UNITED NATIONS
Office for Outer Space Affairs

# Small Satellites: Legal and Regulatory Issues and Discussions in UNCOPUOS

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**Kyutech, Kitakyushu, Japan**
**27 January 2016**

# Contents



Note: United Nations documents quoted in this paper are available from the website of the Office for Outer Space Affairs at www.unoosa.org and from the Official Document System of the United Nations at documents.un.org.

Disclaimer: The views expressed in this paper are purely those of the author and do not necessarily reflect the position of the United Nations and its Office for Outer Space Affairs.

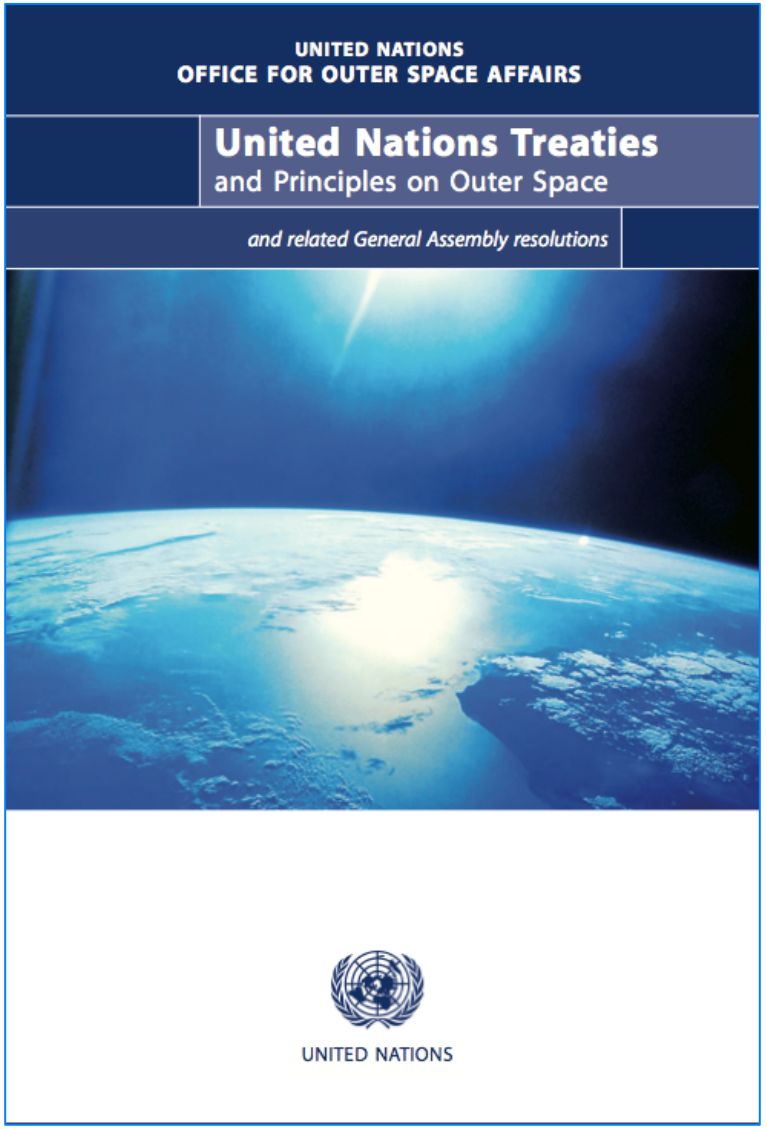
# International Space Law

# Five United Nations Treaties on Outer Space

1. **Outer Space Treaty** (OST,1967)
   103 ratifications, 25 signatures
2. **Rescue Agreement** (ARRA, 1968)
   94 ratifications, 24 signatures
3. **Liability Convention** (LIAB, 1972)
   92 ratifications, 21 signatures
4. **Registration Convention**
   (REG, 1976)
   62 ratifications, 4 signatures
5. **Moon Agreement** (MOON, 1984)
   16 ratifications, 4 signatures

- See http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html for full text and treaty status

Status as of 1 January 2015
Years indicate date of entering into force



# Outer Space Treaty (1967)

- Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (the "Outer Space Treaty")
  *General Assembly resolution 2222 (XXI), opened for signature on 27 January 1967, entered into force on 10 October 1967*
  - Exploration and use of outer space - province of all mankind (Article I)
  - Principle of non-appropriation (Article II)
  - Weapons of mass destruction (Article IV)
  - International responsibility for national activities in outer space (Article VI)
  - International liability for damage (Article VII)
  - Jurisdiction and control (Article VIII)
  - Cooperation and mutual assistance (Article IX)
  - Installations on the Moon and other celestial bodies (Article XII)

# Outer Space Treaty – Article VI

- **Article VI**

  States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty.

  The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. (…)

# Outer Space Treaty – Article VII

- **Article VII**

  Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air or in outer space, including the moon and other celestial bodies.

# Liability Convention (1972)

- Convention on International Liability for Damage Caused by Space Objects (the "Liability Convention")
  *General Assembly resolution 2777 (XXVI), opened for signature on 29 March 1972, entered into force on 1 September 1972*
  - Meaning of terms “damage”, “launching”, “launching State”, “space object” (Article I)
  - Absolute liability (Article II)
  - Fault liability (Article III)
  - Third Party claims, joint and several liability, compensation for damage (Articles IV-XIII)
  - Claims Commission (Articles XIV-XX)

# Liability Convention – Articles II and III

- **Article II**

  A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft flight.

- **Article III**

  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.

