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Office for Outer Space Affairs

Protecting Space-Based Services for Civilians and Humanitarian Operations

Panel discussion / the third session of the OEWG on the Prevention of an Arms Race in Outer Space (PAROS)
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Space-Based Services: A Global Infrastructure

Space assets now underpin economic activity, sustainable development, public services and humanitarian action.

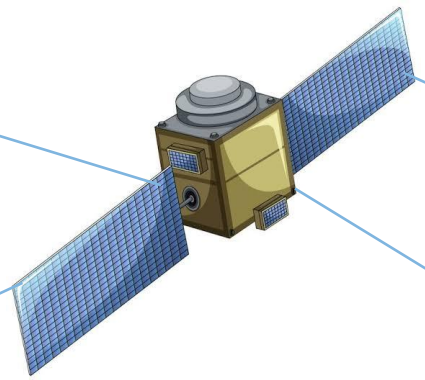
SAT **15,900**
functioning satellites in Earth orbit

LAUNCH **4,500**
satellites launched in 2025 through 320 launches

2030 **>60,000**
active satellites possible by 2030

E **Global Space Economy: $626.4 bn**
(2025 estimate)
Global downstream market: €358bn
Connectivity, logistics, finance, agriculture, energy, transport

PS **Public Services**
Critical daily services
Weather, PNT, safety and emergency management



SD **Sustainable Development**
SDG enabler
Food, water, climate and environmental monitoring

HA **Humanitarian Action**
Humanitarian lifeline
Early warning, mapping, connectivity and relief coordination

✓ **Peaceful uses depend on a safe, secure and sustainable space environment — space security ultimately protects services on Earth.**

Space Services Are Humanitarian Lifelines

One crisis requires multiple space-enabled functions across the humanitarian cycle.

1 Preparedness & Early Warning

- Forecast hazards and monitor exposure
- Support anticipatory action and evacuation planning

2 Emergency Response

- Restore connectivity when terrestrial networks fail
- Map damage, floods, fires and access routes
- Guide search-and-rescue and relief logistics

3 Recovery & Resilience

- Assess damage and loss
- Support reconstruction, food security and environmental monitoring

One crisis — many space services

- **Observe & anticipate**
- **Connect & communicate**
- **Locate & deliver**
- **Turn data into decisions**

✓ **For the United Nations, space is part of the humanitarian operating system.**

Legal Framework: Enabling Humanitarian Use of Space

UN Treaties, principles and guidelines already support peaceful use, access, cooperation, transparency and sustainability

1 Peaceful use & benefit of all

Outer Space Treaty • Benefits Declaration • Space2030 Agenda

Frames space services as benefits for all countries and encourages international cooperation and equitable access.

2 Responsibility, transparency & accountability

State responsibility • Registration Convention • Liability Convention

Supports supervision, identification and accountability for national activities, including commercial and dual-use systems.

3 Data access for disaster response

Remote Sensing Principles

Calls for prompt transmission of useful disaster data and analysed information to affected or at-risk States.

4 Sustainability & interference management

COPUOS LTS Guidelines • Debris mitigation • ITU Radio Regulations

Helps preserve safe operations, spectrum coordination and mitigation of harmful interference affecting critical services.

✓ **Build on the existing framework by reinforcing continuity of critical civilian and humanitarian functions across the full space–ground–information chain.**

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COPUOS: The UN Platform for Peaceful, Safe and Sustainable Space

COPUOS provides the multilateral governance setting that enables reliable civilian and humanitarian space services.

Peaceful uses mandate

Promotes international cooperation in the peaceful uses of outer space and the use of space science, technology and applications for all countries.

Science, technology and law

Through the Scientific and Technical Subcommittee and the Legal Subcommittee, States address safety, sustainability, legal frameworks and responsible conduct.

Consensus-based cooperation

Brings Member States and observers together to develop shared understandings, guidelines, principles and cooperative mechanisms.

COPUOS keeps the operating environment safe, predictable and sustainable.

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COPUOS Workstreams: Keeping Outer Space Safe and Sustainable

Current processes strengthen the conditions needed for critical civilian and humanitarian space-based services.

