

The UN COPUOS LTS Guidelines

Early implementation experiences and next steps in COPUOS



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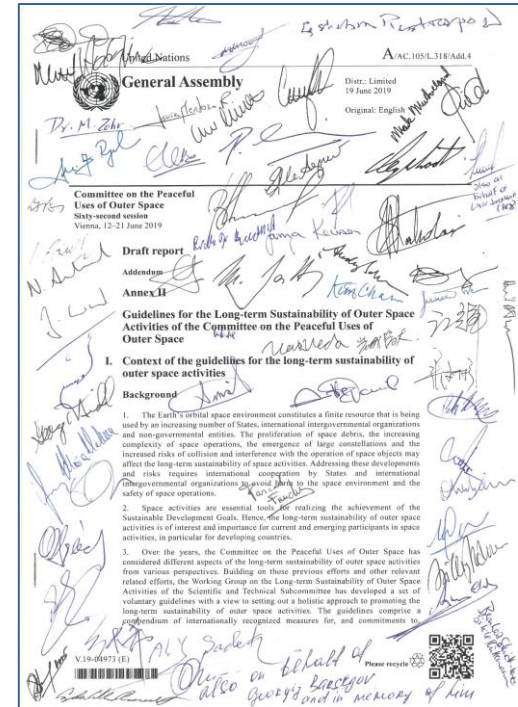
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- 21 Guidelines and a politically significant preamble
- Adopted by consensus of 92 States
- Address all kinds of space activities & all mission phases
- Voluntary
- The guidelines address:
 - Policy and regulatory framework for space activities
 - Safety of space operations
 - International cooperation, capacity-building, & awareness
 - Scientific and technical research and development

Full texts of agreed guidelines available in UN document **A/74/20, Annex II**



21 Agreed guidelines



Policy & Regulatory

- 5 Guidelines



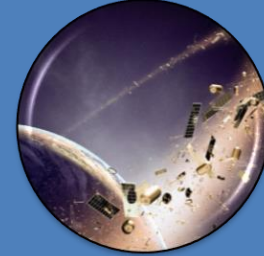
Safety of Space Operations

- 10 Guidelines



Cooperation, Capacity Building & Awareness

- 4 Guidelines



Scientific & Technical

- 2 Guidelines



Full texts of agreed guidelines available in UN document A/74/20 Annex II

Implementation – where the rubber hits the road

- Implementation is voluntary and consistent with national needs, conditions & capabilities
- Broad scope of guidelines
 - need to “unpack” what guideline implementation means in many different contexts
- Inherent flexibility to allow for implementation in different contexts
 - uncertainty or inconsistency in implementation
- Lack of common understanding at the highest level
 - problem for homogeneous implementation.
- Lack of awareness of LTS issues in general and the guidelines in particular
 - Need to raise awareness at national level

NATIONAL LEVEL

- States should promote awareness of the guidelines to their national space community and express commitment to the implementation of guidelines at national level.
- Regulators should 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

REGIONAL & GLOBAL LEVEL

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

Implementation measures reported by States

Delegations began to report their implementation experiences during the sessions of the STSC

- Revision of relevant domestic legislation
- Improved and/or enhanced registration of space objects
- Implementation of national space policy directives
- Conduct of debris research
- Plans to start operating new SSA facilities
- Participation in a global space weather centre for sharing of space weather data and advisories
- Public engagement on space sustainability issues

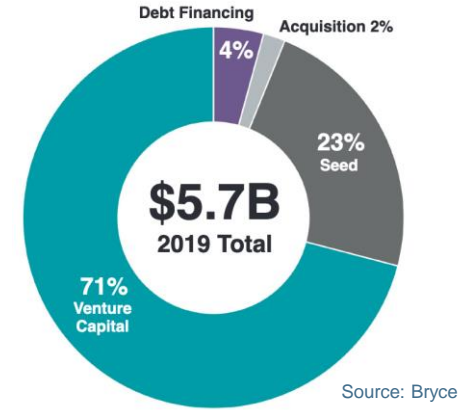
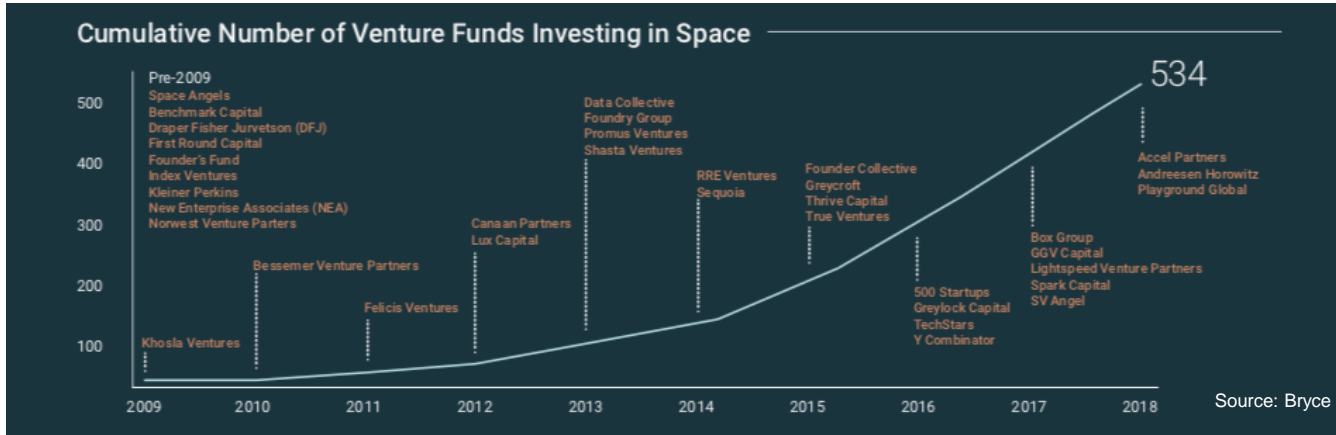
Early implementation lessons learnt