# Liability for Damage Caused by Space Objects

- To date the Liability Convention has been activated twice:
  - Re-entry of Skylab on 11 July 1979: NASA requested for claims, but no replies were received relevant under the Convention
  - Disintegration of Cosmos 954 over Northern Canada in January 1978. A Canadian claim was presented both under the Liability Convention and under general international law.
- In other instances launching states provided information on re-entering space objects
  - De-orbit of MIR Space Station
  - Re-entry of the Italian BeppoSax satellite
  - Interception of US-193 on 20 February 2008

# Registration Convention (1976)

- Convention on Registration of Objects Launched into Outer Space (the "Registration Convention")
  *General Assembly resolution 3235 (XXIX), opened for signature on 14 January 1975, entered into force on 15 September 1976*
  - Meaning of terms “launching State”, “space object”, State of registry” (Article I)
  - Obligation by launching State to register space object launched into Earth orbit or beyond, establishment of national registry, determination of State of registry when more than one launching State (Article II)
  - Establishment of United Nations Register (Article III)
  - Detailed registration requirements (Article IV)
  - Identification of space object which has caused damage, exchange of information (Article VI)
  - International organizations – acceptance of the rights and obligations (Article VII)

# Registration Convention – Article IV

1. Each State of registry shall furnish to the Secretary-General of the United Nations, as soon as practicable, the following information concerning each space object carried on its registry:

(a) Name of launching State or States;

(b) An appropriate designator of the space object or its registration number;

(c) Date and territory or location of launch;

(d) Basic orbital parameters, including:

(i) nodal period;

(ii) inclination;

(iii) apogee;

(iv) perigee;

(e) General function of the space object.

2. Each State of registry may, from time to time, provide the Secretary-General of the United Nations with additional information concerning a space object carried on its registry…

# Status of International Agreement

Question:

How can I find out if my country is party to any of these agreements?

Answer:

Check http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/status/index.html

# National Space Law

# Outer Space Treaties and National Space Law

- Your country may have national space law that may establish a legal/regulatory framework for how space activities are to be conducted (e.g. liability issues, insurance requirements, licensing...)
- **National space law database:** http://www.unoosa.org/oosa/en/SpaceLaw/national/state-index.html
- The database may not be complete and you may wish to check with the law-making/implementing bodies in your country!
- Your national law may also apply if you conduct space activities outside the borders of your country
- Also see A/RES/68/74. Recommendations on national legislation relevant to the peaceful exploration and use of outer space (adopted 11 December 2013)

# National Space Legislation: Regulative Categories

| Regulative Category | Corresponding International Obligation/Norm | Elements |
|---|---|---|
| Scope of application | n/a, (partly Art. VI OST - international responsibility for "national activities") | –activities (*ratione materiae*)<br>–jurisdiction (*ratione loci/personae*) |
| Authorization and licensing of activities of non-governmental entities | Art. VI OST;<br>GA resolution A/RES/59/115 | –licensing procedure<br>–change of status: modification/suspension/revocation of license<br>–conditions for granting licenses connection to other relative categories: registration, liability, safety |
| Continuing supervision of activities of non-governmental entities | Art. VI OST | –mechanisms of supervision<br>–role and competencies of supervising authorities (during normal operation and in case of incidents) |
| Registration | Art. VIII OST; Art. II, IV REG; GA resolution 1721 (XVI) B; GA resolution A/RES/62/101 | –establishment of national registry<br>–obligation to submit information to competent authority<br>–submission of data to the Secretary-General |
| Liability and insurance | Art. VI, VII OST; Art. II, III LIAB | –obligation of insurance and financial responsibility<br>–amount of insurance coverage (minimum requirements/caps)<br>–state indemnification |
| Safety | Art IX OST; NPS Principles; COPUOS Space Debris Mitigation Guidelines | –avoidance of harmful contamination of outer space and adverse change to the environment of the Earth<br>–implementation of space debris mitigation<br>–response to emergency situations |
| Transfer of ownership | Art. VI, VII, VIII OST; REG; LIAB; GA resolution A/RES/62/101 | –adequate requirement for the transfer of satellites |

Source: Report of the Working Group on National Space Legislation (A/AC.105/C.2/101)

# Registration of Space Objects

# Registration of Space Objects

- Two separate, yet complementary registers on objects launched into outer space, maintained by the United Nations Office for Outer Space Affairs
  1. **UNGA 1721 B (XVI). International co-operation in the peaceful uses of outer space (1961)**
  2. **UNGA 3235 (XXIX). Registration Convention (1976)**
- First register superseded by register established in accordance with the Registration Convention in 1976
- The original register is still used to disseminate information on space objects from Member States who are not party to the Registration Convention
- Online index of objects launched into outer space: http://www.unoosa.org/oosa/osoindex.html

United Nations A/AC.105/INF.419

**General Assembly**

Distr.: General
10 March 2009

Original: English

**Committee on the Peaceful Uses of Outer Space**

## Information furnished in conformity with General Assembly resolution 1721 B (XVI) by States launching objects into orbit or beyond

### Note verbale dated 27 January 2009 from the Permanent Mission of Thailand to the United Nations (Vienna) addressed to the Secretary-General

The Permanent Mission of Thailand to the United Nations (Vienna) presents its compliments to the Secretary-General of the United Nations and has the honour to transmit, in accordance with paragraph 1 of General Assembly resolution 1721 B (XVI) of 20 December 1961, information concerning its Thailand Earth Observation Satellite (THEOS) (international designator: 2008-049A), which was launched on 1 October 2008 (see annex).



**Annex**

### Registration data on an object launched into space by Thailand*

| | |
|---|---|
| International designator: | 2008-049A |
| Name of space object: | Thailand Earth Observation Satellite (THEOS) |
| Name of launching State or States: | Thailand and Russian Federation |
| Date of launch: | 1 October 2008 |
| Location of launch: | Yasny, Russian Federation |
| Orbital parameters: | |
| Nodal period: | 101.4 minutes |
| Inclination: | 98.7 degrees |
| Apogee: | 822 kilometres (sun-synchronous orbit) |
| Perigee: | 822 kilometres (sun-synchronous orbit) |
| General function: | Earth observation |
| Operating agency: | Geo-Informatics and Space Technology Development Agency (Public Organization), Ministry of Science and Technology, Thailand |

* The registration data are reproduced in the form in which they were received.

