, Technology and Innovation Conferences (G-STIC), which aims at identifying and promoting market-ready, integrated technological solutions needed to achieve the SDGs. These should be implementable solutions that are scalable and sustainable both from a societal and economic perspective. The first edition of the G-STIC

initiated a process of creating practitioner communities around these integrated technological solutions and putting these solutions in to practice in ways that contribute significantly to achieving the SDGs. G-STIC 2017 was structured around eight thematic clusters (agroecology for sustainable food systems, circular economy, energy positive communities, waste water and a resource smart water, sustainable technology and development, urban electric mobility, and urban design and sustainable building), one panel on ocean industry, three topical sessions (CO_2 as a resource, bamboo, and innovative building materials), and four cross cutting themes (climate-smart technology, ICT as enabling technology, gender mainstreaming, and youth engagement). The meeting noted some of the key findings of the 2017 G-STIC, including that many technologies are needed to achieve many SDG-related targets are already available. Following demonstration to show effectiveness under real-life conditions, there is the need to develop strategies for deployment at scale to a level necessary to achieve the SDGs. For this, suitable policy and institutional environments, models, targeted incentives and partnerships are needed, which themselves are reinforced and strengthened by deep and sustainable business, political and citizen engagement. Experts also highlighted the need for new financial instruments to finance the necessary transition to a more sustainable development.

56. Experts noted the experiences in connecting STI to finance in the African context. They emphasized that meeting the SDGs is a shared ambition which requires active engagement to make it happen, otherwise it would not happen organically. That involves making all that is required to work, including building capacities where there is none. In that regard, least developed countries require the development of many capabilities for them to achieve the SDGs. Experts noted that sometimes the minimal conditions are missing, and if not built, no change will take place. Often mental shifts and creation of new technology trajectories are needed before technologies can be transferred. Hence the facilitation process maybe intensive and long. What is needed is thus building inherent capacities within local systems to demand for new knowledge by continuously identifying needs, seeking and utilizing solutions. That would require finance to develop technical skills, awareness, mental shifts, information, regulations, standards, procedures, and research; as well as to support the required infrastructure and institutions, including incubators and facilitators of technology transfer. Possible types of funding include: awards, grants through philanthropies; pre-paid services; technical assistance; incubators; direct financing; mandatory contributions; business-research linkages; seed funding; bank guarantees; matching grants; lease finance; export credits; equity; and business to business.

57. Experts noted that effective entry points for financing the scale-up and development of technologies for the SDGs would include: establish national technology promoters and brokers to act as champions and facilitators; create national multi-stakeholder platforms, hubs or clusters of interested technology users and investors; businesses, ideas, talents, around priority sectors; mobilize national pools of funders who have interest, mechanisms and potential to finance businesses and initiatives to achieve the agreed national innovation challenge; mobilize national pools of intermediaries (or service providers) who have the ability and the potential to be subcontracted to provide services (e.g. capacity building, information dissemination etc.) to support businesses and investors; then finance the four actors using different or a combination of means depending on situations and capacities.

58. Experts also discussed the necessary pre-conditions and complementary measures that will result in the most effective and efficient use of financing instruments. They noted that finance should be well-targeted, provided through trusted local institutions, and less bureaucratic with simple and user-friendly tools. The approval process must be simple, relevant, multi-stage and with in-built capacity building. It also should be proven to work in a particular context; thus, it should not require too much time to be understood or trusted. They also should take into consideration an appropriate time frame, recognizing that some ideas need long term funding. They also should be flexible enough to facilitate

appropriate response to context, as well as comprehensive enough to provide a wide range of associated services if needed. They also should be able to ensure balance between gender, and local versus foreign beneficiaries. Experts also noted that financing agents must be ready to take sufficient risk in promoting STI for SDGs. The risks should not be transferred to those with less power in the technology transfer process.

59. Experts noted that the OLP could facilitate the connection between STI solutions and the financing mechanisms required for their scaling up, through the use local champions and brokers to link, stimulate and guide processes and build local trust. They suggested to integrate a pre-accredited pool of local funders and financial institutions into the platform, and to create an offline support scheme using local service providers and intermediaries as an arm of the platform. They also recommended to create offline processes to identify talents (and ideas) and stimulate local funding, as well as create incentives for local funders and risk managers to create and sell packages in the platform. As major lessons learned, experts noted that funding is not the single reason for technology not being transferred. Thus, access to finance is not a panacea for innovation or growth. Funding needs to be accompanied by other required mechanisms, in a package.

