The Office for Outer Space Affairs

Access to Space for All Webinar

Long-term Sustainability of Outer Space Activities

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Tanya Keusen - Committee, Policy and Legal Affairs Section
In the first 55 years, the space sector was developing gradually with annual launches remaining relatively stable. With the birth and proliferation of small satellites, we are witnessing a major change in space activities.
THE INTERNATIONAL COMMUNITY RECOGNIZES THE NEED TO ENSURE SPACE SUSTAINABILITY IN THE LONG TERM

Space is being used by an increasing number of States, international intergovernmental organizations and non-governmental entities.

Space debris, the increasing complexity of space operations, the emergence of large constellations and increased risk of collisions and interference with space objects may affect the long-term sustainability of outer space activities.

This has been, and continues to be, a top area of focus for the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS).

The Earth’s orbital environment constitutes a finite resource

#LTSGUIDELINES #SPACESUSTAINABILITY

INTERNATIONAL COOPERATION IS NEEDED TO ADDRESS THESE DEVELOPMENTS AND RISKS
“The long-term sustainability of outer space activities is defined as the ability to maintain the conduct of space activities indefinitely into the future in a manner that realizes the objectives of equitable access to the benefits of the exploration and use of outer space for peaceful purposes, in order to meet the needs of the present generations while preserving the outer space environment for future generations.”

ST/SPACE/79
Two subcommittees: Scientific and Technical (STSC) and Legal Subcommittees (LSC)

Reports to the United Nations General Assembly (one of the principal organs of the UN) via the GA’s Special Political and Decolonization Committee (Fourth Committee)

Decision taken in consensus, giving equal negotiating power to all member States

Focuses on international cooperation in the peaceful uses of outer space, discussing the most pressing issues in the space sector

Secretariat services provided by the Office for Outer Space Affairs
Committee on the Peaceful Uses of Outer Space

COPUOS has an expanding membership, demonstrating the increasing awareness of the relevance of outer space activities to the everyday lives of citizens

- COPUOS’s expanding membership:
  - 1958 - 18 members
  - 2019 - 95 members

- 5 more States joining in 2021 = 100 members

- COPUOS also benefits from the participation of, and contributions by, intergovernmental and non-governmental permanent observer organizations
## Committee on the Peaceful Uses of Outer Space

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Committee on the Peaceful Uses of Outer Space

Working Group on the Long-term Sustainability of Outer Space Activities (2010 -2018)

- Establishment in 2010 under the Scientific and Technical Subcommittee (A/AC.105/958, para. 181)
- Chaired by Peter Martinez (South Africa)
- Tasked to identify areas of concern for the long-term sustainability of outer space activities, propose measures that could enhance sustainability, prepare a report, and produce voluntary guidelines to reduce risks to the long-term sustainability of outer space activities (A/66/20, Annex II, paras. 11-12)
- Established four expert groups, which developed reports and candidate guidelines
- Created an informal translation and terminology reference group.
- Held five intersessional meetings
Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee Of the Committee on the Peaceful Uses of Outer Space

- 2016: the Committee reached consensus on a first set of 12 guidelines (A/71/20, Annex).

- 2018: consensus was reached on a preamble and nine additional guidelines (A/AC.105/1167, Annex III).

- 2019: the Committee adopted the Guidelines (A/74/20, para 163 and Annex III) and established a further working group (A/74/20, para 165).

IN 2019 INTERNATIONAL AGREEMENT WAS REACHED ON GUIDANCE FOR THE LONG-TERM SUSTAINABILITY OF OUTER SPACE ACTIVITIES

The United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) adopted, by consensus, a preamble and 21 Guidelines, demonstrating how States collaborate multilaterally to prioritize space sustainability.

The Guidelines for the Long-term Sustainability of Outer Space comprise a compendium of internationally recognized measures for, and commitments to, ensuring the long-term sustainability of outer space activities.

The preamble of the Guidelines defines the long-term sustainability of outer space activities, explains their voluntary and non-legal binding status, and shares how the guidance they provide is to be reviewed and updated.

The Guidelines are relevant to both governmental and non-governmental entities.

