

National Laws on Space Sustainability: Fragmentation or Uniformization?

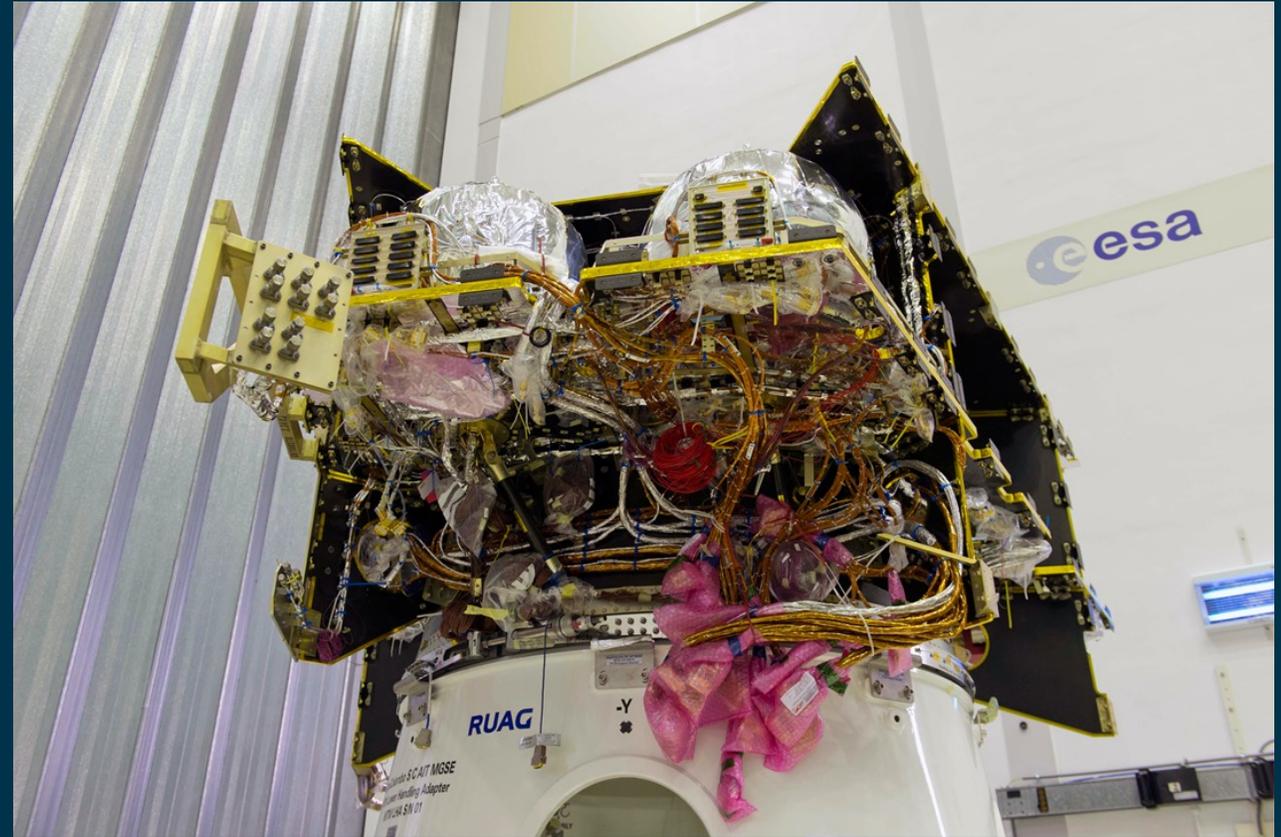
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