Registration example in conformity with UNGA 1721 B (XVI) (published in A/AC.105/INF.x document series)

United Nations ST/SG/SER.E/598

**Secretariat**

Distr.: General
29 July 2010
English
Original: Russian

**Committee on the Peaceful Uses of Outer Space**

## Information furnished in conformity with the Convention on Registration of Objects Launched into Outer Space

### Note verbale dated 3 June 2010 from the Permanent Mission of the Russian Federation to the United Nations (Vienna) addressed to the Secretary-General

The Permanent Mission of the Russian Federation to the United Nations (Vienna) presents its compliments to the Secretary-General of the United Nations and has the honour to transmit, in accordance with article IV of the Convention on Registration of Objects Launched into Outer Space (General Assembly resolution 3235 (XXIX), annex), registration data on space launches by the Russian Federation for April 2010 and also on the space objects that ceased to exist during that period (see annex).

V.10-55499 (E) 030810 040810

Please recycle



**Annex**

## Registration data on space launches by the Russian Federation for April 2010*

1. In April 2010, the following space objects belonging to the Russian Federation were launched:

| No. | Name of space object | Date of launch | Basic orbital characteristics: Apogee (km) | Perigee (km) | Inclination (degrees) | Period (minutes) | General function of space object |
|---|---|---|---|---|---|---|---|
| 3291 | Soyuz TMA-18 (launched by a Soyuz-FG carrier rocket from the Baikonur launch site) | 2 April | 260 | 198 | 51.7 | 88.8 | Delivery to the International Space Station of the crew of Expeditions 23 and 24, consisting of the Russian cosmonaut Aleksandr Skvortsov (commander), the Russian cosmonaut Mikhail Kornienko (flight engineer) and the United States astronaut Tracy Caldwell Dyson |
| 3292 | Cosmos-2462 (launched by a Soyuz-U carrier rocket from the Plesetsk launch site) | 16 April | 352 | 180 | 67.2 | 89.5 | Intended for assignments on behalf of the Ministry of Defence of the Russian Federation |
| 3293 | Cosmos-2463 (launched by a Cosmos-3M carrier rocket from the Plesetsk launch site) | 27 April | 1 023 | 986.2 | 83 | 104.9 | Intended for assignments on behalf of the Ministry of Defence of the Russian Federation |
| 3294 | Progress M-05M (launched by a Soyuz-U carrier rocket from the Baikonur launch site) | 28 April | 250 | 193 | 51.7 | 88.6 | Delivery to the International Space Station of fuel, water, oxygen, air, food and other expendable materials required for manned operation of the Station |

2. In April 2010, the Russian Federation launched the following space objects on behalf of foreign clients:

   On 8 April 2010, the German CryoSat-2 scientific satellite was launched into Earth orbit by an RS-20 rocket from the Baikonur launch site;

   On 24 April 2010, a United States AMC 4R (SES-1) telecommunications satellite was launched into Earth orbit by a Proton-M carrier rocket with a Breeze-M booster from the Baikonur launch site.

3. The following space object ceased to exist in April 2010 and was no longer in Earth orbit at 2400 hours Moscow time on 30 April 2010: 2009-056A (Progress M-03M).

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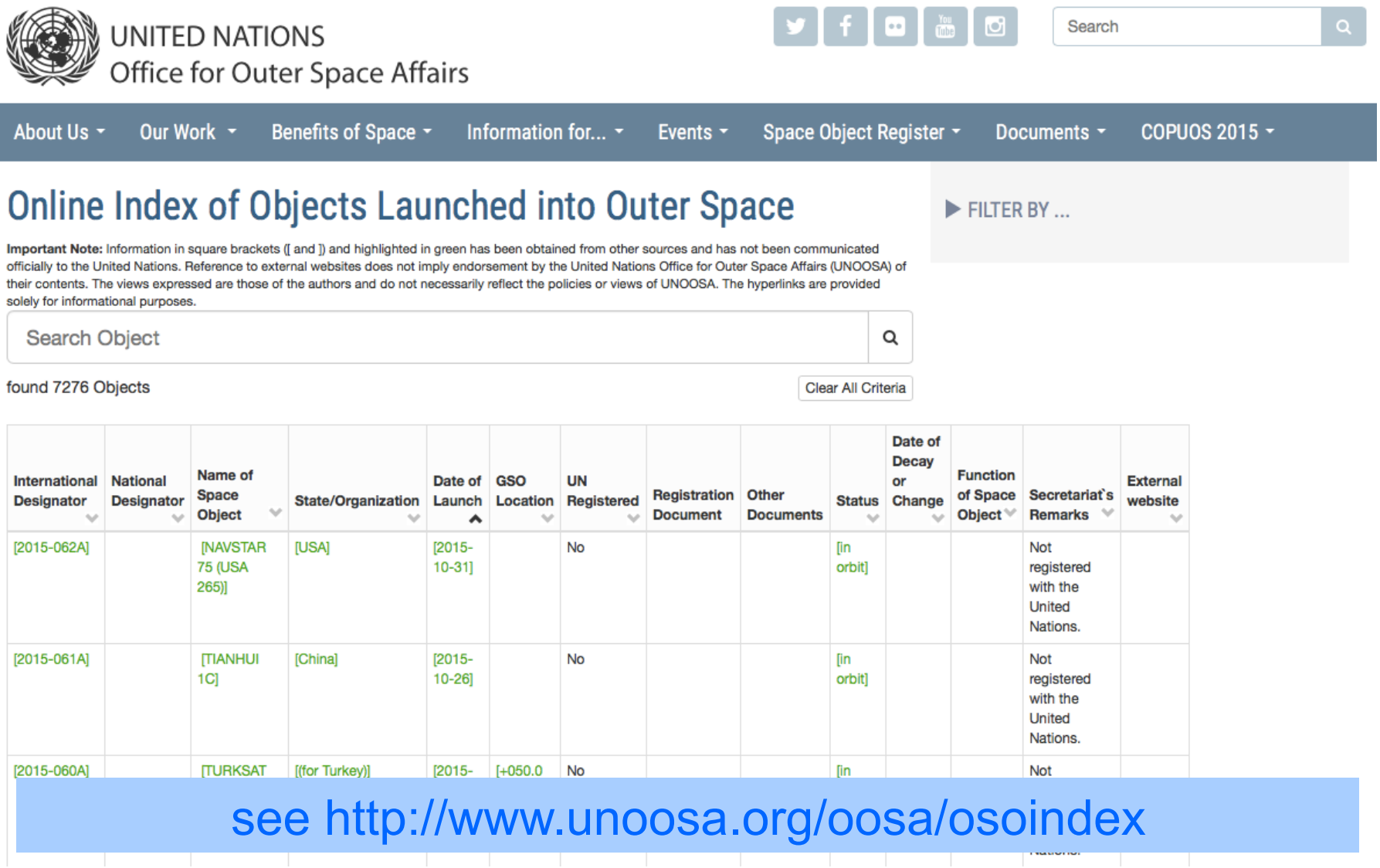
* The registration data are reproduced in the form in which they were received.

