



Promoting Cooperative Solutions for Space Sustainability

LTS Guidelines: A Primer

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- Background of the LTS guidelines and why they are important
- Issues that came up during negotiations
- Implementation of the LTS guidelines and looking to the future
- SWF resources relevant to this discussion

- The Air Force maintains a catalog of about 24,000 objects 10 cm or greater
 - When the Space Fence comes on-line later this year, that number is expected to go to 100,000
 - Active satellites: 2062, as of March 2019
 - Megaconstellations, which started launching this year, could add 20,000 *more* satellites
- Commercialization of space
- Increased interest in counterspace capabilities
- Who's in charge?
- New actors and new uses of space changing the domain

What are the LTS guidelines?

- In 2010, the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS) established the Working Group on the Long-Term Sustainability (LTS) of Outer Space Activities
- The Working Group was tasked with producing a set of voluntary, non-binding guidelines for all space actors to help ensure the long-term sustainable use of outer space
- The Working Group's mandate ended in June 2018, at which point the UN COPUOS member States reached consensus on 21 guidelines and a context-setting preambular text. The States also agreed to continue their discussions of space sustainability under a dedicated agenda item of the Scientific and Technical Subcommittee of COPUOS. Consensus was not reached on 7 guidelines
- In June 2019, the COPUOS plenary officially adopted these 21 guidelines, and agreed to create a working group under the agenda item of on the long-term sustainability of outer space activities of the Scientific and Technical Subcommittee

- The Working Group considered current practices, operating procedures, technical standards, and policies relevant to space sustainability and safety; and took as its legal framework the existing UN treaties and principles governing space activities
- The Working Group established four expert groups to discuss specific topics, propose candidate guidelines, and focus on the following thematic areas:
 - Expert Group A: Sustainable space utilization supporting sustainable development on Earth;
 - Expert Group B: Space debris, space operations and tools to support collaborative space situational awareness;
 - Expert Group C: Space weather; and
 - Expert Group D: Regulatory regimes and guidance for actors in the space arena

- The 21 agreed guidelines comprise a collection of internationally recognized measures for ensuring the long-term sustainability of outer space activities and for enhancing the safety of space operations
- **92 Member States agreed on these guidelines**
- Full text of agreed guidelines available in UN document A/AC.105/2018/CRP.20. The four major sections:
 - Policy and regulatory
 - Safety of space operations
 - Cooperation and capacity-building
 - Scientific and technical R&D

Factors influencing negotiations

- Growing interest among COPUOS members
- Growing membership of COPUOS
- Regional and like-minded groups
- Different views on priorities
- Different views on future modality of LTS discussions
- Geopolitical developments outside of COPUOS

NATIONAL LEVEL

- States could promote awareness of the guidelines to their national space community and express commitment to the implementation of guidelines at national level
- Regulators could include guideline implementation in their considerations and processes concerned with the authorization and ongoing supervision of national space activities under the jurisdiction and/or control of that State
 - Non-binding does not mean non-legal

INTERNATIONAL LEVEL

- States could use guideline implementation and the sharing of implementation experiences as tools to socialize the implementation of the guidelines in the international space community