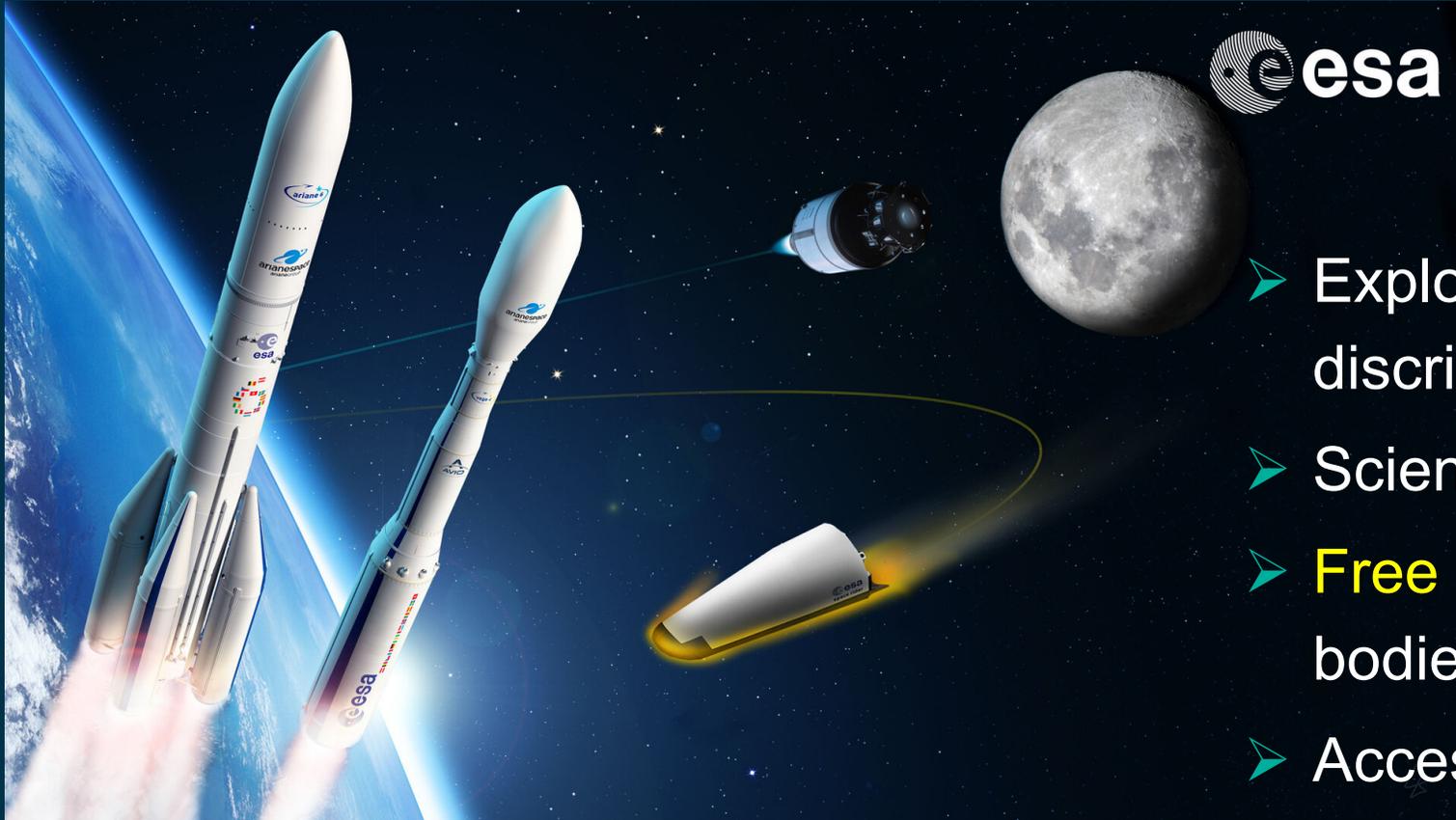
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Spaceflight: not only a technical challenge

