

UNITED NATIONS Office for Outer Space Affairs

Promoting Space Sustainability:

**Awareness raising, and capacity building related to the
implementation of the LTS Guidelines**

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Over and Above



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Promoting Space Sustainability:

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Policy and regulatory framework for space activities

- The changing orbital environment – value of the LTS Guidelines
- Anticipatory approach to regulation
- Approach of the UK
- The changing approach of industry and investors and the concept of the “Race to the top” through “environmental, social and corporate governance”

1. The changing orbital environment – value of the LTS Guidelines

“Global space sector is moving faster than we could have imaged, with over 80 space programmes at the moment”

Simonetta Di Pippo, Director UNOOSA, Ditchley Conference, January 2021

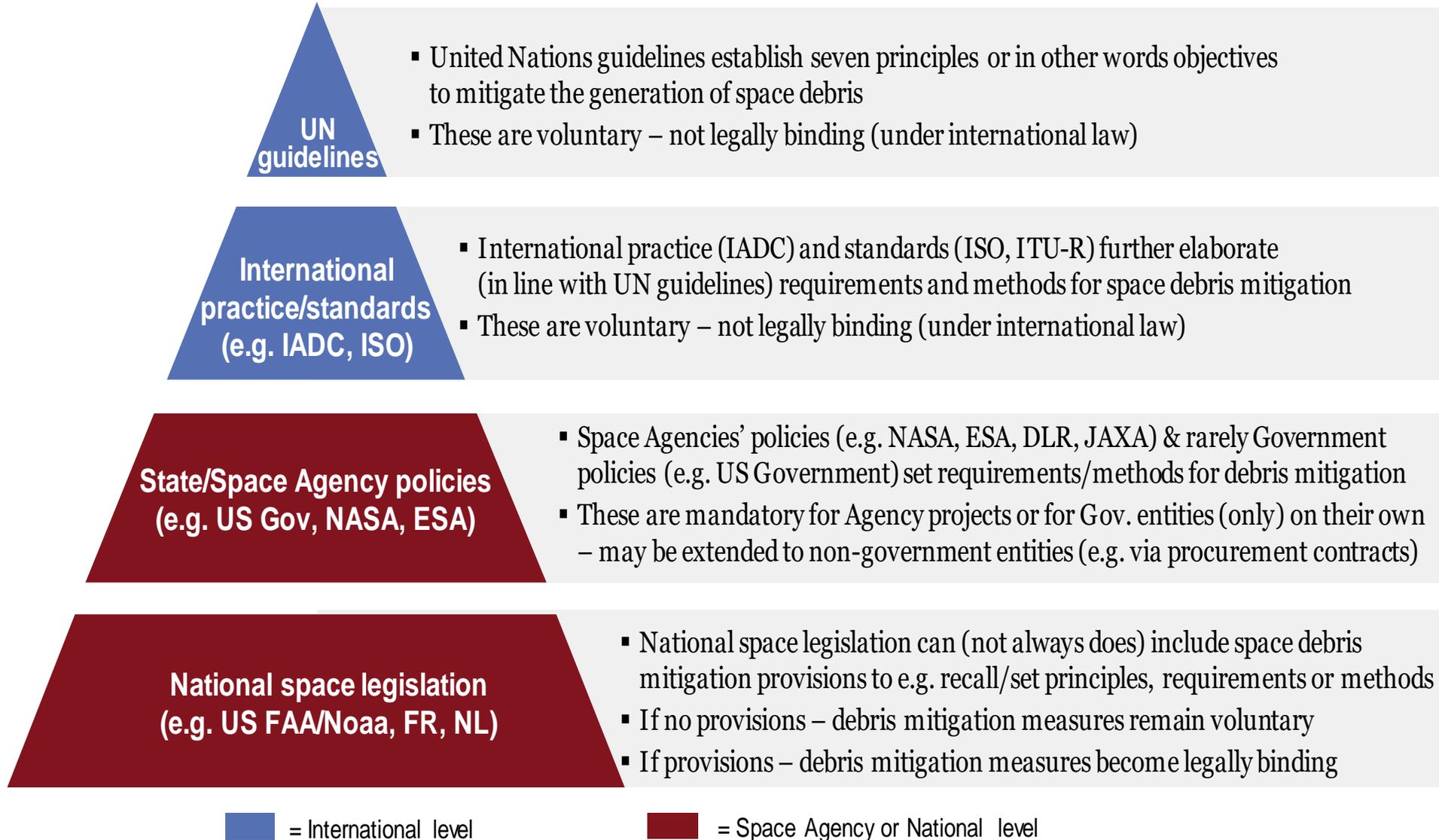
- 83 states are now involved in space activities and this figure will only grow. The value of the space environment is recognised more than ever – especially across the COVID Pandemic period.
- **The commercial sector is now key** – government expenditures amounting to 20% of overall space expenditure.
- Growth in commercial activities and orbital populations - impact on sustainability of long-term space activities.
- The dynamics of space are changing with:
 - aspiring space nations joining the international space community;
 - new categories of non-state actors: large industrial players; start-ups; and universities; and
 - advent of large constellations, cubesats and small launch facilities.
- There is no substitute to a multi-stakeholder approach and a level playing field dedicated to sustainability in space = need for LTS Guidelines (LTS A.2, C.1, C.2)

