

Office for Outer Space Affairs

KiboCUBE Regulatory Webinar Series
Long-term Sustainability of Outer Space Activities - Updates



Committee on the Peaceful Uses of Outer Space

The permanent Committee on the Peaceful Uses of Outer Space was established by the UN General Assembly in 1959 and focuses on international cooperation in the peaceful uses of outer space

- ❑ **Two subcommittees:** Scientific and Technical and Legal
- ❑ **Reports to the United Nations General Assembly** (a principal organ of the UN) via the GA's Special Political and Decolonization Committee (Fourth Committee)
- ❑ Meets 3 times w/ Secretariat services provided by the Office for Outer Space Affairs
- ❑ Decisions taken by **consensus**, giving **equal negotiating power to all member States**
- ❑ Discussions on the most pressing issues in the space sector




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



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**INTERNATIONAL COOPERATION IS NEEDED
TO ADDRESS THESE DEVELOPMENTS AND RISKS**

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-legally 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



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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.

Current Working Group on the Long-term Sustainability of Outer Space Activities

- ❑ Chair, Umamaheswaran R. (India)
- ❑ Guiding framework/TOR:
 - 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.
- ❑ A/AC.105/C.1/L.409 document series.
- ❑ Workshop, 2024



Committee on the Peaceful Uses of Outer Space



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UNOOSA Project - Awareness-raising and capacity-building to support the implementation of the LTS Guidelines



- Free
- Open to anyone
- 26 lessons
- Lists of resources

A screenshot of the "Learning" portal login page. The page has a white background with a blue header containing the "Learning" logo and the UNODC logo. Below the header, there are two main sections: "Login to your account" on the left and "Is this your first time here?" on the right. The "Login to your account" section includes input fields for "Username / email" and "Password", a "Remember username" checkbox, a "Log in" button, and a "Forgot Password?" link. The "Is this your first time here?" section includes a note that for full access, users need to create an account, and a blue "Create new account" button which is circled in red.

spacesustainability.unoosa.org

(The Project is made possible through financial support provided by the United Kingdom.)

UNOOSA Project

UNOOSA Project - Awareness-raising and capacity-building to support the implementation of the LTS Guidelines

SUSTAINABLE DEVELOPMENT GOALS



ASTRO

ACCESSING SPACE
TREATY RESOURCES ONLINE



UNITED NATIONS Office for Outer Space Affairs

esa

#SpaceCare

THE COST OF AVOIDING COLLISIONS

The challenge of avoiding collision with space debris has been **recognised at an international level**. The United Nations Office for Outer Space Affairs published the **Space Debris Mitigation Guidelines** in 2007, which include the need to limit the chance of accidental collision in orbit.

ESA performs on average **three to four 'collision avoidance manoeuvres' per year**, with each of its Earth-orbiting spacecraft.

The number will increase with the **significant rise of global space activity** in years to come.

Every time a satellite swerves to avoid collision, **something is lost**:

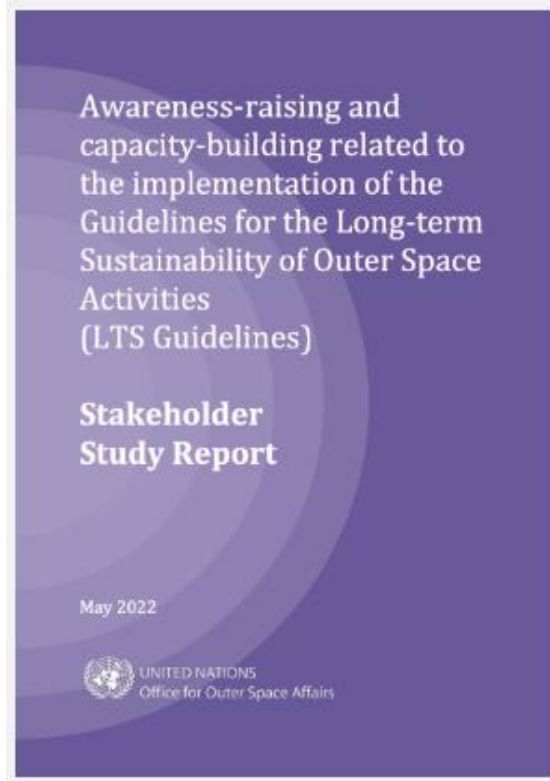
- Hours spent monitoring skies, calculating collision risks and planning manoeuvres
- Fuel spent moving out of the way
- Science instruments switched off, data not gathered
- Satellite avoids collision with debris object

