

**The United Nations Conference on
the Exploration and Peaceful Uses of Outer Space (1968 – 2018): UNISPACE +50**

**PREPARATORY MEETING
for the High Level Forum:
“Space as a Driver for Socioeconomic Sustainable Development”**

**19 November 2015
Vienna International Centre, Vienna, Austria**

*Organized by the Office for Outer Space Affairs
and
Co-sponsored by the Secure World Foundation*

The preparatory meeting for the High Level Forum “Space as a driver for socioeconomic sustainable development”, to be held in Dubai, United Arab Emirates, 20 – 24 November 2016 was chaired by Ms. Simonetta Di Pippo of the Office for Outer Space Affairs.

I. Welcome Remarks

Ms. Simonetta Di Pippo of the Office for Outer Space Affairs welcomed the participants of the meeting, thanking them for their attendance and support for the 2016 High Level Forum. S. Di Pippo underlined the great opportunity for the preparatory meeting to focus on the substantive input and food for thought for discussions on the potential of space innovations for addressing new and emerging sustainable development challenges.

(Video Message) Welcoming statement was made by Mr. Yury Fedotov of the United Nations Office at Vienna.

Mr. Michael Simpson of the Secure World Foundation (SWF) in his welcoming remarks underlined that SWF voices one of the many civil society opinion with their mission to “seeking cooperative solutions to space sustainability”.

Mr. Naser Alrashedi of the United Arab Emirates (UAE) - Space Agency welcomed the participants on behalf of the United Arab Emirates, host of the 2016 High Level Forum. N. Alrashedi gave a short overview of the UAE activities in the field of outer space policy and developments of the space activities.

II. Approval of Agenda

The agenda of the meeting was approved.

III. UNISPACE+50: High Level Forum “Space as a Driver for Socioeconomic Sustainable Development” preparatory meeting

S. Di Pippo focused her presentation on setting the scene for the discussion on the four thematic pillars of the High Level Forum: Space Economy, Space Society, Space Accessibility and Space Diplomacy. She noted that the discussion session on **Space Economy** was designed to address the economic rationale for space activities and to discuss framework possibilities for the cooperation of private and public entities. The discussion session on **Space Society** was to raise awareness on the benefits of space technologies and space-based services for a sustainable society and for the support of decision making processes. The focus of the thematic pillar on **Space Accessibility** was on providing access to space and the benefits of open space data policies. Finally, the purpose of the session on **Space Diplomacy** was to address the national and international mechanisms for effective governance by space-faring and emerging space-faring nations and to increase awareness in the global diplomatic community of the benefits of space tools.

Mr. David Kendal of Canada emphasised that the preparatory meeting would constitute an open process to start the exchange of ideas on the priorities on space-related matters and how the Committee on the Peaceful Uses of Outer Space could capture the thematic pillars of the high level forum and translate them into socioeconomic development.

Mr. Xinmin Ma of China pointed out that “Innovation” makes the space sector attractive and continuously introduces fresh elements into global socioeconomic development. As the current challenges cannot be addressed by a single State’s efforts, it was noted that “Integration”, through the coordination between different outer space mechanisms under the framework of the United Nations and by political, legal, economic and technical means, was essential. Finally, “Inspiration”, encourages us to look at the current global problems/challenges and to promote sustainable socioeconomic development.

IV. **Discussion Sessions: Thematic Pillars of the 2016 High Level Forum: “Space as a Driver for Socioeconomic Sustainable Development”**

Brief presentations and statements by panellists at the beginning of each discussion session provided participants with the opportunity to exchange views about the main areas to be considered during the sessions.

a. Space Economy

This thematic pillar is defined as “the full range of activities and use of resources that create and provide value and benefits to human beings in the course of exploring, understanding and utilizing space”. Economic growth is driven by technology innovation, and space is innovation by definition, because it is at the edge of what is possible for humanity to do and develop.

M. Simpson of SWF, as moderator of the session, highlighted the role of space economy for the attainment of the 2030 Agenda for Sustainable Development as many of the 17 Sustainable Development Goals (SDGs) stand out as natural candidates for employing space assets and space-facilitated services. It was noted that the need to understand the economic potential of space was crucial if we were to meet the growth of world population. Therefore, there was a need for better coordination of decision-making on sustaining the space activities and ensuring

the broadest possible access as well as a need for better communicating the benefits of space economy for socioeconomic sustainable development.

Mr. William Welser of the RAND Cooperation defined space economy as being in the “full-scale take-off stage” due to several enabling factors: decrease in launch costs; enhanced computing capabilities that require less energy; public-private partnerships; and new service models. Perspectives were given on possible new future economic sectors, such as “space, health and wellness”. Nevertheless, the increased possibilities offered by space economy, in particular the growing ventures by private sector required both, thoughtful regulation and sustainable business models.

