

1 February 2017

English only

---

**Committee on the Peaceful  
Uses of Outer Space**  
Scientific and Technical Subcommittee  
Fifty-fourth session  
Vienna, 30 January-10 February 2017

## **UNISPACE+50 thematic priority: Capacity-building for the twenty-first century**

### **Progress report by the Office for Outer Space Affairs**

#### **I. Background**

1. The Fiftieth anniversary of the first global United Nations Conference on the Exploration and Peaceful Uses of Outer Space, held in Vienna in August 1968, will be marked in 2018 by UNISPACE+50, an ambitious Committee undertaking to consider the current status and define the future role of the Committee, its subsidiary bodies and the Office for Outer Space Affairs in promoting international cooperation in the peaceful uses of outer space and in shaping global governance of space activities.

2. In preparation for the event, the Committee endorsed in 2016 the seven UNISPACE+50 thematic priorities (see A/71/20, para. 296): (1) Global partnership in space exploration and innovation; (2) Legal regime of outer space and global space governance: current and future perspectives; (3) Enhanced information exchange on space objects and events; (4) International framework for space weather services; (5) Strengthened space cooperation for global health; (6) International cooperation towards low-emission and resilient societies; (7) Capacity-building for the twenty-first century.

3. Thematic priority 7 is cross-cutting amongst all priorities and the actions it will promote must not only build on existing expertise of the Office for Outer Space Affairs and of Member States, but must be ambitious in its scope and reach so that Space 2030 becomes an important contributor to the 2030 Agenda for Sustainable Development and its Sustainable Development Goals.

4. The objectives under the thematic priority on capacity-building for the twenty-first century are as follows:

- Define new innovative and effective approaches to overall capacity-building and development needs as a fundamental pillar of global space governance.
- Strengthen comprehensive capacity-building and outreach activities of the Office for Outer Space Affairs.



- Develop infrastructure for cross-sectoral and integrated applications, with combined scientific, technical, legal and policy outputs.
- Enhance existing partnerships and forge new ones to strengthen and deliver targeted capacity-building and technical advisory activities based on needs assessments.
- Promote efforts to encourage science, technology, engineering and mathematics education, especially for women in developing countries.

5. The Office for Outer Space Affairs has been identified as the mechanism to develop and propose a road map under this thematic priority and report regularly to the Committee and its Subcommittees on its progress in capacity-building and institutional capacity-building.

6. In line with the agreement by the Committee that the respective mechanisms under each of the thematic priorities would begin preparations during the intersessional period to develop further expected outcomes and workplans with timelines under each thematic priority, for consideration and agreement by delegations at the sessions of the Committee and its Subcommittees in 2017 and thereafter (A/71/2, para. 297), the present document aims to provide an update on the current progress under the thematic priority on Capacity-building for the twenty-first century.

## **II. Progress report on the development of a road map for the thematic priority on Capacity-building for the twenty-first century**

7. The Office for Outer Space Affairs leads the global efforts to promote international cooperation in the peaceful use and exploration of outer space, and in the utilisation of space science and technology for sustainable economic and social development. The Office assists Member States of the United Nations to establish legal and regulatory frameworks to govern space activities and strengthens the capacity of developing countries to use space science, technology and applications for development by helping to integrate space capabilities into national development programmes.

8. The Office maintains the United Nations Register of Objects launched into Outer Space and provides technical assistance to Member States and applicable organizations on issues relating to space law, registration of space objects with the Secretary-General under the Registration Convention and General Assembly resolution 1721B (XVI); implementation of resolution 62/101 on registration practices; implementation of other obligations under the relevant treaties, principles, regulations and resolutions; and discharges other responsibilities under the Treaties and Principles on Outer Space on behalf of the Secretary-General.

9. Under the Programme on Space Applications, the Office works on enhancing the understanding and subsequent use of space technology for peaceful purposes in general, and for national development, in particular, in response to expressed needs in different geographic regions of the world. The Office serves as the Executive Secretariat of the International Committee on GNSS (ICG) which was established in 2005 under the umbrella of the United Nations, to promote the voluntary cooperation on matters of mutual interest related to civil satellite-based positioning, navigation, timing, and value-added services.

10. In particular, the Human Space Technology Initiative of the Office for Outer Space Affairs is now being developed into an even more innovative approach taking

advantage of existing or upcoming infrastructures, including developed by the industry, that provides access to space technology and applications to developing countries, as recommended by the Dubai Declaration<sup>1</sup>.

