

# The Office for Outer Space Affairs

## The Home of Space Affairs in the United Nations

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UNITED NATIONS  
Office for Outer Space Affairs

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# The Office for Outer Space Affairs

## The home of space at the UN



The Office sits at the **center of multilateralism** on the peaceful uses of outer space owing to its unique position in the UN system as well as vis-à-vis external stakeholders.

- ❑ **Only UN entity** dedicated to **space affairs**
- ❑ **Supports the intergovernmental deliberations** of the UN Committee on the Peaceful Uses of Outer Space
- ❑ **Home of** past, present and future **space law**
- ❑ A **broker & convener** for the global space community
- ❑ A **capacity-builder** expanding access to space UN Member States & entities

### Space is a global commons

The actions we take today will be decisive for the future of space exploration and utilization. It is our generation which must protect space for the long-term benefit of generations to come.



"As part of the organization-wide quest for a better future, at UNOOSA we strive to bring more countries to the space community by delivering the benefits of and access to space to all UN Member States."

- Simonetta Di Pippo -



# The Office for Outer Space Affairs

## Facilitating the power of cooperation



Aligning with one of the key values of the United Nations, the Office for Outer Space Affairs works with a wide range of space and non-space stakeholders on building the future we want.

### UNOOSA works with:

- ❑ National **Governments**
- ❑ National and Regional **Space Agencies**
- ❑ **Private entities**
- ❑ **Civil Society**, including academia and other NGOs
- ❑ Other **UN entities** in Vienna, New York, Geneva, and in the field



"What we need right now to foster innovation is **diversity** and **integrated efforts** with partnerships, networking and cooperation at the core."

- Simonetta Di Pippo -





# UNOOSA in 2020

## Highlights

The Office **sustained business delivery** despite the challenging times, **progressed** with **existing projects** and **partnerships**, and managed to **launch new activities** and **sign agreements** with a range of stakeholders.

- ❑ **UNOOSA** became a **standalone entity** of the UN Secretariat as per the ST/SGB/2020/1 as a follow-up to the ST/SGB/2019/2 “Delegation of Authority”
- ❑ **UNOOSA** Director **briefed** the **EC/DC** of the UN on the sustainability of space activities
- ❑ Participation of **UNOOSA at G20** with **space** as **one of the key topics** for the first time
- ❑ **Guatemala launched its first ever satellite** under UNOOSA/JAXA KiboCUBE programme



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# Trends and Topics for 2021

## Bridging the Space Divide

Space capabilities are critical assets for accelerating efforts towards sustainable development but universal access to space benefits remains far from reality.

- ❑ **More than half** of the UN Member States have **never had a satellite** in space.
- ❑ **Dozens of countries lack capabilities** to use space tech for sustainable development, disaster management and climate action.
- ❑ **National space economies** are **non-existent** or only **slowly emerging** in many countries around the world.
- ❑ **Sustainability** today means **prosperity** tomorrow.

Equality is human right but there is much more to it. Inclusiveness and diversity spark innovation, generate revenues and bring new perspectives.

- ❑ The **gender gap** in space industry **prevails**. Less than 1/4<sup>th</sup> of the workforce is represented by women.
- ❑ 90 percent of **future jobs will require ICT skills** and companies are already struggling with talent pool.
- ❑ **Voices of young people** are becoming more vocal than ever before, however, their perspectives still **tend to remain overlooked** in policy and decision-making.





# UN-SPIDER

## Space Solutions for Disaster Risk Reduction

UN Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) programme was created to **help communities**, particularly in developing countries, **fully take advantage of space-based technologies** for disaster-risk management.

### Overview

**3** - Types of advisory missions under UN-SPIDER:

- Technical Advisory Mission (TAM)
- Institutional Strengthening Mission (ISM)
- Expert Missions (EM)

### 2020 Online Course on Geospatial Applications for DRR

- Developed by UN-SPIDER and Regional Centre for Asia and Pacific
- **29,727 participants** from 140+ countries
- 95% rated as Good or Outstanding

**96** - Number of missions UN-SPIDER has served

**51** - Number of countries with missions

**38** - Number of technical advisory missions

UN-SPIDER is generously supported by the Governments of **Germany, Austria, and China.**



# Climate Action

## Realizing the full potential of space assets

### Space 4 Climate Action Project



Promote, strengthen and deliver **targeted capacity-building** and **technical advisory activities**.