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2. Anticipatory approach to regulation at an international and national level (LTS A.1, A.2, A.3)

- Guidelines should be implemented in national law and regulation **“to the greatest extent feasible and practicable”** – using an anticipatory (outcomes-based) approach
- National regulatory and policy frameworks need to:
 - ensure the **sustainable** use of the space environment
 - **anticipate technology and regulatory change**, and changes to the orbital population with some flexibility
 - allow and encourage international collaboration and engagement with industry internationally
 - encourage commercial **growth** and stimulate **innovation and research**
 - create certainty and **transparency** and **reduce investment risks**
 - be **accessible** – easily understood and commercially applicable
 - protect **security** interests
 - be **reasonable and proportionate**

Importance of national implementation “to the greatest extent feasible and practicable”



3. Approach of the UK in relation to its regulatory framework and supervision of national space activities(LTS A.2, A.3)

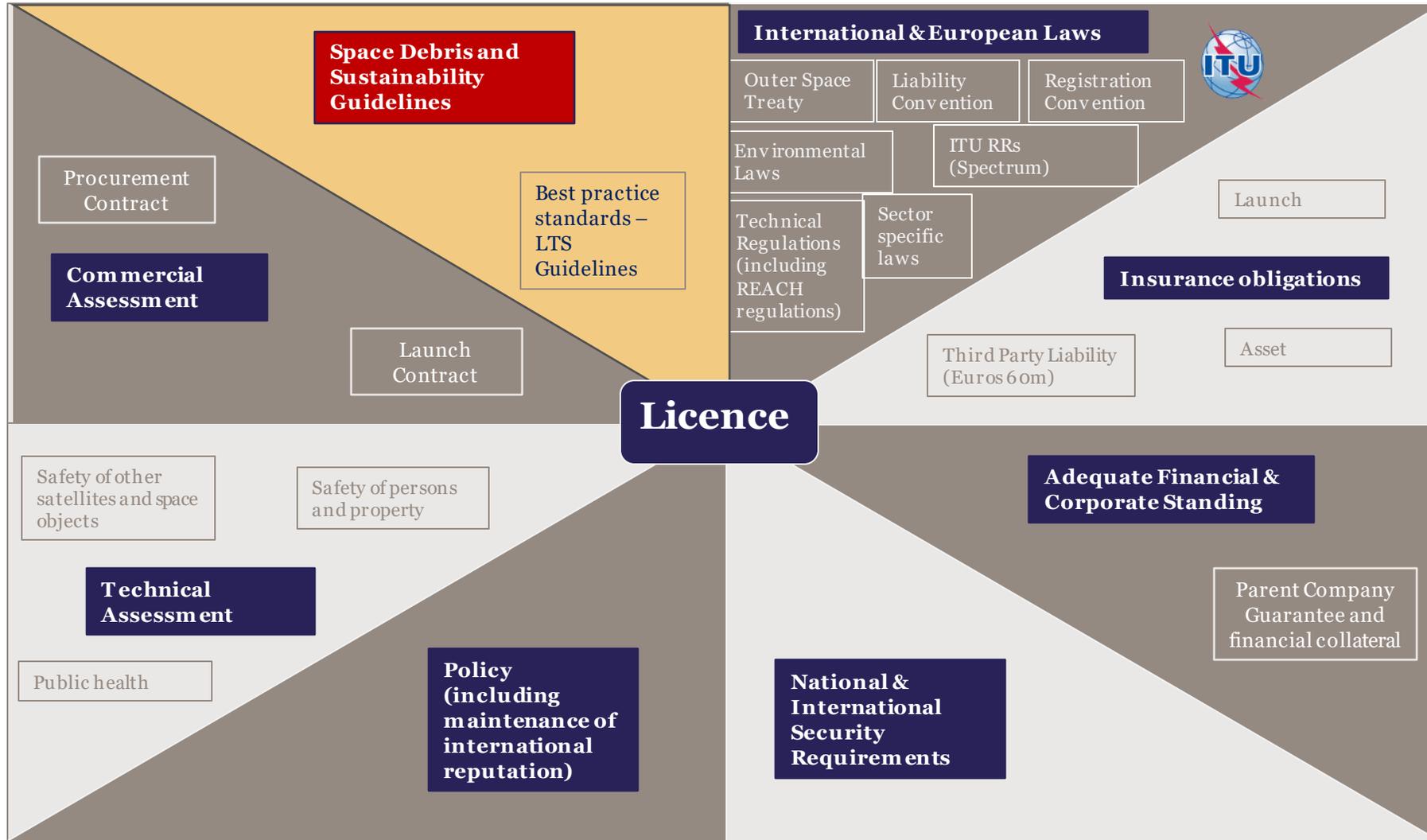
A.3. “1. In supervising space activities of non-governmental entities, States should ensure that entities under their jurisdiction and/or control that conduct outer space activities have the **appropriate structures and procedures** for planning and conducting space activities in a manner that **supports the objective of enhancing the long-term sustainability** of outer space activities, and that they have the **means to comply with relevant national and international regulatory frameworks**, requirements, policies and processes in this regard.” (LTS A.3.1)