11. Through its United Nations Platform on Space-based Information for Disaster Management and Emergency Response (UN-SPIDER), the Office develops solutions to address the limited access developing countries have to specialized technologies that can be essential in the management of disasters and the reducing of disaster risks, and promotes coordinated efforts within the United Nations, in order to accomplish the common disaster risk reduction, humanitarian and climate change goals.

12. In its work, the Office undertakes a vast range of capacity-building activities, such as promoting access to education (e.g. with the support of regional centres), access to data, access to research facilities, as well as direct access to space. The Office also embarks on new initiatives that include the Open Universe Initiative, Space for Women and others, aiming at increasing the availability of and accessibility to space-derived data and information.

13. The Office aims to find new ways to address and respond to challenges of the 21st century through enhanced use of space-based technology and solutions in support of national and global development efforts. In its road map, it aims (i) to enable collaborations based on trust, (ii) empower stakeholders and parties involved, (iii) promote agility to adapt to emerging, rapidly changing and complex situations; (iv) enable strengthened and efficient cooperation and networking; and (v) provide a safe space for cooperation for stakeholders and parties involved.

14. The new capacity-building road map will serve as a backbone for comprehensive, long-term engagement with Member States to harness benefits offered by outer space for development by building capacity on the individual and institutional levels and developing the enabling environment. The road map may also look at creating impacts at local, national, sub-regional, regional, inter-regional, international, as well as inter-agency levels.

15. In the development of its capacity-building road map, the Office will take into account the Dubai Declaration (A/AC.105/1129, Annex) that underscores the need to modernize and reinforce the overall mandate and structure of the Office for Outer Space Affairs to better position the Office to assist Member States in using space for sustainable development, strengthen the Office's role in disaster management and emergency response and its capacity-building, outreach and awareness-raising efforts, including integrated legal and technical assistance, and reinforce the Office's spaceflight portfolio to allow broad access to space for achieving the Sustainable Development Goals, in particular for the benefit of developing countries.

### **Enabling dialogue**

16. Overall the development of the road map is seen as a joint process which will build on internal and external consultations. Broad stakeholder consultations and partnerships will be built to shape the Office's capacity-building road map in a consultative, inclusive, and open manner. In particular, the Office is planning the UN/Italy Workshop on OpenUniverse, UN/Russian Federation and Samara University Workshop on Capacity Building, the UN/South Africa Symposium on BSTI "Small

---

<sup>1</sup> Underscore the need to modernize and reinforce the overall mandate and structure of the Office for Outer Space Affairs to better position the Office to assist States in using space for sustainable development, strengthen the Office's role in disaster management and emergency response and its capacity-building, outreach and awareness-raising efforts, including integrated legal and technical assistance, and reinforce the Office's spaceflight portfolio to allow broad access to space for achieving sustainable development goals, in particular for the benefit of developing countries;

Satellite Missions for Scientific and Technological Advancement" and the Workshop on Space and Women (tbc). These activities, developed in the context of UNISPACE+50, are expected to provide elements for the capacity-building road map as they will bring together experts in various areas of interest of the space sector.

### **Cross-cutting approach**

17. The road map and related activities to be developed under this thematic priority have strong horizontal links to other thematic priorities. The Office will develop the road map in such a way that capacity building is seen as a activity across the different thematic priorities.

### **Setting the vision**

18. As the number of benefits derived from space science and technology applications is growing, the road map set under the thematic priority 7: Capacity-building for the twenty-first century could aim at attaining the higher-level, overarching vision that all Member States of the United Nations and other stakeholders should have developed technical and legal capacities to effectively use space science, technology and applications for informed decision making and efficient policy interventions to meet development goals and address challenges to humanity and sustainable development.

19. The Office aims to apply in the road map formulation a results-based management approach with phases of planning, monitoring, evaluating and learning. The initial elements on the road map leading to the vision are listed below.

### **Capitalizing on existing expertise**

20. The proposed capacity-building road map will build on previous and ongoing successes and recommendations from capacity-building efforts of the Office, and the Office will undertake efforts to consolidate and integrate capacity-building knowledge and recommendations, including those gained through technical advisory missions, or proposed at workshops. From 2016, the Office has adapted its practices in preparing and executing activities with a view to feed the UNISPACE+50 process. This has become even more true for planned activities in 2017 where thematic priorities are reflected in flagship activities while others must also provide outcomes of relevance.