Mr. Martin Šunkevič of the European Global Navigation Satellite Systems Agency (GSA) presented a closer look at the macro-trends in the global market for global navigation satellite systems (GNSS). The current 4 billion GNSS products and services global market was expected to further grow both in volume (10% a year) and revenues (7% a year), with the installed base of GNSS devices projected to triple by 2023 across all regions. The GSA Market Monitoring and Forecasting Process (MMFP) had been implemented to monitor the development of the growing market for GNSS and its evolution to provide information in support of market development.

In the discussion, questions arose about the role of the Committee on the Peaceful Uses of Outer Space in providing a regulatory framework for the orderly conduct of space activities in view of growing number and diversity of private ventures. The Committee, with its growing membership, was perceived as an appropriate intergovernmental forum to reconcile divergent views on commercial activities in a way that would enable sufficient incentives for private ventures as well as for sharing some of the benefits.

The need to strengthen capacity-building in the area of space economy was noted. There is a need for greater communication within the space community to better identify the needs of the users, to be able to develop new models for technology transfer and the availability of and access to data. Space economy was regarded as a pillar where more cooperation among States and other non-governmental actors was essential due to the increased mutual dependency and rapidly growing economic potential of space.

b. Space Society

This pillar refers to a society, which carries out its core functions while making the best use of space technologies and space-based services and applications.

Mr. Andre Rypl of Brazil, as the moderator of the session, underscored that there would not be any hierarchy among the four pillars but the discussion of Space Society could be a central point and guide decisions of the other pillars. A. Rypl noted that the more the benefits of space were shared and the more cooperation promoted, the stronger the motivation would be for preventing conflicts and multilaterally negotiated solutions would be sought. In order to realize the potential of space as a driver for sustainable development, the access to the benefits of space activities had to be ensured taking into account that the individuals in these societies are the ultimate stakeholders whose needs and interests should guide the decisions.

Mr. Stefaan de May of EURISY underlined that a lot had to be done to reap the benefits from the existing investments in space technology and translate them into societal benefits. Furthermore, S. De May pointed out that society was not only in need of open and free data or access to raw data but it was more important to provide knowledge and capacity building on how to process information from the existing data. It was noted that space can provide a field for unity and to encourage cooperation.

Mr. Pascal Michel of Canada pointed out in his presentation that many societal areas were benefiting from advancements from space and furthermore space could offer solutions in many different areas. P. Michel underlined that the usage of space technology for the raising awareness of societal issues had to be expanded within the United Nations and priorities in supporting development goals had to be articulated in order to provide humanitarian assistance and to be able to contribute to tangible solutions for global challenges.

c. Space Accessibility

This thematic pillar refers to all user communities and decision-makers being able, on an equal basis, to benefit from and use space technologies and space-based data. “Data accessibility”, a subset, that promotes principles, policies and practices to ensure that all countries can benefit and make equal use of space science and technology applications and space-based data, information and products.

During introductory remarks, Mr. Peter Martinez of South Africa, as the moderator of the session, highlighted the benefits of access to space on an equitable basis. This was thought to include access to orbits and frequencies, access to space technology and access to space derived data. Over the last decade, the barriers to accessing space have been lowered, and P. Martinez highlighted that improved access for some should not impede access for others.

Mr. Wolfgang Veith of the European Space Agency (ESA) focussed his presentation on Additive Manufacturing (AM), showing the high growth rate in this area of technology, and explained the theoretically limitless applications for the technology. AM is a key technology which changes the access threshold to space activities, as it takes away the limits of conventional manufacturing and supply chains. AM offers the ability to build lighter launchers, an area where every kilo counts as launches become cheaper and hence offer a greater accessibility to space.

Mr. John Roth of the Sierra Nevada Corporation introduced the company’s efforts in private/public partnerships. He outlined how the Sierra Nevada Corporation intends to assist access to space, even for those with a small budget through the Dream Chaser space utility vehicle. This vehicle is designed to land on runways around the world, accommodates up to seven crew members, and contains no toxic chemicals on board. The idea behind this vehicle is to have a commercially owned vehicle, which can be customized, launched from a variety of launchers, and land in different countries.

During the discussion session it was commented that the technology transfer topic should be taken further, to move from “spin offs” to include “spin ins” and “spin together”.

d. Space Diplomacy

This theme is for the purpose of fostering socio-economic sustainable development, defined as cooperation among nations in using space technologies and applications to address common challenges facing humanity and to build constructive, knowledge-based partnerships.