Facilitate multi-stakeholder **collaboration**.



**Promote** efforts to encourage the **use of space for climate action** from local to national to international levels.



- ✓ Business plan finalization phase
- ✓ Framework, parameters, structure and process in development
- ✓ Outreach and partnership building on-going



### The Year of Climate Action



**UN CLIMATE  
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UK 2021**

IN PARTNERSHIP WITH ITALY

2021



**WORLD  
SPACE  
FORUM**





# Space Developments

## Contemporary and Emerging Trends

### Science and Tech

- ❑ Over **11,000 objects** launched to space since
- ❑ Over **10%** to date launched **in 2020**
- ❑ The **number of objects** in space, active and space debris, is **growing rapidly**
- ❑ **Mega-constellations** coming online
- ❑ **Accessibility** to space is **increasing**, but over 100 states still lag behind
- ❑ **More stakeholders** capable of **developing and launching** hardware

### Economy

- ❑ Space economy valued at over **\$400 billion**, expected to **multiply by 2040s**
- ❑ **Commercial activities** representing 80% of the overall value
- ❑ **Private companies** **expanding** to traditionally governmental domains
- ❑ Satellites contribute to more than **10% of GDP** in advanced economies
- ❑ Satellites will be instrumental **for post Covid-19 recovery** and in the push to **greener economy**

### Legal and Policy

- ❑ Space stakeholders and policymakers are working on addressing **novel issues** arising from **New Space**
- ❑ Growing need to enhance the **safety and security** of space operations, and the **long-term sustainability**
- ❑ Increased **international cooperation** on planetary defence and protection
- ❑ Enhanced **understanding and implementation** of international space law frameworks
- ❑ **SPACE 2030**





# Committee on the Peaceful Uses of Outer Space

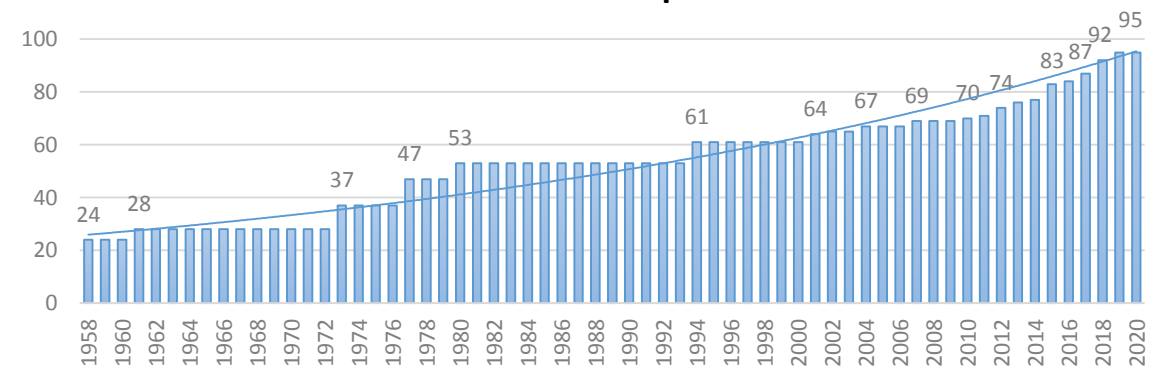
The permanent Committee on the Peaceful Uses of Outer Space established by the UN General Assembly in 1959 reviews peaceful use of outer space, encourages space research programmes, and studies legal issues arising from space exploration.