- Established space actors, have more experience and implementation capacity, but also more "legacy" legal systems and institutional inertia
- Emerging space actors often lack experience /capacity in space activities, but they can be more agile in adopting new space legislation that reflects current best practice.
- A common thread is the importance of "future proofing" legislation.
- Developing countries may need support of more experienced actors to implement the guidelines
- Need more efforts to promote wider awareness of the LTS guidelines among governments
- Need some sort of guidebook for implementation

Development of standards and promoting norms

- Industry has the ability to move faster than government and encourage other actors to use best practices in space sustainability and form dialogues surrounding these big issues.
 - The challenge for governments is to get industry to see space sustainability as an opportunity, rather than a burden.
- Industry is:
 - Developing standards for rendezvous and proximity operations
 - Promoting adherence to LTS guidelines and other best practices
 - Promoting data sharing
- Industry-led best-practices and norms lay the foundation for subsequent regulation at national level and eventually percolate upwards to the international level





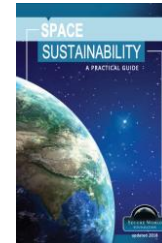
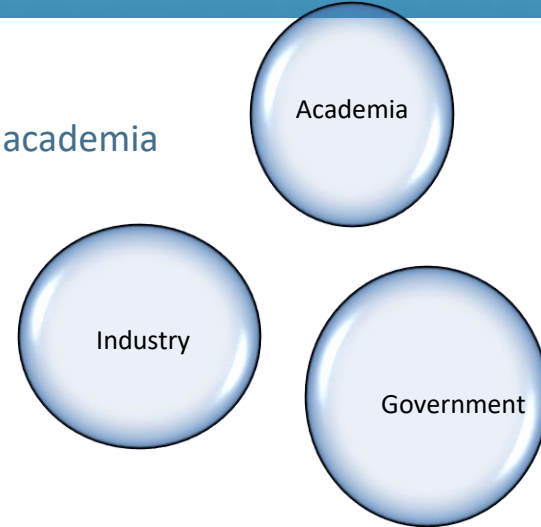
- As of Jan 2019, there were 534 venture capital funds investing in space start-ups.
 - 114 made their first investment in space in 2018.
- Venture capitalists poured \$5.7 billion into space technology companies in 2019, up 62% from the \$3.5 billion record set in 2018. (Bryce)

Challenges

- Venture capital mind-set
- Sustainability of new space endeavors

- Research on space sustainability questions in general
 - Technical, Scientific, Policy and Regulatory aspects.
- Independent assessment of compliance with various guidelines and standards.
- Development of metrics to assess the impacts of space activities on the space environment and effectiveness of various space sustainability measures.
 - E.g. IAA study on post-mission disposal
- Development of ways of recognizing responsible behavior.
 - EG MIT Media Lab and UT Austin contributing to development of WEF Space Sustainability Rating (a kind of “Carbon footprint for space”)

- Bridge gap between government, industry and academia
→ evidence-based policy formulation
- Create opportunities for dialogue among different groups of actors
- Can conduct independent research and analysis
 - EG SWF Counterspace Report
- Can provide accurate, unbiased information
 - EG SWF Handbook for New Actors in Space



A new WG with a 5-year mandate

- Identify & studying challenges for LTS & consider possible new LTS guidelines
- Share GL implementation experiences, practices and lessons learned
- Raise awareness and build capacity to implement the guidelines
 - Particularly among new space actors & emerging space nations

Factors influencing negotiations

- Growing interest & engagement of COPUOS members in the LTS discussions
- 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



Thank you