WG on Long-term Sustainability

Implementation of the 21 LTS Guidelines; cooperation, capacity-building, information-sharing and safe operations.

Expert Group on SSA

Technical basis for SSA information-sharing and operational coordination to support safer space activities.

UN SOCH platform

UNOOSA's Satellite Operator Contact Hub supports rapid operator-to-operator contact for conjunction events.

Space debris

Mitigation guidelines, safe operations and emerging remediation concepts help reduce risk to critical services.

ATLAC

Action Team on Lunar Activities Consultation: structured consultations on sustainable and coordinated lunar activities.

Legal and policy processes

Registration, Article XI information-sharing, space resources, Space2030 midterm review and UNISPACE IV consultations.

COPUOS processes turn peaceful-use principles into safety, transparency and sustainability measures.

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UNOOSA: Secretariat, Custodian and Implementation Hub

UNOOSA supports intergovernmental cooperation and translates COPUOS outcomes into practical tools, capacity and services.

1	**Secretariat to COPUOS**	Services COPUOS, STSC, LSC, Working Groups, Action Teams and expert processes; prepares documentation and supports consensus-based work.
2	**Legal implementation & transparency**	Maintains the UN Register of Objects Launched into Outer Space; supports registration practices, space law advisory services and ASTRO.
3	**Operational tools for sustainability**	Develops tools such as the LTS Information Repository and UN SOCH to improve transparency, contactability and operational safety.
4	**Capacity and UN system coordination**	UN-SPIDER, UN-Space, ICG/GNSS, Programme on Space Applications and Access to Space for All help Member States use space safely and effectively.

UNOOSA links governance, transparency, capacity-building and operational safety for service continuity.

UNOOSA's Contribution

Connecting, enabling and sustaining international cooperation in the peaceful uses of space.

C Connect

- ✓ Support COPUOS and UN-Space
- ✓ Bridge policy, technical and humanitarian communities

E Enable

- ✓ Through UN-SPIDER, facilitate access to emergency mechanisms
- ✓ Capacity-building, training and technical advisory support

S Sustain

- ✓ Space law and policy assistance
- ✓ Long-term sustainability and GNSS cooperation
- ✓ Partnerships for resilient access

✓ **UNOOSA helps translate space capabilities into international cooperation and practical support for Member States.**

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UNOOSA/UN-SPIDER: Turning Space Access into National Capacity

UNOOSA connects Member States with space-based information, emergency mechanisms, expertise and the capacity required to use them as part of humanitarian resilience.

Mandate

Established by General Assembly resolution 61/110: ensure that all countries have access to, and develop the capacity to use, space-based information throughout the disaster-management cycle.

Delivery model

- Technical Advisory, Institutional Strengthening and Expert Missions
- Capacity-building, training and simulation exercises
- Knowledge Portal, recommended practices and Regional Support Offices
- Facilitation of emergency mechanisms and partnerships

Programme reach

- 50 countries supported and 40 Technical Advisory Missions delivered
- 100 capacity-building missions and training activities
- 23 national disaster-management agencies incorporated as International Charter Authorized Users

Access + capacity + institutional readiness = resilience: Member States must be able to request, understand and operationalize space-based services when lives and essential services are at risk.

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Global Governance Protects Services

COPUOS and UNOOSA help preserve the conditions that keep critical civilian and humanitarian space-based services available, trusted and resilient.

Protecting services on Earth requires preserving peaceful, safe and sustainable uses of outer space.

1 COPUOS builds consensus

Multilateral forum for peaceful uses, safety and sustainability; develops shared understanding, guidelines and cooperative workstreams.

2 Operational Mechanisms reduce risk

LTS WG, EG on SSA, ATLAC, space debris work and UN SOCH promote predictability, consultation, information-sharing and coordination.

3 UNOOSA enables implementation

Secretariat support, legal and policy assistance, registration, capacity-building, UN-SPIDER and partnerships turn governance into practice.

4 Service protection objective

Maintain continuity of critical civilian and humanitarian functions across space, ground, data and last-mile chains.

The practical objective is to protect the continuity of essential services by safeguarding the space environment and the full space–ground–information chain.