- ❑ Forum for developing of **international space law**
  - **5 treaties and 5 principles** of outer space
  - Space Debris Mitigation Guidelines
  - Long-term Sustainability Guidelines
- ❑ **Two subcommittees:** Scientific and Technical (STSC) and Legal Subcommittees (LSC)
- ❑ Discussions on-going on the most pressing issues in the space sector to **ensure international legal space framework remains fit for purpose**
- ❑ Decision taken in **consensus**, giving **equal negotiating power to all Member States**

It has expanded the number of members from 1958: 18 to 2020: 95. COPUOS also has 42 observer organizations



**COPUOS Membership Evolution**

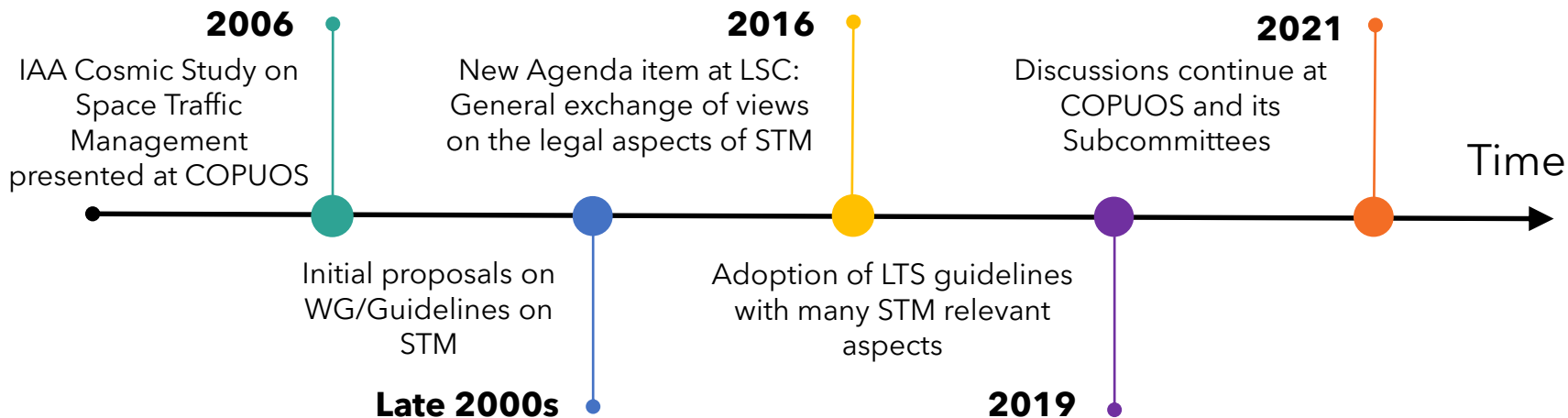




# Committee on the Peaceful Uses of Outer Space

## Evolution of multilateral STM debates

The development of **acceptable, effective, fair and equitable solutions** requires **multilateral approach** at the **United Nations level**.



- **Over the years, multilateral, global approach** quoted as the most appropriate to proceed
- **Regulations relevant to STM already exist** in contemporary international space law
- **Some areas** of essence for effective STM are **not yet covered e.g.,** smallsat & mega-constellations
- **Clear commitment** of nations to consider challenges and solutions related to STM at all levels

Multilateral normative framework must remain fit-for-purpose.





# The Office for Outer Space Affairs

## Core functions relevant to Space Traffic Management



Through **interplay of different mandates and responsibilities**, UNOOSA is committed to promoting **responsible and sustainable use** of this “province of all humankind”.

### ■ Maintaining Register of Objects launched to Space

- 2013 UNGA (1st C) recognized the importance of UNOOSA's work through the Space Objects Register as the only treaty-based TCBM in Outer Space
- Only UN entity providing **implementation support services on the LTS Guidelines**
- Utilizing the networking power of the UN to provide **space law capacity-building** through advisory services
- Actively **engaging with space stakeholders** around sustainability issues, including **space debris**

In 2021, **UNOOSA and UK Space Agency** launched **Promoting Space Sustainability Project** focused on awareness-raising and capacity-building related to LTS Guidelines.

In 2021, **UNOOSA and ESA** launched the **Space Debris campaign**, with infographics and podcasts on the topic and other related issues to raise general public awareness on the need for good governance.