Up-to-date as of June 2023

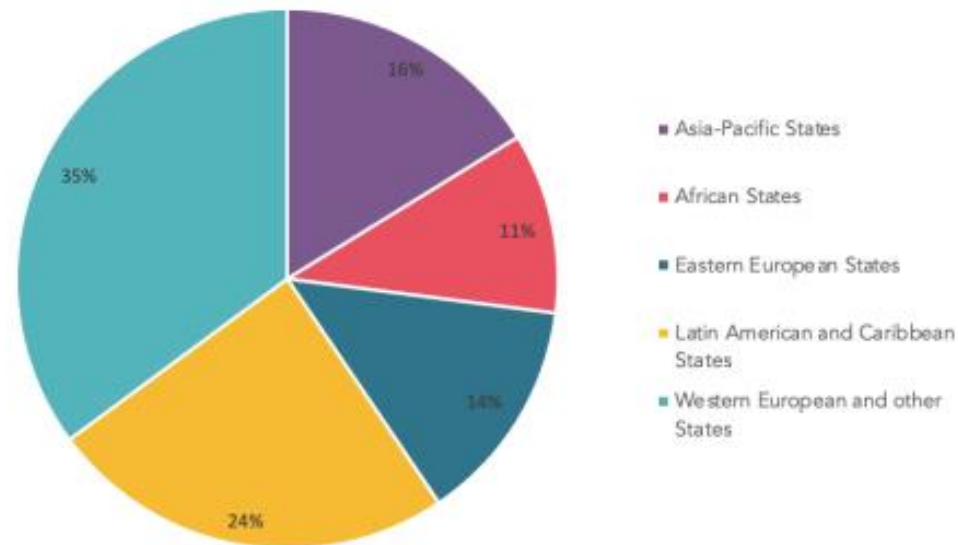
#SpaceSustainability

UNOOSA Project - Awareness-raising and capacity-building to support the implementation of the LTS Guidelines

Stakeholder Study Report



Regional Groups of interviewed member States



“Legal certainty is one of the best incentives that a Member State can offer to its space sector.”

“First, we need to build the bridge between the benefits of space and the daily needs of the citizens.”

UNOOSA Project -

Awareness-raising and capacity-building to support the implementation of the LTS Guidelines

- ❑ 2 Event series
- ❑ Diverse experts
- ❑ Peer-to-peer exchanges
- ❑ Showcase implementation examples and discuss gaps

Awareness-raising and capacity-building related to the implementation of the LTS Guidelines Project

Event 3, Section C
12 June 2023, 2 p.m. CEST

INTERNATIONAL COOPERATION, CAPACITY-BUILDING AND AWARENESS
Guidelines for the Long-term Sustainability of Outer Space Activities: Section C

Panelists

- Moderator: Moriba Jah, Co-Founder and Chief Scientist – Privateer Space
- Fariz Outamazirt, Expert in Satellite Communications Value-Added Services – Algerian Space Agency
- Gina Petrovici, Law and Policy Advisor – German Aerospace Center (DLR)
- Milind Pimprikar, Chairman – CANEUS International
- Rosa Jesse, Senior Editor – European Space Agency (ESA)

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Awareness-raising and capacity-building to support the implementation of the LTS Guidelines



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- 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

- 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

Thank you for your attention.