Registration example in conformity with Registration Convention (published in ST/SG/SER.E document series)

# Online Index of Objects Launched into Outer Space




see http://www.unoosa.org/oosa/osoindex

# Online Index of Objects Launched into Outer Space

- Web-database containing information received from Member States and also complementary information collected from external sources on all functional objects launched into outer space since 1957
- Space debris and non-functional objects are not included
- Search could be performed using different parameters (name, international designator, launching State, date of launch, orbital status, etc.)
- Provides links between space objects and their relevant documents of registration. This way, every user can download and print any registration document
- Also provides links to additional information transmitted to the UN (ie. Information provided under NPS Principles)

# Registration Procedures & National Registries

- **Registration Procedures**

  Registration information can only be submitted by the Government of a State of registry through accredited Permanent Mission to the United Nations or by the headquarters of an international intergovernmental organization that has declared acceptance of rights and obligations under the Registration Convention.

  For further details on registration practices see “Practice of States and international organizations in registering space objects” (A/AC.105/C. 2/L.255, Corr.1 and Corr.2)

- **National Registries**

  Article II of the Registration Convention requires the launching states to establish national registries

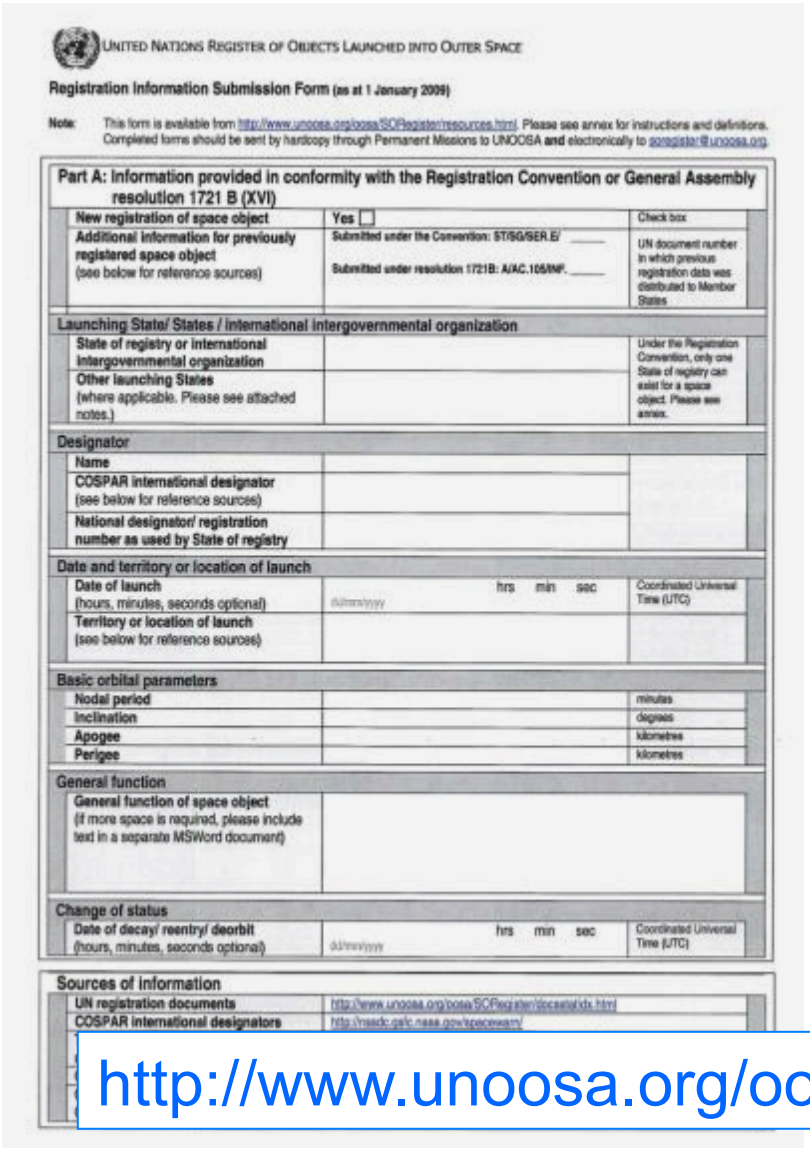
  To date 24 countries and 2 international organizations have notified

  the UN of the establishment of national registries: http:// www.unoosa.org/oosa/en/SORegister/nat_reg_notif_idx.html

# Other Registration-relevant UNGA Resolutions

- A/RES/59/115 Application of the concept of the "launching State“ (10 Dec. 2004)
  - Clarifying the term “launching state” in view of new developments and new space actors
- A/RES/62/101 Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects (17 Dec. 2007)
  - Enhance utility of the Register
  - Enhance adherence to the Registration Convention
  - Enhance acceptance also by International Organizations
  - Harmonization of practices (e.g. designators, units, UTC)
  - More detailed information
  - Information about changes in supervision
- Model registration form: http://www.unoosa.org/oosa/SORegister/resources.html

# Model Registration Form



UNITED NATIONS REGISTER OF OBJECTS LAUNCHED INTO OUTER SPACE

**Registration Information Submission Form** (as at 1 January 2009)

Note: This form is available from http://www.unoosa.org/oosa/SORegister/resources.html. Please see annex for instructions and definitions. Completed forms should be sent by hardcopy through Permanent Missions to UNOOSA **and** electronically to soregister@unoosa.org.