21. For example, the United Nations/Germany International Conference on Earth Observation — Global Solutions for the Challenges of Sustainable Development in Societies at Risk — recommended to promote harmonization of procedures so that capacity-building efforts on the use of Earth observation may have a greater impact on countries, and to continue bringing together stakeholders from the disaster risk reduction, the climate change and the sustainable development communities to facilitate the exchange of lessons learned, information and knowledge on the use of Earth observation and other space-based technologies (A/AC.105/2015/CRP.9).

22. The United Nations/Costa Rica Workshop on Human Space Technology, executed under the Programme on Space Applications, recommended, amongst others, that Governments of all countries, in particular, space-faring countries, should explore the possibility of opening up existing space related-research programmes and the databases for students and/or professionals from developing countries; meanwhile, governments of developing countries should continue to seek partnerships with other countries (A/AC.105/1124).

23. In the area of space law and policy, the 10th United Nations Workshop on Space Law on the theme "Contribution of space law and policy to space governance and space security in the twenty-first century" recommended that the Office, in further

evaluating capacity-building objectives, should be officially encouraged to conduct targeted capacity-building, education and training in space law and policy, building upon the UN-SPIDER programme, with the objective of establishing a capacity-building platform on the basis of the following criteria: (a) the need to determine the capacity within the Office to provide targeted technical legal assistance and conduct a comprehensive assessment of the needs of requesting States, taking into account judicial, administrative and technical requirements, and on that basis determine the assistance required; and (b) the delivery of the required capacity-building, assistance, training and education activities to meet the needs of States (A/AC.105/1131).

24. The Office is also answering to new types of demand for advisory support, including by new Member States such as El Salvador which received the Director of the Office for targeted advice on how to set the basis at national level to access the benefits of space technology and applications.

#### **Analysis of emerging needs and identification of gaps**

25. The proposed capacity-building road map aims at responding to emerging needs resulting from the recent surge in space activities and increased involvement of both governmental and non-governmental actors. The road map will look at identifying gaps and addressing specifically the needs of States at national level, regional and global levels, and interconnecting the different scales.

26. The road map will also aim to strengthen activities and build on the existing developments; target its efforts at developing countries; further strengthen and enhance the uptake of new technologies in capacity building (such as e-learning, massive open online course, etc.); and develop trainings and capacity-building measures with defined impacts.

#### **Implementation modalities**

27. In addition to employing innovative approaches, the Office, in the development of an integrated capacity-building road map where the different elements align to a common picture based on the goals and vision set, will draw on traditional and new modalities. In addition to build on existing experiences and referring to new models of innovative capacity-building approaches, the thematic priority must envision an important increase in scale of activities so means are put in place to not only offer initial support at national and regional level, but also to develop a continuous and evolving support to a larger number of nations. The tools available include:

- (a) Provision of technical and policy guidance, advice and expertise;
- (b) Facilitation of access to space-related data and information for sustainable development;
- (c) Conducting technical advisory missions;
- (d) Organization of workshops, training courses, seminars, study tours, and other capacity-building activities;
- (e) Organization of special events, panels, symposiums, exhibitions, and other public information and outreach activities;
- (f) Support to the development and implementation of space-related projects;
- (g) Promotion of exchange and dissemination of information, knowledge and good practices;
- (h) Research and development;
- (i) Maintenance of space-related databases and registers;

- (j) Coordination of space-related activities, promotion of cooperation, collaborations and networking;
- (k) Provision of fellowships and grants;
- (l) Strengthening of education programmes and promotion of e-learning opportunities;
- (m) Development of infrastructure for cross-sectoral and integrated applications;
- (n) Forging new partnerships and collaborations;
- (n) Other activities, as appropriate.

### **Scope**

28. The areas covered by the capacity-building road map are driven by the General Assembly and the Committee on the Peaceful Uses of Outer Space, as well as the emerging needs of Member States with obligations under global agendas such as the 2030 Agenda for Sustainable Development and its Sustainable Development Goals. The areas include capacity-building efforts to enhance the use of space science, technology and application for peaceful purposes in the areas such as: agriculture and food security, climate change adaptation and mitigation, disaster management and emergency response, education, environment and natural resources, global navigation satellite systems, human settlements, humanitarian assistance, institutional development, international peace and security, international space law and responsibilities under the United Nations treaties and principles on outer space, long-term sustainability of outer space activities, national space legislation, national space policy, near-Earth objects, nuclear power sources in outer space, public health, remote sensing and Earth observation, research and development, satellite communications, space and water, space weather, and transport, inter alia.