#LTSGUIDELINES
#SPACESUSTAINABILITY

THE GUIDELINES PROVIDE DETAILED GUIDANCE ACROSS FOUR SECTIONS: A) POLICY AND REGULATORY FRAMEWORK FOR SPACE ACTIVITIES; B) SAFETY OF SPACE OPERATIONS; C) INTERNATIONAL COOPERATION, CAPACITY-BUILDING AND AWARENESS; AND D) SCIENTIFIC AND TECHNICAL RESEARCH AND DEVELOPMENT.
A.1 Adopt, revise and amend, as necessary, national regulatory frameworks for outer space activities
A.2 Consider a number of elements when developing, revising or amending, as necessary, national regulatory frameworks for outer space activities

POLICY AND REGULATORY FRAMEWORK FOR SPACE ACTIVITIES

Guidelines for the Long-term Sustainability of Outer Space Activities: Section A

A.3 Supervise national space activities
A.4 Ensure the equitable, rational and efficient use of the radio frequency spectrum and the various orbital regions used by satellites
A.5 Enhance the practice of registering space objects

UNITED NATIONS Office for Outer Space Affairs

#LTSGUIDELINES #SPACESUSTAINABILITY
B.1 Provide updated contact information and share information on space objects and orbital events
B.2 Improve accuracy of orbital data on space objects and enhance the practice and utility of sharing orbital information on space objects
B.3 Promote the collection, sharing and dissemination of space debris monitoring information
B.4 Perform conjunction assessments during all orbital phases of controlled flight
B.5 Develop practical approaches for pre-launch conjunction assessments
B.6 Share operational space weather data and forecasts

SAFETY OF SPACE OPERATIONS

Guidelines for the Long-term Sustainability of Outer Space Activities: Section B

B.7 Develop space weather models and tools, and collect established practices on the mitigation of space weather effects
B.8 Design and operation of space objects regardless of their physical and operational characteristics
B.9 Take measures to address risks associated with the uncontrolled re-entry of space objects
B.10 Observe measures of precaution when using sources of laser beams passing through outer space
C.1 Promote and facilitate international cooperation in support of the long-term sustainability of outer space activities

C.2 Share experience related to the long-term sustainability of outer space activities and develop new procedures, as appropriate, for information exchange

INTERNATIONAL COOPERATION, CAPACITY-BUILDING AND AWARENESS

Guidelines for the Long-term Sustainability of Outer Space Activities: Section C

C.3 Promote and support capacity-building

C.4 Raise awareness of space activities
D.1 Promote and support research into and the development of ways to support sustainable exploration and use of outer space

SCIENTIFIC AND TECHNICAL RESEARCH AND DEVELOPMENT

Guidelines for the Long-term Sustainability of Outer Space Activities: Section D

D.2 Investigate and consider new measures to manage the space debris population in the long term
Guideline B.8 - Design and operation of space objects regardless of their physical and operational characteristics

- Promote design approaches that increase the trackability of space objects
- Design objects... to limit the long-term presence in protected regions of outer space after the end of their mission
- Share experiences and information on the operation and end-of-life disposal of space objects

Guideline D.1 - Promote and support research into and the development of ways to support sustainable exploration and use of outer space

- Minimize the environmental impact of manufacturing and launching space assets
- Maximize the use of renewable resources and the reusability or repurposing of space assets
Working Group on the Long-term Sustainability of Outer Space Activities - Way Forward

- Chair, Umamaheswaran R. (India), elected and first meetings convened in 2021.
- To be guided by the following framework:
  - Identifying and **studying challenges** and **considering possible new guidelines** for the long-term sustainability of outer space activities;
  - **Sharing experiences, practices and lessons learned** from voluntary **national implementation** of the adopted guidelines;
  - **Raising awareness and building capacity**, in particular among emerging space nations and developing countries.
- Terms of reference, methods of work and workplan are being negotiated.
UNOOSA Project
Awareness-raising and capacity-building to support the implementation of the LTS Guidelines

- Searchable case study collection
- Virtual event series held in early 2021 - recordings available.
- Publication of the LTS Guidelines

spacesustainability.unoosa.org

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Thank you for your attention.