Three **ICAO/UNOOSA Aerospace Symposiums** organized 2015-2017 (Montreal, Dubai, Vienna)

**16 observations** adopted including one related to STM.

(j) The space sector is growing...there is...a need to further **explore** the possible future **establishment of a space traffic management regime**...safely **interoperable with** the existing **global air traffic management** system and supporting infrastructure;



# Global Space Traffic Management

## Considerations for the future



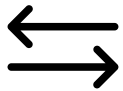
Participation of **UN Member States** in shaping space governance, expanding COPUOS MS base



**Multilateral sharing** of space situational/domain awareness information to improve safety and sustainability



**Enhanced** registration practices to cope with the exponential growth of objects as per A/RES/65/50



**International mechanisms** for **notification and coordination** of a) full operational cycle; b) safety and environmental provisions

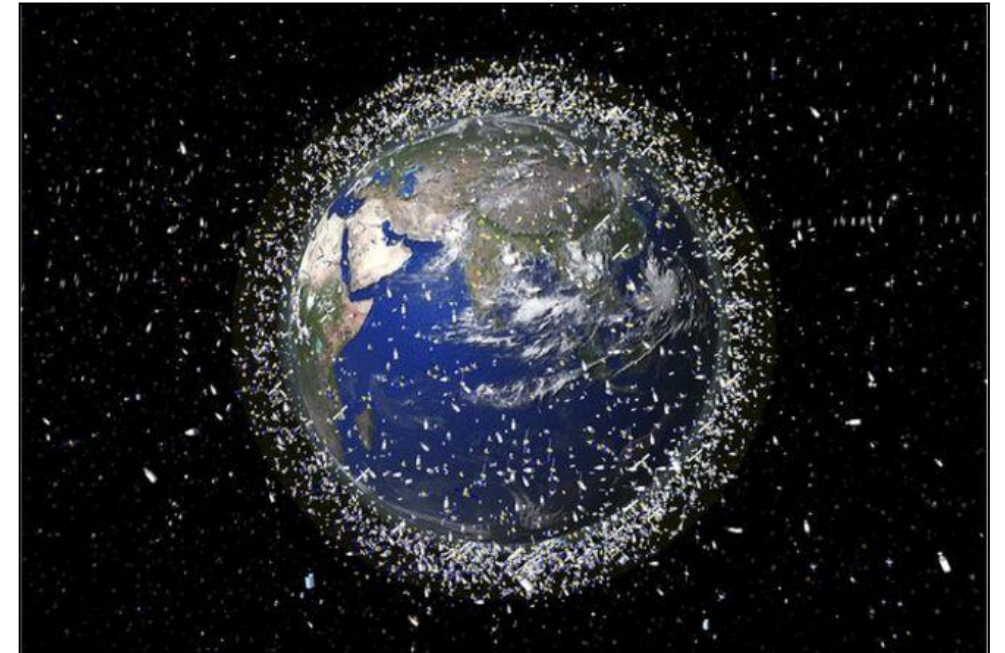


**Continue convening** all actors to ensure all voices are heard in developing new 'rules of the orbit'



Thorough **implementation of existing normative framework**, including LTS Guidelines, **enhancing key practices** required for an international STM

The development of the **global space traffic rules** must be as **comprehensive, detailed, thought-through** and **inclusive** as possible. With the support of the UN, through General Assembly, COPUOS and UNOOSA we will, together, succeed in this endeavour.





# Space Sustainability

## Space Law for New Space Actors

Space plays a crucial role in any future we can foresee. **Responsible conduct** today means prosperity tomorrow. UNOOSA devotes great attention to encouraging and supporting **preservation of space** for future generations.



**Assess needs** considering judicial, administrative and technical requirements.



**Tailor** the capacity-building and advisory **services** based on the assessment



**Raise awareness** of the fundamental principles of international space law, and how those apply to operational space activities.

### In 2020, UNOOSA started providing services.

Two e-Learning modules "Introduction to Space Law for New Space Actors Project" and "The Outer Space Treaty and the Fundamental Principles of Space Law" in English, French and Spanish were developed.



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# Bringing the benefits of space to everyone, everywhere

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