**Part A: Information provided in conformity with the Registration Convention or General Assembly resolution 1721 B (XVI)**

| | | |
|---|---|---|
| **New registration of space object** | Yes ☐ | Check box |
| **Additional information for previously registered space object** (see below for reference sources) | Submitted under the Convention: ST/SG/SER.E/ _____<br>Submitted under resolution 1721B: A/AC.105/INF. _____ | UN document number in which previous registration data was distributed to Member States |

**Launching State/ States / international intergovernmental organization**

| | | |
|---|---|---|
| **State of registry or international intergovernmental organization** | | Under the Registration Convention, only one State of registry can exist for a space object. Please see annex. |
| **Other launching States** (where applicable. Please see attached notes.) | | |

**Designator**

| | | |
|---|---|---|
| **Name** | | |
| **COSPAR international designator** (see below for reference sources) | | |
| **National designator/ registration number as used by State of registry** | | |

**Date and territory or location of launch**

| | | | | | |
|---|---|---|---|---|---|
| **Date of launch** (hours, minutes, seconds optional) | dd/mm/yyyy | hrs | min | sec | Coordinated Universal Time (UTC) |
| **Territory or location of launch** (see below for reference sources) | | | | | |

**Basic orbital parameters**

| | | |
|---|---|---|
| **Nodal period** | | minutes |
| **Inclination** | | degrees |
| **Apogee** | | kilometres |
| **Perigee** | | kilometres |

**General function**

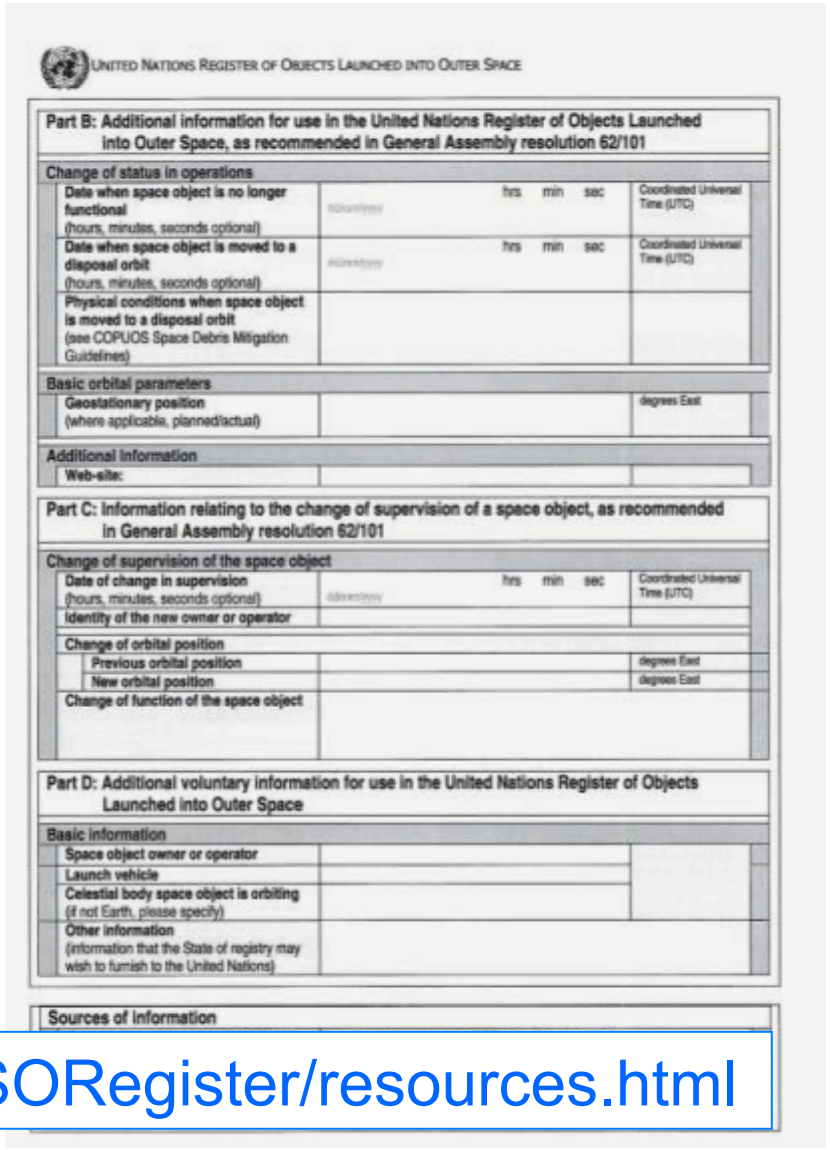
| | |
|---|---|
| **General function of space object** (if more space is required, please include text in a separate MSWord document) | |

**Change of status**

| | | | | | |
|---|---|---|---|---|---|
| **Date of decay/ reentry/ deorbit** (hours, minutes, seconds optional) | dd/mm/yyyy | hrs | min | sec | Coordinated Universal Time (UTC) |

**Sources of information**

| | |
|---|---|
| **UN registration documents** | http://www.unoosa.org/oosa/SORegister/docs/ids.html |
| **COSPAR international designators** | http://nssdc.gsfc.nasa.gov/spacewarn/ |



UNITED NATIONS REGISTER OF OBJECTS LAUNCHED INTO OUTER SPACE

**Part B: Additional information for use in the United Nations Register of Objects Launched into Outer Space, as recommended in General Assembly resolution 62/101**

**Change of status in operations**

| | | | | | |
|---|---|---|---|---|---|
| **Date when space object is no longer functional** (hours, minutes, seconds optional) | dd/mm/yyyy | hrs | min | sec | Coordinated Universal Time (UTC) |
| **Date when space object is moved to a disposal orbit** (hours, minutes, seconds optional) | dd/mm/yyyy | hrs | min | sec | Coordinated Universal Time (UTC) |
| **Physical conditions when space object is moved to a disposal orbit** (see COPUOS Space Debris Mitigation Guidelines) | | | | | |

**Basic orbital parameters**

| | | |
|---|---|---|
| **Geostationary position** (where applicable, planned/actual) | | degrees East |

**Additional information**

| | | |
|---|---|---|
| **Web-site:** | | |

**Part C: Information relating to the change of supervision of a space object, as recommended in General Assembly resolution 62/101**