Session 7: Wrap-up and the way forward

Moderator: Mr. Shantanu Mukherjee, Chief of Policy and Analysis Branch, DESA-DSD, United Nations

Presentation: Mr. Clovis Freire, Economic Affair Officer, DESA-DSD, United Nations, and **Mr. Jorge Martinez Navarrete**, OICT, United Nations

Discussion:

- **Ms. Nina Harjula**, Chairman of the Board, Nordic Innovation Accelerator, Co-founder and Board member, Global Cleantech Cluster Association: G-HUB
- **Ms. Yesim Baykal**, Senior Programme Officer, Global Challenges Division, the World Intellectual Property Organization, Geneva
- **Mr. Stephen Gelb**, Principal Research Fellow, Team Leader, Private Sector Development, Overseas Development Institute, the UK
- **Mr. DENG Xiaoming**, Deputy Director-General of the Department of S&T for Social Development, MOST, China

60. The session focused on eliciting concrete options for going forward on the development of the TFM online platform. It started by noting a presentation of an initial proposal for next steps for the technical implementation of beta versions of the OLP to be operational for demonstration at the 2018 STI Forum.

61. Experts noted that the OLP should be seen as a tool or complement for national innovation ecosystems in countries, rather than a substitute or replacement for these ecosystems. Therefore, one of its main aims should be to help build these ecosystems by supporting 'technology transfer' amongst innovation system organisations, of knowledge, especially knowledge of management and organisational methods.

62. Following on from this, an important type of matchmaking which the OLP should undertake is

between technology transfer intermediaries and service providers who are in short supply in many developing countries. This would include technical evaluators and technology testers, legal and financial services providers, business association officials (clusters and regions), and so on. Consideration needs to be given to developing business models to enable matchmaking and collaboration between these service providers in developed and developing countries, as this will accelerate the expansion of these capabilities in the latter, and thereby enhance the flow of technology. Matchmaking of this type could be undertaken via dedicated sections of the OLP focussing on these services, rather than specific sectoral technologies.

63. Experts also stressed needs to engage actively and explicitly with business sector, especially large global corporations/platforms, to facilitate their *sourcing* technology in developing countries, as well as *supplying* technology to these countries.

64. Some of the key recommendations of the meeting were reiterated, including: the structure of the online platform as a network of existing platforms and networks; the importance to focus its implementation on the concrete needs of users for its successful operationalization; the need provide actual technology transfers by facilitating matchmaking between seekers and providers of STI solutions for the SDGs and by providing access to other necessary online and offline services such as finance, capacity building and intellectual property rights; the need to build the capacity of users in how to access the online and offline services provided by the platform; and technical and human resources requirements for the operationalization of the platform.

65. Mr. Shantanu Mukherjee of DESA and Mr. DENG Xiaoming of MOST delivered closing remarks, which concluded the meeting.

High-level Study Visit to China on Science, Technology and Innovation (STI) for the SDGs

4-7 December 2017

Conference Room, Broadway Mansions Hotel, Hongkou District, Shanghai, China

Programme

4 December 2017

Pre-session: 9:00 – 11:30am

Registration (Morning tea)

Networking and bilateral meetings

Opening Ceremony: 11:30 – 12:10 a.m. Opening of the partnership inception meeting

Moderator and opening remarks: Mr. LIU Zhenmin, Under-Secretary General of Economic and Social Affairs, UN DESA

- H.E. Mr. XU Nanping, Vice Minister of Science and Technology, China
- H.E. Mrs. Marie Chatardová, President of UN Economic and Social Council, Permanent Representative of the Czech Republic to the United Nations
- Mr. JIN Xingming, Deputy Secretary-General of Shanghai Municipal People's Government
- Mr. WANG Ruijun, Chair of the 20th session of the United Nations Commission on Science and Technology for Development

12:10 – 12:30 a.m. Technical Presentation on the Green Technology Bank

Moderator: Mr. Shantanu Mukherjee, Chief of Policy and Analysis Branch, DESA-DSD, United Nations

- Mr. WU Yuanbin, Director-General of the Department of S&T for Social Development, MOST
- Mr. SHOU Ziqi, Director, Science and Technology Commission of Shanghai Municipality

12:30 – 2:00 p.m. Ministerial Lunch (by invitation only) and Lunch break

Session 1: 2:00 – 3:30 a.m. Challenges and opportunities for operationalizing online exchanges of STI: General considerations