- In supervising private commercial space activities, states should ensure that:
 - entities have appropriate corporate, commercial and technical structures and procedures in place for conducting space activities;
 - the structures and procedures support the objective of long-term sustainability; and
 - entities have the means, including the financial and management means, to comply with relevant national and international regulatory frameworks.

Approach of the UK: Outer Space Act – licensing criteria

Balance:

- Government risk, safety, security and sustainable use and access to space; against
- Encouragement of commercialisation, innovation and growth. (LTS A.1, A.2, A.3)



Appropriate technical structures and procedures for planning and conducting space activities

- **Can the applicant safely conduct the launch into orbit of the proposed vehicle and associated payload/platform? (LTS A.3, B.4, B.5)**
 - Understanding of hazards involved
 - Evidence how operations will be performed safely and sustainably
 - Demonstrate that commercial launch operations pose no unacceptable threat to public
- **Operational considerations for liability risk (LTS B.4, B.5):**
 - Possibility of encountering another object
 - Probability of a collision occurring
 - Likelihood of a resulting damage claim
- **Operational considerations for in orbit phase assessment (LTS B.8, B.9):**
 - **Ejection phase** – ejection of platforms from launch vehicle
 - **Orbit-raising phase** – criteria to initiate the orbit-raising phase; who commands and monitors the orbit-raising; how is it performed
 - **Constellation maintenance** – commanding and monitoring
 - **Planned and unplanned disposal** – process/mechanism for disposal; mechanisms to manage conjunctions

4. Approach of industry and investors – the concept of the “race to the top” (LTS A.2)

“Race to the top” – “situation in which competition between entities to be the best or most responsible leads to a better performance or outcome.”

- Clear regulatory procedures and credible licensing regime, meeting sustainable goals (“environmental, social and corporate governance” (ESG)) – can assist with raising finance.
- UN Environment Programme Finance Initiative – part of a company’s fiduciary duty to integrate environmental, social and governance issues into its investment analysis.
- Licence deemed to be a “stamp of approval” – for all types of space activities. Increase in “forum shopping” for internationally recognised licences.
- An effective, proportionate regulatory framework – is an enabler for raising investment.
- International recognition of best practice approaches, such as LTS Guidelines, vital.
- Overall ecosystem of international guidelines, national implementation and commercial environmental, social and corporate governance linked to investment – is a powerful one.

LTS Guidelines, Policy and regulatory framework for space activities

International community must:

- enable more states to be able to access and use outer space; and
- allow more, and more innovative, commercial activities to safely and sustainably use the space domain,

benefitting life on Earth.

State and private entities need to accept greater responsibilities and the absolute need to ensure that such activities in space are sustainable:

- recognising best practice:
 - through national authorisation and supervision (implementing the LTS Guidelines);
 - in making investment decisions; and
 - in how we all use space and satellite applications here on Earth (LTS A.2, A.3);
- ensuring the effective sharing of data (LTS B.2, C.2); and
- effecting ongoing engagement with the commercial industry.

We cannot escape from the fact that international collaboration is essential (LTS C.1).

Congratulations again to UNCOPUOS on the Guidelines

A satellite view of Earth's surface, showing a vast, arid landscape. A prominent river system, likely the Colorado River, winds through the terrain. The land is characterized by a mix of brown, tan, and dark green hues, indicating different vegetation and soil types. The curvature of the Earth is visible at the top of the frame, with a thin blue line representing the atmosphere.

Thank you

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