**Change of supervision of the space object**

| | | | | | |
|---|---|---|---|---|---|
| **Date of change in supervision** (hours, minutes, seconds optional) | dd/mm/yyyy | hrs | min | sec | Coordinated Universal Time (UTC) |
| **Identity of the new owner or operator** | | | | | |
| **Change of orbital position** | | | | | |
| **Previous orbital position** | | | | | degrees East |
| **New orbital position** | | | | | degrees East |
| **Change of function of the space object** | | | | | |

**Part D: Additional voluntary information for use in the United Nations Register of Objects Launched into Outer Space**

**Basic information**

| | |
|---|---|
| **Space object owner or operator** | |
| **Launch vehicle** | |
| **Celestial body space object is orbiting** (if not Earth, please specify) | |
| **Other information** (information that the State of registry may wish to furnish to the United Nations) | |

**Sources of information**

http://www.unoosa.org/oosa/SORegister/resources.html

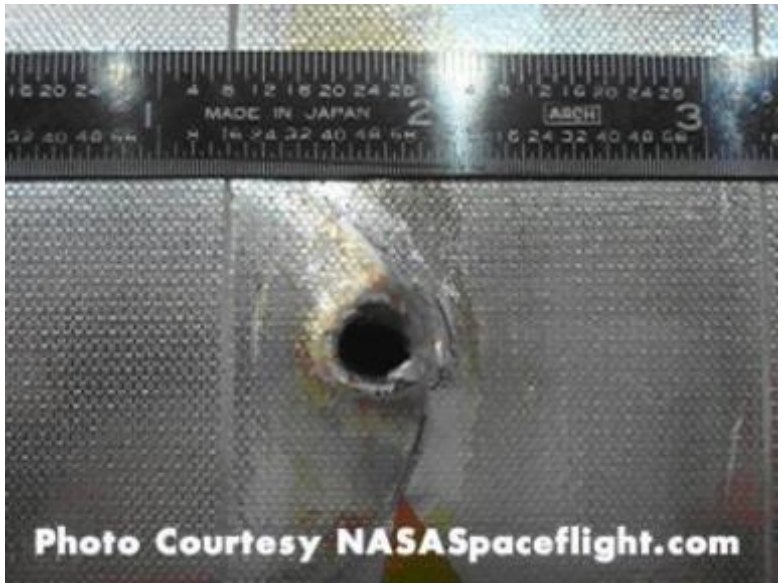
# Number of Space Objects Launched & Tracked

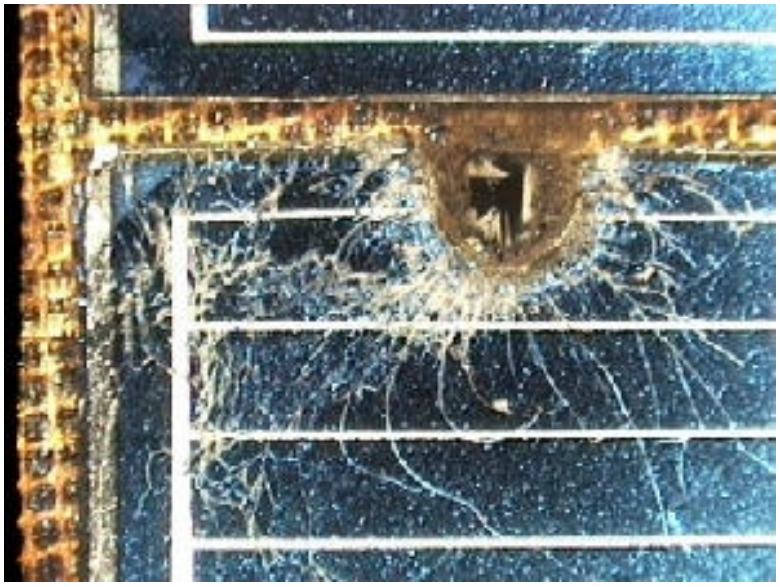
- Total number of tracked objects since 1957 (functional & non-functional): ~40,138
- Number of space objects that have re-entered since 1957 (functional & non-functional) : ~23,010
- Number of space objects presently tracked (functional & non-functional): ~17,128
- Registered space objects still in orbit: ~ 3997
- Of these still operational: ~1300
- About 93% of space objects have been registered with the UN (7033 registrations as of 8 September 2014)

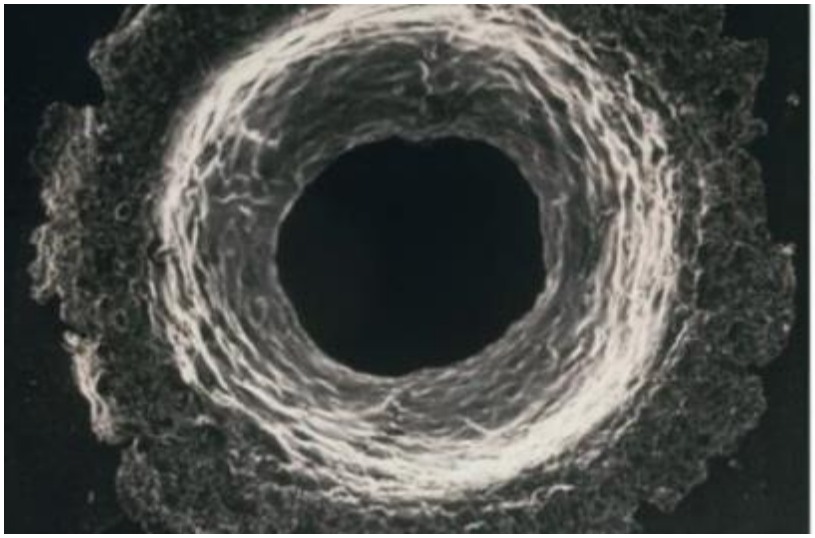
Data from http://www.space-track.org and the Online Index of Objects Launched into Outer Space (as of 8 September 2014)
Also see A/AC.105/C.2/L.255 and Corr.1, Corr. 2