- Space activities are complex, expensive, numerous, out of sight and inherently risky
- Need to **avoid harmful interferences** and to guarantee safe and **sustainable operations**
- These goals are not only reached by engineering solutions, but also through the **regulative force of law**



The “space freedoms”



- Exploration and use (without discrimination of any kind)
- Scientific investigation
- **Free access** to all areas of celestial bodies
- Access to space...
- But includes **obligations** as well!

1. **Article IX Outer Space Treaty:** “...**avoid their harmful contamination** and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter...**shall adopt appropriate measures.**”
2. **Article III Liability Convention:** “In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, the latter shall be **liable only if the damage is due to its fault** or the fault of persons for whom it is responsible.”
3. The **LTS-Guidelines** as a **standard of care?**

United Nations 21 guidelines on “Long Term Sustainability”

Worldwide coordination of activities related to the issues of man-made and natural debris in space

The long-term sustainability of outer space activities is **defined as the ability to: maintain the conduct of space activities indefinitely into the future** in a manner that realizes the objectives of equitable access to the benefits of the exploration and use of outer space for peaceful purposes, in order to meet the needs of the present generations while **preserving the outer space environment** for future generations

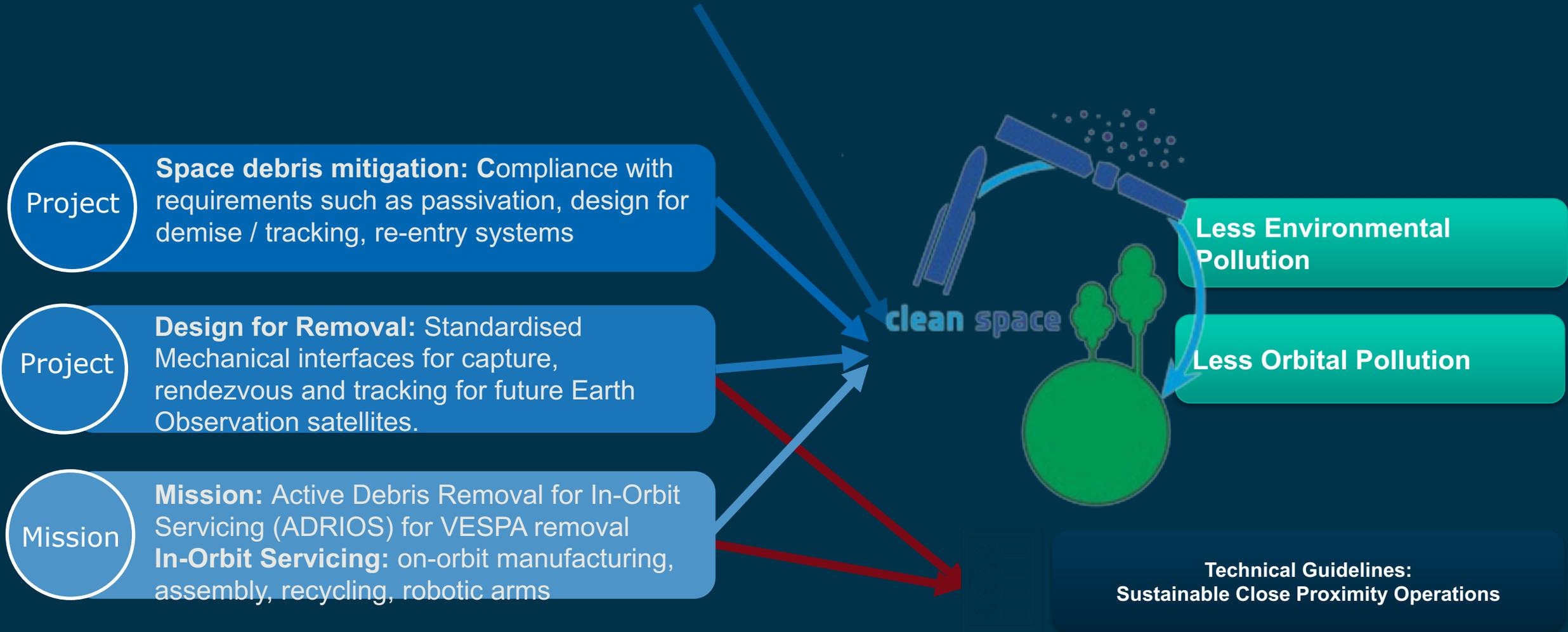
COPUOS was the appropriately mandated multilateral body to address such questions with the adoption of the 2019 LTS-Guidelines.

..... and now ?

- Voluntary implementation of the LTS Guidelines
- National regulatory frameworks
- Supervision of national space activities
- Enhance registration practice
- Safety of space operations
- Sharing of space weather data and forecasts
- Design and operation of space objects
- Re-entry of space objects ...



ESA technologies for Space Sustainability





LTS-Guideline A.4:

Adopt, revise and amend, as necessary, national regulatory frameworks for outer space activities

National Space Law (NSL):

Acts which define rights and obligations for the conduct of space activities under a given national jurisdiction

“NSL as the continuation, concretion and completion of international space law”

Uniformization or Fragmentation?

Unspecific and specific norms, not uniform, however, national implementation provides for **legally binding obligations**