Moderator: Mr. DENG Xiaoming, Deputy Director-General of the Department of S&T for Social Development

- Mr. Eelco Kruizinga, Senior Principal Consultant and Deputy Director, Knowledge Management Competence Centre, the Netherlands
- Ms. AN Guojun, Deputy Secretary-General of Green Finance Association
- Mr. WANG Zheng, Director, Shanghai Science and Technology Development and Exchange Center

- Mr. LIU Haibo, Professor, Institutes of Science and Development, Chinese Academy of Sciences, University of Chinese Academy of Sciences, China
- Ms. LIU, Luying, Sinoipro IP Management and Technology Transfer Co. Ltd., General Manager, China
- Mr. ZHANG Chunpeng, Associate Researcher, National Center for Science &Technology Evaluation, China
- Interactive dialogue

3:30 – 3:50 p.m. Tea break

Session 2: 3:50 – 5:30 p.m. Capacity building towards STI for SDGs

Moderator: Mr. QIN Wenbo, Shanghai Science and Technology Committee, Vice Director, China

- Ms. Sheila Shefo Mbiru, Knowledge Management and Capacity Development Officer, the Low Emission and Climate Resilient Development Project, Kenya
- Mr. Huang Jing, The Administrative Center for China's Agenda 21
- Mr. Fang Jianping, Vice President of Shanghai Aerospace Industry (Group) Co., Ltd.
- Mr. WU Daohong, Shenwu Technology Group Corp
- Mr. Clément Gévaudan, Senior Program Associate, Global Development Network, New Delhi
- Interactive dialogue

Lead intervention from the floor (1 minute)

Mr. Andrés CORDOVA, Second Secretary – Delegate; Permanent Mission of Ecuador to the United Nations, Ministry of Foreign Affairs and Human Mobility

Dinner reception: 6:30 -8.30 p.m. Li Palace

5 December 2017

Session 3: 9:00 – 10:30 a.m. Experience of the private sector on STI deployment through online platforms

Moderator: Mr. Clovis Freire, Economic Affairs Officer, DESA-DSD, United Nations

- Dr. Paulo Gadelha, Fiocruz, Brazil
- Mr. TIAN Feng, Alibaba
- Mr. Christian Brodhag, President of Construction 21, France
- Dr. Catherine Adeya, Former Ag. CEO, Konza Technopolis Development Authority, Kenya
- Mr. Abiodun Egbetokun, Principal Research Officer at the National Centre for Technology Management, Nigeria
- Interactive dialogue

Lead intervention from the floor (1 minute)

- Mr. Pempa Tshering, Chief ICT Officer, Department of Information Technology and Telecom, Ministry of Informations and Communications, Royal Government of Bhutan

10:30 – 10:50 a.m. Tea Break

Session 4: 10:50 – 12:30 p.m. Sharing cross-country experiences in deploying STI science, technology and innovation deployment for the SDGs through online platforms

Moderator: Mr. LIU Wei, Coordinator, the UN Inter-Agency Task Team on Science, Technology and Innovation for the SDGs, DESA-DSD, United Nations

- Ms. Yesim Baykal, Senior Programme Officer, Global Challenges Division, the World Intellectual Property Organization, Geneva
- Mr. Asher Lessels, Programme Officer, UNFCCC
- Mr. Huang ping, Director, China International Technology Transfer Center
- Mr. Zhou Jiefu, Chief Engineer, China energy Conservation and Environmental Protection Group
- Ms. Ru Guo, Tongji University, Deputy Director of Environmental Planning and Management
- Interactive dialogue

12:30 – 2:00 p.m. Lunch break

Session 5: 2:00 p.m. – 3:00 p.m. Accelerating innovation – integrating on-line and off-line mechanisms; and connecting demand to supply

Moderator: Mr. Yuan Quan, Hongkou District of Shanghai, District Vice Executive

- Ms. Nina Harjula, Chairman of the Board, Nordic Innovation Accelerator, Co-founder and Board member, Global Cleantech Cluster Association: G-HUB
- Ms. Grace Kim, Manager of Global Innovation Exchange, Sr. Advisor - Applied Innovation & Acceleration, U.S. Global Development Lab, US Agency for International Development (tbc)
- Mr. Jonathan Tsuen Yip Wong, Chief, Technology and Innovation, Trade, Investment and Innovation Division, UN ESCAP, Thailand
- Interactive dialogue