Mr. Kenneth Hodgkins of the United States of America opened the session with a review of governance and the international legal regime. K. Hodgkins pointed out that it is important to remember that the Committee on the Peaceful Uses of Outer Space developed the framework within which the world can benefit from space exploration. The Committee proved to be very flexible and the consideration of international cooperative mechanisms for space activities by the Legal Subcommittee demonstrates the breadth of collaboration undertaken by States and international organizations over the past five decades.

K. Hodgkins stressed that it was important to look at the future topics in the area of outer space and mentioned that 1) space weather is a global challenge and one role for the Committee is to raise the visibility on the impacts of space weather, as well as to look at the possibility for an international mechanism that focuses on space weather, 2) there is a need to foster an environment to let new innovative, commercial ventures proceed; and 3) issues concerning small satellites will become more relevant in the upcoming years.

Mr. Ram S. Jakhu of Canada voiced the need in the space sector to strengthen and expand the existing space governance system in order to achieve in practice the goal of the sustainable use of space for peaceful purposes and the benefit of all humankind. The current global space governance system contains broad principles and guidelines. Though they have maintained peace and security to date, there is a lack of precision and adequacy. Therefore, the view was expressed that there was a need for specific international regulations, in addition to non-binding instruments, on several issues including to ensure equitable sharing of benefits of outer space.

R. S. Jakhu stressed that private initiatives should be encouraged and facilitated in order to generate and expand space benefits. Nevertheless, space activities of private companies ought to be regulated internationally by setting up uniform legal rules and standards world-wide. As there is currently no single global institution fully entitled to oversee all space activities there is a demand to strengthen the existing United Nations bodies.

Ms. Sharafat Gadimova of the Office for Outer Space Affairs updated the participants about the current status of the International Committee of Global Satellite Navigation Systems (ICG) and its significant progress since its existence. The result of the ICG is not only to promote GNSS capabilities but as well to foster new partnerships among the various stakeholders. S. Gadimova provided an overview of the activities and opportunities of ICG, which results in the development and growth of capacities that enable to enhance knowledge, and practical experience of GNSS technology, which have the potential for a greater impact on its economic and social development.

During the discussion session it was noted that the Committee on the Peaceful Uses of Outer Space could look at concerns in regards to spectrum protection and pursue GNSS interference detection and mitigation in member states. Furthermore, the view was expressed that the format and mechanism of ICG could also be considered and kept in mind for the future as an example for multilateral cooperation within other areas such as space weather.

V. Concluding Session

During the session on **Space Economy** the question was discussed on how to attain the goals set by the 2030 agenda with the support of space and how space can be a driver for socio - and economic sustainable development. It was underlined that space could play an essential role in the realisation of the set goals but in recent years the communication on the possibilities of space technology was lacking.

The view was expressed that the Committee on the Peaceful Uses of Outer Space could play a role for an orderly access to space and address the needs for a regulatory framework in access to space. The growing membership of the Committee will ensure greater possibilities for synergies and offers the possibilities to identify and address gaps in capacity building, transfer of technology and the gaps between users and data providers.

In the concluding remarks on **Space Society**, the role of space activities and how this was intertwined with all the other pillars - economy, accessibility, and diplomacy - was highlighted. The need to guarantee access to space activities as well as the need for a cooperative regulatory instrument was highlighted. It was concluded that during the presentations a wealth of options and arguments why space was important for society were presented also a necessity why Committee on the Peaceful Uses of Outer Space should come up with a mechanism for cooperation and cooperative behaviour to ensure the benefits of space for societies.

The thematic pillar on **Space Accessibility** was considered as a framework for the reflexion of various factors of access to space technology data and facilities. The importance to guarantee that the access for some does not impede the access for others was reiterated. Technology transfer related questions need to be addressed within this pillar; and it is important to develop guidance for emerging space actors.

The discussion session on **Space Diplomacy** offered an arena to discuss the question on the historical development of international mechanisms of outer space regulation. The flexibility of space sector and the ability of the Committee on the Peaceful Uses of Outer Space to address and adapt to different problems, as underlined through the example of the establishment of ICG, was highlighted. For the future activities, there is a growing need for new binding instruments due to the rapid growth of the space sector and the increase of space actors.

Presentations made at the meeting and the meeting's agenda have been made available on the website of the Office for Outer Space Affairs:

<http://www.unoosa.org/oosa/en/ourwork/hlf/hlf-preparatory-meeting-presentations.html>.

The meeting also noted that co-sponsorship of the series of the high level fora is still open to interested entities. Detailed information can be found on the website: <http://www.unoosa.org/documents/pdf/hlf/HLF-Sponsorship.pdf>