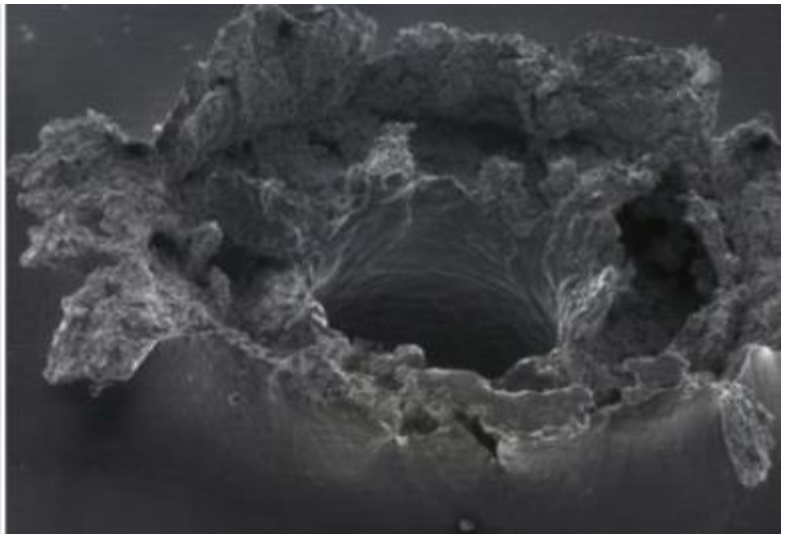
# Space Debris Mitigation Guidelines

# Space Debris





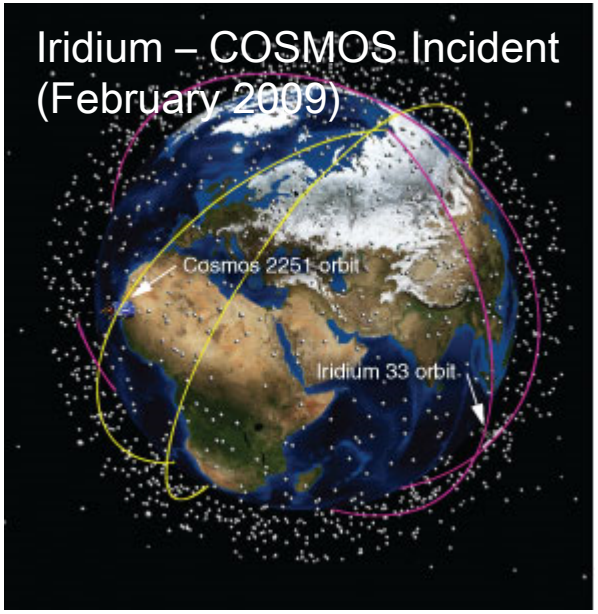


# Space Debris

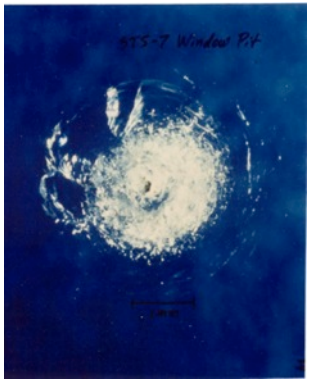
- Space debris can be defined as man-made objects, including fragments and elements thereof, in Earth orbit or re-entering the atmosphere, that are non-functional.
- The sources of space debris include:
  - upper stages of rockets
  - non-functional satellites
  - mission-related debris
  - debris resulting from collisions
  - ....
- Space debris cannot be controlled
- Space debris may be too small to be detected and tracked from the ground (e.g. objects < 10 cm)
- It is not possible to effectively shield a spacecraft against debris > 1 cm

# Space Debris

- May re-enter Earth atmosphere and cause damage on the Earth surface;
- May collide with operational satellites, destroy them or significantly reduce their functionality or lifetime
- May collide with manned space stations or spacecraft and threaten the life of Astronauts
- Risk that space activities will become impossible in the future