3:00 p.m. - 3:20 p.m. Tea break

Session 6: 3:20 – 5:40 p.m. Connecting STI to finance

Moderator: Mr. ZHANG Dongfeng, Deputy Director of National Science and Technology Venture Capital development Center

- Ms. Saimei Zhang, GM, Shanghai Innovital Capital
- Dr. Songphon Munkongsujarit, Senior Consultant, Innovation and Technology Assistance Program, National science and Technology Development Agency, Thailand
- Mr. Bo Bai, CEO of US-China Green Fund
- Mr. Dietrich Van der Weken, General Manager and COO, Global Science, Technology and Innovation Conference (G-STIC)
- Ms. Vera Florida, Senior Reseacrher, STIPRO, Tanzania
- Mr. Deng Ke, Head of Digital Business, UCF Group
- Mr. Xu Zhengzhong, Professor of Chinese Academy of Governance
- Interactive dialogue

Session 7: 5:40– 6:10 p.m. Wrap-up and the way forward

Moderator: Mr. Shantanu Mukherjee, Chief of Policy and Analysis Branch, DESA-DSD, United Nations

Presentation: Mr. Clovis Freire, Economic Affair Officer, DESA-DSD, United Nations, and Mr. Jorge Martinez Navarrete, OICT, United Nations

Discussion:

- Ms. Nina Harjula, Chairman of the Board, Nordic Innovation Accelerator, Co-founder and Board member, Global Cleantech Cluster Association: G-HUB
- Ms. Yesim Baykal, Senior Programme Officer, Global Challenges Division, the World Intellectual Property Organization, Geneva
- Mr. Stephen Gelb, Principal Research Fellow, Team Leader, Private Sector Development, Overseas Development Institute, the UK
- Mr. DENG Xiaoming, Deputy Director-General of the Department of S&T for Social Development, MOST, China

6 December 2017

Study tour for the group with further opportunity for questions and discussion.

- 8:30 - Departure from Broadway Mansions Hotel Shanghai (5.4 KM away from Petro Mansion)
- 9:00-10:00 - Suzhou River Comprehensive Treatment – Environment Theme Park of Suzhou River Mengqing Garden
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- 10:00-10:15 - Go to Garden Lane Green Industrial Demonstration Park
- 10:10-11:15 - Garden Lane Green Industrial Demonstration Park
- 11:15-11:45 - Tongjii Hongkou Green Technology Industrial Park
- 11:45-12:15 - Green Technology Bank
- 12:15-13:30 - Luncheon (Return to Broadway Mansions Hotel Shanghai)
- 14:00- - Departure from hotel
- 14:00-15:00 - Set out for Shanghai Waigaoqiao No. 3 Power Plant
- 15:00-15:20 - Shanghai Waigaoqiao No. 3 Power Plant
- 15:20-16:40 - Urban Best Practice Area
- 16:40-17:00 - Return to Broadway Mansions Hotel Shanghai

7 December 2017

Study tour for the group with further opportunity for questions and discussion.

- 8:30-10:30 - Transfer from hotel to Chongming Island
- 10:30-11:15 - Ecological architecture constructed by Shanghai Chenjia Town Construction Development Co., Ltd.

- 11:15-12:00 - Chongming Dongtan Wetland Nature Reserve
- 12:00-13:30 - Luncheon
- 13:30-14:30 - Yingdong ecological house
- 14:30-15:30 - Acipensersinensis Natural Reserve
- 15:30 - Return to Broadway Mansions Hotel Shanghai

List of Participants

Leading Group Members of Green Technology Bank

Xu Nanping, Vice Minister of Science and Technology, PRC

Jin Xingming, Deputy Secretary-General of Shanghai, Municipal People's Government

Wu Yuanbin, Director-General of Department of S&T for Social Development, MOST

Shou Ziqi, Director, Science and Technology, Commission of Shanghai Municipality

ZhaoYongfeng, District Chief of Hongkou District of Shanghai

Liu Liqun, Counselor of Department of International Economic Affairs, Ministry of Foreign Affairs, PRC

Gao Runsheng, Deputy Inspector of Department of Science and Technology, Ministry of Education, PRC

Wang Xiaoyang, Division Chief of Department of Energy Conservation and Resource Utilization, MIIT

Wang Kaiyu, Deputy Director-General of Department of Science, Technology and Standards, Ministry of Environmental Protection, PRC

Liu Hongmei, Deputy Director-General of Department of International Cooperation, Science and Technology, Ministry of Water Resources, PRC

