

CLEANSPACE INDUSTRIAL DAYS 2018

Long-Term Sustainability of Space Activities

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- **sustainability**
- **“... development that meets the needs of the present without compromising the ability of future generations to meet their own needs”**
- **UN General Assembly Report of the World Commission on Environment and Development: Our Common Future, 1987**

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- The background of the slide is a deep blue space filled with numerous small, bright stars. In the lower portion of the image, the curved horizon of the Earth is visible, showing a thin blue atmosphere and white clouds over a dark surface.
- **United Nations Committee on the Peaceful Uses of Outer Space**
 - **International cooperation and coordination on science, technology, law and policy of spaceflight since 1957**

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- The background of the slide is a deep blue space filled with numerous small, bright stars. In the lower portion of the image, the curved horizon of the Earth is visible, showing a thin blue atmosphere and white clouds over a dark blue ocean.
- **voluntary and not legally binding**
 - **no new legal obligations**
 - **spirit of enhancing the **practice** of
States and international organizations**

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- A background image of space with a starry field and the horizon of Earth from space, showing the blue atmosphere and white clouds.
- A. Policy and **regulatory** framework
 - B. Safety of space **operations**
 - C. International **cooperation, capacity-building** and awareness
 - D. Scientific and technical **research** and development

- **Guideline B.4 Perform conjunction assessment during all orbital phases of controlled flight**
- **Para.1: “Conjunction assessment should be performed for all spacecraft capable of adjusting trajectories during orbital phases of controlled flight for current and planned spacecraft trajectories.”**

- **Guideline B.4 Perform conjunction assessment during all orbital phases of controlled flight**
- **Para.3: “Spacecraft operators ... that are unable to perform conjunction assessments should seek support, via State authorities, ... from appropriate around-the-clock conjunction assessment entities..”**

- **Guideline B.10 Observe measures of precaution when using sources of laser beams passing through outer space**
- “... analyse the probability of accidental illumination of passing space objects by laser beams; conduct a quantitative evaluation of the laser radiation power at the distance of crossing space objects; if possible, perform an assessment of the risk ... to ... space objects”

- **Guideline A.3 Supervise national space activities**
- “States should ensure that entities under their jurisdiction and/or control ... have the appropriate structures and procedures for planning and conducting space activities in a manner that supports the objective of enhancing the long-term sustainability of outer space activities.”



The way forward...



Committee on the Peaceful Uses of
Outer Space
Scientific and Technical Subcommittee
Fifty-sixth session
Vienna, 11–22 February 2019

Guidelines for the Long-term Sustainability of Outer Space Activities

Working paper by the Chair of the Working Group on the Long-term Sustainability of Outer Space Activities

This working paper contains the preamble and guidelines on which consensus was reached during the mandate of the Working Group on the Long-term Sustainability of Outer Space Activities.

I. Context of the guidelines for the long-term sustainability of outer space activities

Background

1. The Earth's orbital space environment constitutes a finite resource that is being used by an increasing number of States, international intergovernmental organizations and non-governmental entities. The proliferation of space debris, the increasing complexity of space operations, the emergence of large constellations and the increased risks of collision and interference with the operation of space objects may affect the long-term sustainability of space activities. Addressing these developments and risks requires international cooperation by States and international intergovernmental organizations to avoid harm to the space environment and the safety of space operations.
2. Space activities are essential tools for realizing the achievement of the Sustainable Development Goals. Hence, the long-term sustainability of outer space activities is of interest and importance for current and emerging participants in space activities, in particular for developing countries.
3. Over the years, the Committee on the Peaceful Uses of Outer Space has considered different aspects of the long-term sustainability of outer space activities from various perspectives. Building on those previous efforts and other relevant related efforts, the Working Group on the Long-term Sustainability of Outer Space Activities of the Scientific and Technical Subcommittee has developed a set of voluntary guidelines with a view to setting out a holistic approach to promoting the long-term sustainability of outer space activities. The guidelines comprise a



Q & A session

- **Is a top-down process the best approach for enhancing sustainability?**
- **What can industry contribute, and how?**
- **Voluntary or binding commitments?**