### **Monitoring and evaluation**

29. The Office aims to follow a results-based management approach that ensures that all activities and deliverables contribute to the achievement of desired results and higher level goals under its overarching vision on capacity development. In monitoring the progress of the capacity-building activities, it is envisaged to develop an indicator-based approach. This indicator-based approach could be accompanied by a dedicated catalogue of solutions applicable at national level and supportive of each thematic priority.

30. It is expected that monitoring and evaluation processes will lead to greater learning, adjustment and decision-making. This continual process of feedback and adjustment will make capacity-building activities flexible and more responsive to new developments in the field of outer space activities and the environment within which they operate.

### **Means of implementation**

31. A vehicle for strengthening international cooperation in the peaceful uses of outer space will be the enhanced and revitalized global partnership, led by Governments. At the same time, enabling international environment and enhanced global governance of outer space activities will be advanced by stronger national capacities in utilizing benefits offered by space science, technology and applications for sustainable development.

32. In this regard, the Office would like to encourage Member States to mobilize and share knowledge, expertise, technology and financial resources, to support its capacity-building efforts, including through voluntary contributions to the Trust Fund in Support of the United Nations Programme on Peaceful Uses of Outer Space, in order to enable the Office to complement the efforts of Governments and support the achievement of the sustainable development goals through increased use of the space-derived benefits, in particular in developing countries.

#### **Inclusive approach in capacity-building**

33. Activities under the future capacity-building road map of the Office should be formulated to enable Member States and other stakeholders to benefit from the multi-stakeholder expertise, technology and resources, through the involvement of governments, private sector, civil society, the scientific community, academia, philanthropy and foundations, volunteers and other stakeholders.

#### **Cross-sectorial capacity-building efforts**

34. The road map would aim at ensuring cross-sectorial elements of capacity-building efforts, which could be attained, inter alia, through institutional development, enhancement of enabling environments and integration of national expertise in activities undertaken by the Office. Consideration of national sustainable environmental, social and economic development should be made, but there should also be taken into account elements of the long-term sustainability of outer space activities. In the context of capacity-building efforts in space law and policy, for example, regulatory aspects of the long-term sustainability of outer space activities, and transparency and confidence-building measures in enhancing the safety, security and sustainability of outer space activities, are important elements. Integrated capacity-building should therefore focus attention on a broad perspective of cross-cutting areas.

35. Furthermore, the United Nations Space Law Workshop, held in Vienna in September 2016, recommended that in further evaluating capacity-building objectives, the Office for Outer Space Affairs should be officially encouraged to conduct targeted capacity-building, education and training in space law and policy, building upon the UN-SPIDER programme, with the objective of establishing a capacity-building platform on the basis of the following criteria: (a) the need to determine the capacity within the Office to provide targeted technical legal assistance and conduct a comprehensive assessment of the needs of requesting States, taking into account judicial, administrative and technical requirements, and on that basis determine the assistance required; and (b) the delivery of the required capacity-building, assistance, training and education activities to meet the needs of States (A/AC.105/1131, para. 50 (h)).

#### **Gender mainstreaming**

36. Mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a road map for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality.

37. The Office will ensure that the gender perspective is mainstreamed, as appropriate, into all of its capacity-building activities by designing, implementing and monitoring, with the full participation of women, effective, efficient and mutually

reinforcing gender-sensitive policies and programmes, including development policies and programmes at all levels, to foster the empowerment and advancement of women.

**Public information and outreach**

38. Public information and outreach are critical components of the capacity-building road map. Increased awareness through effective outreach leads to greater use of space-derived solutions at the national and local level to be used in the formulation of informed decisions for policies. The Office will aim at using effective means of outreach and awareness on the importance of space science, technology and applications for sustainable development initiatives.

**III. Next steps**

39. The Office will continue developing the above road map elements, with the view of presenting the updated progress report for consideration by delegations at the upcoming sessions of the Legal Subcommittee and the Committee in 2017.

---