Deng Xiaoming, Deputy Director-General of Department of S&T for Social Development, MOST

Xie Xin, Deputy Director-General of Department of Resource Allocation and Management, MOST

Zhang Xu, Deputy Director-General of Department of Innovation and Development, MOST

Yang Xuemei, Division Chief of Department of International Cooperation (Office of Hong Kong, Macao & Taiwan Affairs), MOST

Zhang Nan, Division Chief of China Science and Technology Exchange Center

Huang Jing, Director of the Administrative Center for China's Agenda 21

Han Jun, Deputy Chief Appraiser of National Center for Science & Technology Evaluation

Zhang Dongfeng, Deputy Director of National Science and Technology Venture Capital Development Center

Qin Wenbo, Vice Director，Science and Technology Commission of Shanghai Municipality

Yuan Quan, District Vice Executive of Hongkou District of Shanghai

Wang Zhen, Director of Shanghai Science & Technology Development and Exchange Center

Yi Bin, Secretary-General of China Association of Environmental Protection Industry

Zhang Xiaodong, President of Industrial and Commercial Bank of China (Shanghai)

Guests Invited by UN DESA

LIU Zhenmin, Under-Secretary General of Economic and Social Affairs, DESA, United Nations

CHATARDOVA Marie, President of ECOSOC, United Nations

WANG Ruijun, Chair of the 20th session of the United Nations Commission on Science and Technology for Development, Director of Department of Science and Technology of Guangdong Province

MUKHERJEE Shantanu, Chief of Policy and Analysis Branch, DESA-DSD, United Nations

LIU Wei, Coordinator of the Secretariat of the 10-Member Group to Support the Technology Facilitation Mechanism and the UN Inter-agency Task Team on Science, Technology and Innovation for the SDGs, DESA-DSD, United Nations

YANG Lin, Special Assistant to the Under-Secretary General, DESA, United Nations

FREIRE Clovis, Economic Affairs Officer, DESA-DSD, United Nations

KUEHNER Martina, Associate Sustainable Development Officer, DESA-DSD, United Nations

ADEYA Catherine Elizabeth Awino, Fieldstone Africa, Consultant, Kenya

BRODHAG Christian Bernard, President of Construction 21, France

MUGITTU Vera Florida, Senior Researcher,Science, Technology and Innovation Policy Research (STIPRO), Tanzania

EGBETOKUN Abiodun Adeyemi, Principal Research Officer at the National Centre for Technology Management,Nigeria

GADELHA VIEIRA Paulo Ernani, President, Fundação Oswaldo Cruz (Fiocruz), Brazil

GELB Stephen Roy, Principal Research Fellow, Team Leader, Private Sector Development, Overseas Development Institute, United Kingdom

GEVAUDAN Clément, Senior Program Associate, Global Development Network, India

HARJULA Nina, Chairman of the Board, Nordic Innovation Accelerator; Co-founder and Board member, Global Cleantech Cluster Association, Finland

KRUIZINGA Eelco Peter, Senior Principal Consultant and Deputy Director, Knowledge Management Competence Centre, The Netherlands

MUNKONGSUJARIT Songphon, Senior Consultant, Innovation and Technology Assistance Program, National Science and Technology Development Agency,Thailand

MBIRU Sheila Shefo, Knowledge Management and Capacity Development Officer, The Low Emission and Climate Resilient Development Project, Kenya

TSHERING Pempa, Chief ICT Officer, Department of Information Technology and Telecom, Ministry of Informations and Communications, Royal Government of Bhutan

CORDOVA Andrés, Second Secretary – Delegate; Permanent Mission of Ecuador to the United Nations

MARTINEZ-NAVARRETE Jorge, OICT staff, United Nations

LIU Haibo, Professor, Institutes of Science and Development, Chinese Academy of Sciences, University of Chinese Academy of Sciences

VAN DER WEKEN Dietrich, General Manager and COO, Global Science, Technology and Innovation Conference (G-STIC), Belgium

WONG Jonathan Tsuen Yip, Chief of Technology and Innovation Trade, Investment and Innovation Division,
ESCAP, United Nations

FINAU Kuinimeri, Scientific Organisation of Samoa

XU Kun, Deputy Chief of application and service office, Development research centre of surveying and mapping, National Administration of surveying, mapping and geoinformation, China

LI Yini, Attorney at Law, Zhejiang University, China

BAYKAL, Yesim Senior Program officer, Global Challenges Division, WIPO, Geneva

LESSELS Asher, Programme Officer, UNFCCC, Germany

Special Guests

He Fuxiang, Counselor for S&T Affairs, Permanent Mission of The People's Republic of China to The United Nations, USA

Fang Jianping, Vice President of Shanghai Aerospace Industry (Group) Co., Ltd.

