Multi-stakeholder Forum on Science, Technology and Innovation for the SDGs

New York, 15-16 May 2017

Concept Note for Session 2 (f) on

Key priorities for engaging STI for building resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation (Goal 9)

Trusteeship Council Room, UN Headquarters New York, 15 May 2017, 16:30 - 18:00 am

1. Background

Science, technology and innovation (STI) are essential for the achievement of the SDGs. Science provides testable basic understanding of the principles and natural laws governing the universe. Technology provides the application of science through techniques, skills, methods and processes to the production of goods and services; and, innovation the creative use of technology for commercial purposes. For the last 250 years, STI has been a major driver of progress and prosperity, but it has also been a source of inequality across individuals, social groups and countries, and of environmental degradation. Moreover, while STI leads improvements in all SDG areas, it is the core driver of infrastructure and industrialization and by definition of innovation, and hence, of SDG 9.

Over the last few years the world economy has been facing radical transformations in STI. The so-called Fourth Industrial Revolution (4IR) involves developments in new materials, mechanical engineering, advanced computing, digital technologies, and bio- and neuro-technologies that are changing the way production systems operate and the boundaries of industries as we know them today. Yet, changes do not limit themselves to technology. The scientific basis on which these technologies operate is also facing sweeping changes with new scientific areas emerging and significant cross-fertilization and collaboration across scientific disciplines. The social outcomes of these major changes can also present distinct risks as well as opportunities for the SDGs. What the world is currently facing is major scientific and technological convergence with immense, yet unpredictable, impact on product and process innovation and thus on the ability of the world community to implement the SDGs.

Whether emerging STI trends work in favour or against the implementation of the SDGs, and SDG9 in particular, will depend on how the upcoming technological trajectory is shaped. Serious efforts are taking place at the national level, particularly in advanced economies, to address emerging challenges and position themselves at the crest of the wave of technological change. Some developing countries are also positioning their scientific and technological capabilities to deal with the new technologies. But not all countries are able to prepare to the same degree and there is a large probability that many countries will be left behind. Further, even in the more advanced countries, some segments of society, such as unskilled labour or small and medium enterprises, may not be benefitting from the new technologies.

More significantly, however, the possibilities for international cooperation and partnerships may be even higher, because we are at the early stages of the upcoming scientific and technological trajectory. New knowledge is still diffused and not fully appropriated and there is still great uncertainty and risk as to the potential, direction and outcomes of technological change. The extent of challenges and disruption that could be faced by governments and companies are such that no single stakeholder is able to tackle them alone and the rewards may be large enough for most, if not everyone, to benefit. Hence, the moment may particularly ripe for global collective action and partnerships to be undertaken to identify and implement a technological trajectory that is consistent with the SDGs. National level development challenges can also be partially tackled by action at the international and global levels.

Two key global STI initiatives are already in place in the context of the 2030 Agenda to assist developing countries: the UN Technology Facilitation Mechanism and the LDC Technology Bank. The recent ongoing mapping exercise of STI activities within and beyond the UN system (carried out by the UN interagency task team) found that for SDG 9 around on third of UN initiatives are aimed to address this goal at local, national and global/international levels. These initiatives range from supporting research and building local scientific and technological capabilities to advising on technology and innovation strategies and policies to establish technology centres in different knowledge

areas. Private international initiatives identified in the same study include Private-Public Partnerships (PPPs) for infrastructure technology and collaborations to support small and medium enterprise (SME) development and research and development (R&D) in developing countries. But, is this global effort enough to ensure that STI supports the achievement of SDG 9, particularly in the light of radical scientific and technological change? How can these initiatives be complemented and by what?

2. Objectives - expected outcomes and key messages

The purpose of this session is to examine what the global community can do to address the current scientific and technological challenges faced by developing countries. While the focus is on current trends, their potential disruptive nature could wipe out many of the gains developing countries had from participating in global value chains and from globalization. There is also a sense of urgency in addressing current trends as STI gaps could increase dramatically. At the same time the types of priorities that could emerge from such a focus, in addition to being topical, would address most aspects of the STI systems of developing countries and constitute an important contribution to them achieving SDG 9 and overhauling local scientific and technological capabilities.

In this context and in line with its mandate STI Forum session 2f will pursuit the following objectives:

STI cooperation: Congregate relevant stakeholders to actively contribute in their area of expertise; open new fields of dialogue between stakeholders and promote the sharing, exchange and scaling up of ideas, technologies and innovations for the SDGs; share success stories and challenges in scientific collaborations, innovation, technology transfer and diffusion, and promote the development of accessible repositories of 'best practices'; and identify strategies and ways to share the knowledge and benefits of emerging scientific and technological advances.

Networking: Suggest new initiatives and partnerships to be developed to help promote new solutions for the SDGs; identify mechanisms to disseminate current scientific and technological advances across the world and to increase awareness of their potential benefits and drawbacks; explore potential for inter-disciplinary approaches to innovating solutions for sustainable development challenges, including open and collaborative innovation; and establish international groups of scientists and technologists from developed and developing countries to come up with ideas as to how make emerging technologies compatible with SDG9.

Technologies for the SDGs: Identify practical means and solutions to foster science, technology and innovation geared towards SDG9; support the collection and dissemination of best practices and solutions, as well as case studies of actual experiences in STI development, transfer and diffusion; enhance enabling environments for STI development and the removal of obstacles to the scaling up of the development of and access to technologies; explore innovative approaches to leverage human and financial resources for STI; and identify means of employing technologies and technological know-how and information in the public domain.

3. Format and/or scenario of the session

The session will be structured along the following format and sequence: Three-way panel discussion on efforts to catch-up with current scientific and technological developments in developing countries and how the global community can contribute to the catching-up process. Panellists' remarks (max. 7 minutes) followed by moderated discussion among panellists and statements from the floors.

4. Questions for discussion

The discussion will be guided by the following questions:

- What has been your experience with adopting advanced technologies in your country? What were the key challenges that you faced in doing so? What lessons did you learn?
- How could the international collaboration help you in adopting these technologies and improve your local STI systems? What are the main stakeholders that need to be involved in improving local STI systems, how should they be involved and what can they contribute? How can their involvement be organised globally?
- What are your top three recommendations for action by the United Nations system, governments, businesses, scientists, civil society, and others?