Space Sustainability Forum 2025
Summary Report and Recommendations

INTRODUCTION

Organized by the Radiocommunication Bureau and the General Secretariat of the International Telecommunications Union, and hosted at the Geneva International Conference Centre (CICG) on 07and 08 October 2025, this second edition of the Forum convened high level speakers, experts and participants from governments, industry, UN agencies, satellite operators, space agencies and academia from 143 countries.

The aim was to revisit the outcome and needs for action identified at the first edition of the SSF in 2024, to present the progress and to assess the current situation, challenges and available solutions that can contribute to the sustainability of space radiocommunications systems while providing recommendations for further actions.

A summary of the key topics addressed during the two days event and outputs may be found as follows:

1. The Expanding Space Sector: Growth, Diversity, and Global Engagement

- The space sector is experiencing unprecedented growth, with over 2,200 satellites launched since September 2024 and more than 80 countries now actively participating. The global space economy is expanding at approximately 7% annually, fuelled by significant government ($132 billion) and private ($26 billion) investments.
- The Forum highlighted the increasing involvement of developing nations, the private sector, and new actors, reflecting a shift towards a more inclusive and diverse space community. This inclusivity is also seen in gender mainstreaming, with notable progress in women's leadership, especially in Africa.
- Space is now recognised as a catalyst for innovation, prosperity, and sustainable development, with direct relevance to the UN Sustainable Development Goals (SDGs).

2. From Dialogue to Action: Operationalising Space Sustainability

- A central message of SSF 2025 was the urgent need to move from discussion to concrete action. The Forum showcased live demonstrations of space traffic coordination systems currently offered by governments and private sectors, ARGUS satellite deployment monitoring tool unveiled by ITU Radiocommunication Bureau, and hands-on workshops to build capacity.
- ITU's initiatives, such as the Space Sustainability Gateway and Space Connect series, are advancing transparency and providing practical tools for member states and operators.
- The adoption of the Pact for the Future and the Global Digital Compact underscores the international community's commitment to urgent action on space traffic management, debris mitigation, and resource governance.

3. Spectrum Management: The "Oxygen" of Space Activities

- Efficient, equitable, and sustainable spectrum management was repeatedly described as the "oxygen and fuel" of the space industry. With 80% of WRC-27 agenda items relating to space, the need for agile, harmonised regulatory frameworks is more urgent than ever.
- The Forum called for a paradigm shift to ensure rational, equitable, and interference-free spectrum use, with a focus on preventing overconsumption by a few and ensuring access for all nations.

4. International Cooperation, Capacity Building, and Inclusion

- Robust international mechanisms for space traffic coordination, data sharing, and capacity building are essential to manage the rapid growth of the space economy and the proliferation of new actors.
- The Forum emphasised the importance of supporting developing countries with technical assistance, training, and institutional development, as well as the need for inclusive participation from all regions and sectors.
- Collaboration between ITU, UNOOSA, COPUOS, and other international bodies is vital for harmonising regulations and advancing sustainable space activities.

5. Private Sector Leadership, Innovation, and Investment

- The private sector's role as a driver of innovation and investment in dual-use and climate-focused technologies was highlighted. Direct-to-device (D2D) satellite connectivity, AI, automation, and advanced analytics are transforming space operations.
- Sustainability is increasingly seen as a source of value and resilience, not a barrier to growth. The Forum encouraged entrepreneurs and investors to pursue purpose-driven missions and to integrate sustainability by design.

6. Space Traffic Coordination, Data Sharing, and Debris Mitigation

- The lack of an international mechanism for space traffic coordination remains a major gap. Demonstrations highlighted the importance of real-time conjunction alerts, open data, and operator coordination.
- Active debris removal and in-orbit servicing are essential for long-term sustainability, catalysing breakthroughs.
- The impact of satellite constellations on astronomy ("dark and quiet skies") is a growing concern, with technical and regulatory solutions proposed.

7. Legal Frameworks, Governance, and Soft Law Mechanisms

- The Forum debated the merits of binding treaties versus non-binding guidelines, concluding that both are necessary and mutually reinforcing. The Outer Space Treaty (OST) and Moon Agreement were discussed in the context of new activities such as lunar power generation and nuclear energy.

- Soft law instruments (ratings, labels, voluntary standards) were encouraged to incentivise responsible behaviour and fill gaps where prescriptive norms are hard to agree upon.
- The “due regard” principle from the OST was highlighted as a foundation for space sustainability, requiring states to ensure their activities do not hinder others and to maintain transparency.

8. Resilience, Security, and Overlooked Risks

- The resilience of space systems—against physical threats, harmful interference, cyberattacks, and operational failures—was a growing focus. Advanced data analytics, encryption standards, multi orbit space systems and geographic distribution of assets were discussed as means to enhance resilience.
- Space weather, cybersecurity, and spectrum pollution were identified as critical, often overlooked challenges requiring better data, predictive capabilities, and proactive management.

9. Overarching Themes and Calls to Action

- Sustainability is an enabler of innovation and competitiveness, not a constraint. The Forum called for immediate action: from voluntary codes of conduct and best practices to regulatory incentives and technical solutions.
- Space sustainability is a shared responsibility—industry, regulators, scientists, and society must collaborate to keep space clean, safe, and accessible for all.
- The ITU and its partners will continue to lead efforts to operationalise space sustainability, ensuring it remains at the forefront of global collaboration.

Key Outputs and Recommendations

- **Transparency:** Share operational data and plans to build trust and improve safety.
- **Harmonisation:** Align regulations nationally and internationally, using scientific evidence and industry expertise.
- **Capacity Building:** Support developing countries with technical assistance and training.
- **Collaboration:** Foster partnerships across civil, commercial, and military sectors.
- **Implementation:** Move from guidelines to concrete actions, with governments adopting and enforcing best practices.
- **Science & Research:** Invest in research on emerging risks (space weather, atmospheric effects, radio frequency interference mitigation, cybersecurity).

Website: www.itu.int/SSF

Next Space Sustainability Forum: planned for October 2026