Zou Jiefu, Chief Engineer of China Energy Conservation and Environmental Protection Group, Huang Ping China International Technology Transfer Center

Yu Siying, Vice-President, Alibaba, China

Bai Bo, Leader of U.S.-China Green Fund

An Guojun, Deputy Secretary-General of Green Finance Association

Xu Zhengzhong, Professor of Chinese Academy of Governance

Wu Daohong, President of Shenwu Technology Group Corp

Deng Ke, Head of Digital Business, UCF Group
Zong Gang, General Manager of Sinoipro IP Management and Technology Transfer Co. Ltd.

Zhang Saimei, General Manager of Shanghai Innovital Capital

Li Chen, CEO, Shanghai Guru Investment Co., Ltd, China

Tong Yinan, Director of Corporate Social Responsibility, CreditEase

Shi Meng, Deputy General Manager of Sinoipro IP Management and Technology Transfer Co. Ltd.

Tian Feng, Director of Aliyun Research Center, Alibaba Group

Guo Ru, Deputy Director of Environmental Planning and Management, Tongji University

Participants Guests

Sun Chengyong, Deputy Inspector of Department of S&T for Social Development, MOST

Zhou Min, Deputy Division Chief of Department of Science and Technology, Ministry of Education, PRC

Yu Jun, Division Chief of Department of Science, Technology and Standards, Ministry of Environmental Protection, PRC

Kang Xiangwu, Division Chief of Department of S&T for Social Development, MOST

Zhai Qijiang, Investigator of Department of International Cooperation (Office of Hong Kong, Macao & Taiwan Affairs), MOST

Wan Zhaofeng, Secretary of General Office, MOST

Chen Yuheng, China Science and Technology Exchange Center

Wang Shunbing, Research Fellow at the Administrative Center for China's Agenda 21

Zhou Hailin, Division Chief of the Administrative Center for China's Agenda 21

He Zheng, Assistant Research Fellow at the Administrative Center for China's Agenda 21

Shi Xiaoyong, Associate Research Fellow at National Center for Science & Technology Evaluation

Chen Dong, Party Secretary of Shanghai Science & Technology Development and Exchange Center

Zhang Chunpeng, Associate Research Fellow at National Center for Science & Technology Evaluation

Zheng Guanghong, Chief of Social Development Division, Science and Technology Commission of Shanghai Municipality

Li Jing, Deputy Director of the Office of Science and Technology Commission of Shanghai Municipality

Liu Chunhua, Deputy Director of Science and Technology Commission of Shanghai Municipality

Zen Zhen, Principal Staff Member of Science and Technology Commission of Shanghai Municipality

Wang Wei, Principal Staff Member of Science and Technology Commission of Shanghai Municipality

Wan Jianhui, Director of Science and Technology Committee of Hongkou District, Shanghai

Zeng Lu, Division Chief, Division of Cooperation, Guangdong Science and Technology Department

Xia Qifeng, Division Chief,Department of Science and Technology of Guangdong Province

Qiu Xuan, Director, Shenzhen Innovation and Development Committee

Liao Jingyang, Shenzhen Innovation and Development Committee

Pang Hong, Secretary of Party Leadership Group and Director of Taiyuan Science and Technology Bureau

Song Shibin, Director of Finance Department of Taiyuan Science and Technology Bureau

Zhou Yuanyuan, Director of International Office of Shanghai Science & Technology Development and Exchange Center

Xi Furong, Director of the Office of Research of Shanghai Science & Technology Development and Exchange Center

Wang Liping, Deputy Director of International Office of Shanghai Science & Technology Development and Exchange Center

Zhao Baohong, Deputy General Manager of Sinoipro IP Management and Technology Transfer Co. Ltd.

Chen Peizhong, Director of Taiyuan Science and Technology Strategy Academy

Xing Zhanfeng, Director of Taiyuan Science and Technology Information Center

Wang Chunjie, Program Supervisor, China International Technology Tranfer Center

Zhang Yalei Dean, Institute of Engineering and Industry, Tongji University

Liao Yuqing, Director of Technology Transfer Center, University of Shanghai for Science and Technology

Tao Jianguang, Manager of Taiyuan Technology Resources Market