CHALLENGES

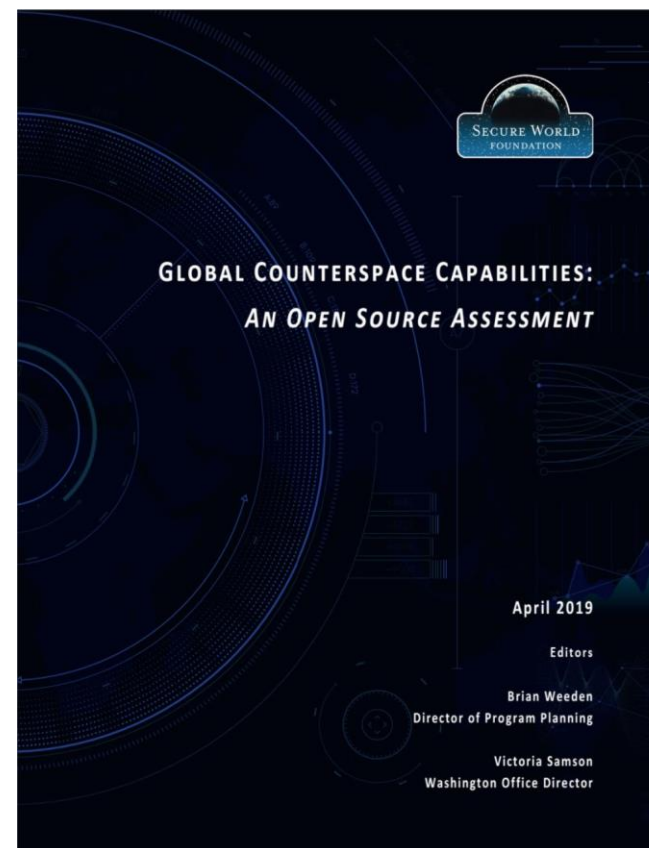
- Different capabilities and capacities to implement
- Possibility of different interpretations of the guidelines
- Details of implementation are not prescribed
 - different implementation practices

MEASURES

- Improved dialogue & coordination among regulators
- Sharing of implementation experiences
- Development of agreed metrics of implementation

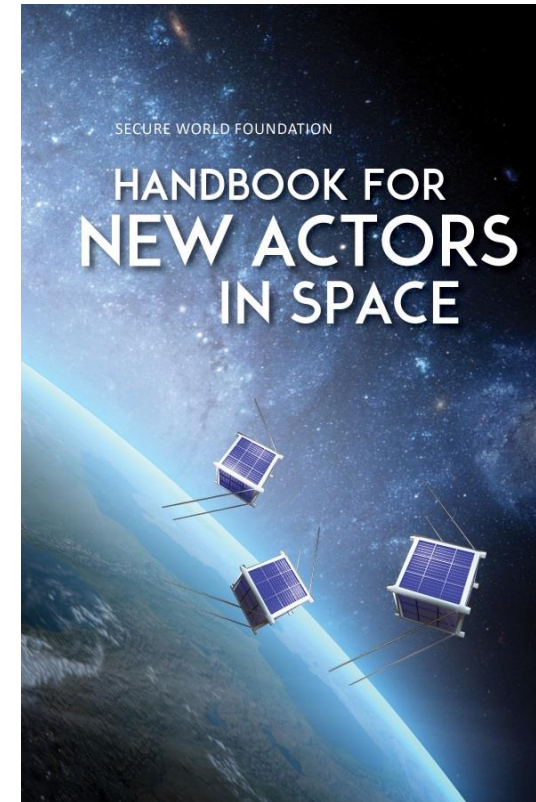
- Secure World Foundation (SWF) *is a private operating foundation* that promotes cooperative solutions for space sustainability
- **Our vision:** The secure, sustainable, and peaceful uses of outer space that contribute to global stability on Earth
- **Our mission:** Secure World Foundation works with governments, industry, international organizations, and civil society to develop and promote ideas and actions to achieve the secure, sustainable, and peaceful uses of outer space benefiting Earth and all its people

- Annual public report on global counterspace capabilities
 - Direct ascent/Co-orbital
 - Directed energy weapons
 - Electronic warfare
 - Cyber
- Includes US, Russia, China, India, Iran, and North Korea
- Promote transparency and public discussion of the threats and solutions



<https://swfound.org/counterspace>

- **Goal:** Create a publication that provides an overview fundamental principles, laws, norms, and best practices for safe, predictable, and responsible activities in space
- **Two specific audiences:**
 - Countries developing space programs and/or having to oversee and regulate their first satellites
 - Universities and start-up companies that are developing/operating satellites



www.swfound.org/handbook

Questions?

Thanks.

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