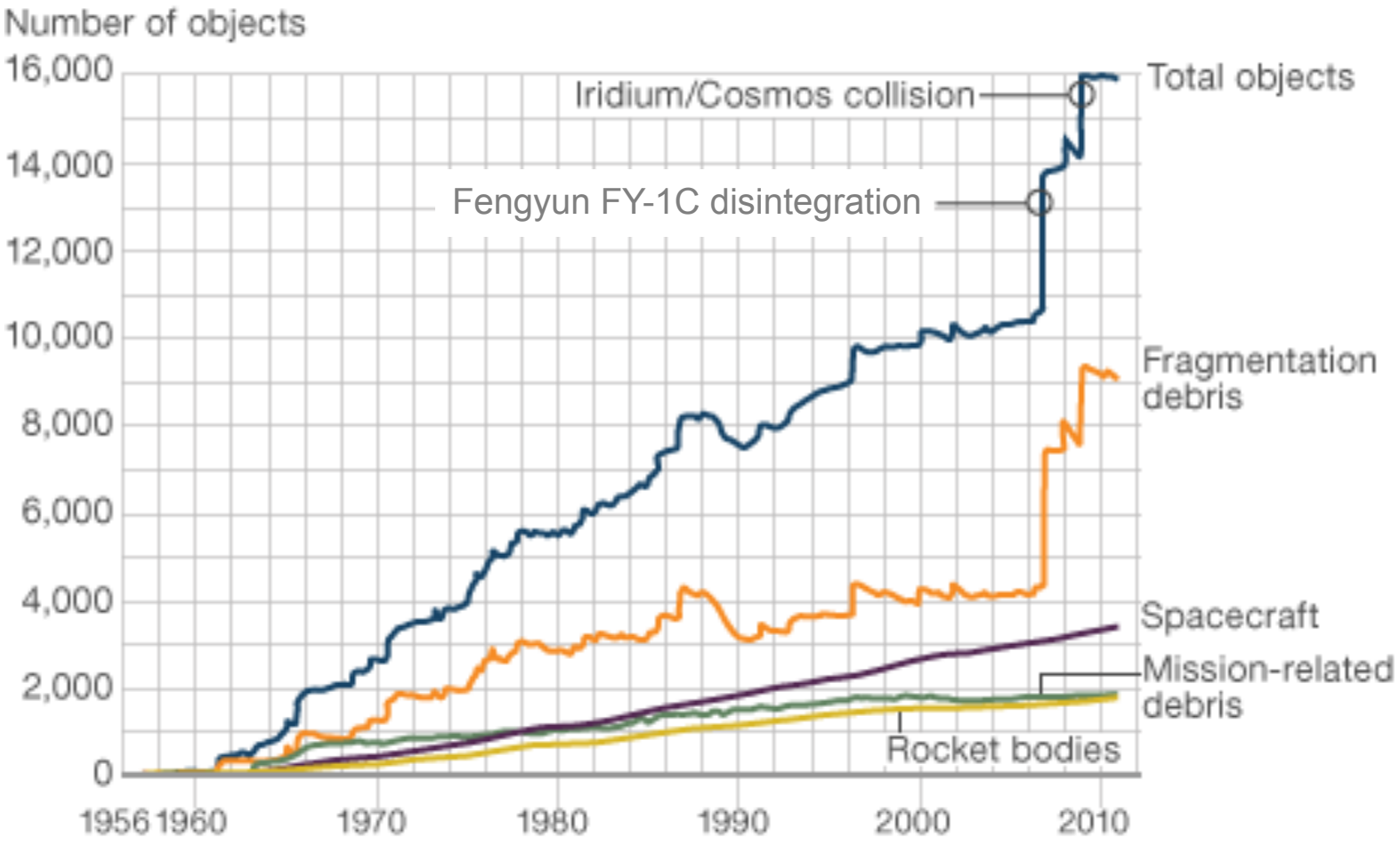






# Space Debris

## Growth of orbital space objects including debris




Source: Nasa (modified)

# Kessler Syndrome


- Study published by the US National Research Council (1 September 2011)
- Space Debris Situation has reached a Tipping Point (moving towards Kessler Syndrome)
- See https://en.wikipedia.org/wiki/Kessler_syndrome
- Active debris removal may be necessary

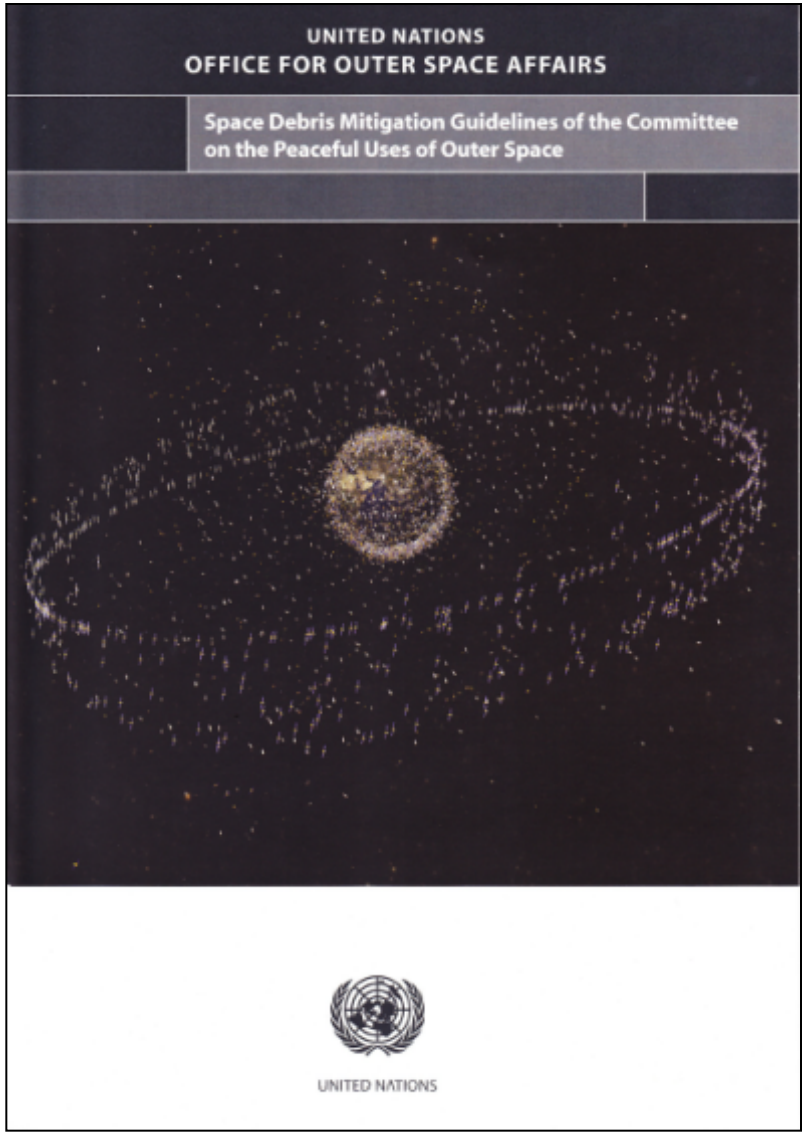
# IADC Space Debris Mitigation Guidelines

- There is agreement that appropriate debris mitigation measures will have to be implemented to preserve the space environment for future generations
- Space debris mitigation measures:
  - Prevent creation of mission-related space debris and avoid break-ups
  - End-of-life procedures to remove decommissioned space objects from regions populated by operational spacecraft
- The **Inter-Agency Space Debris Coordination Committee (IADC)** is an international forum of governmental bodies for the coordination of activities related to the issues of man-made and natural debris in space
- Space debris has been on COPUOS agenda since 1994

# IADC Space Debris Mitigation Guidelines

- Guidelines for debris reduction were developed via consensus within IADC (www.iadc-online.org, A/AC.105/C.1/L.260)
- **Space organizations** are encouraged to use these guidelines in identifying the standards that they will apply when establishing the mission requirements for planned space systems
- **Operators** of existing space systems are encouraged to apply these guidelines to the greatest extent possible
- The IADC study, other studies and a some existing national guidelines consider 25 years to be a reasonable and appropriate (operational) in-orbit lifetime limit

# Space Debris Mitigation Guidelines of COPUOS



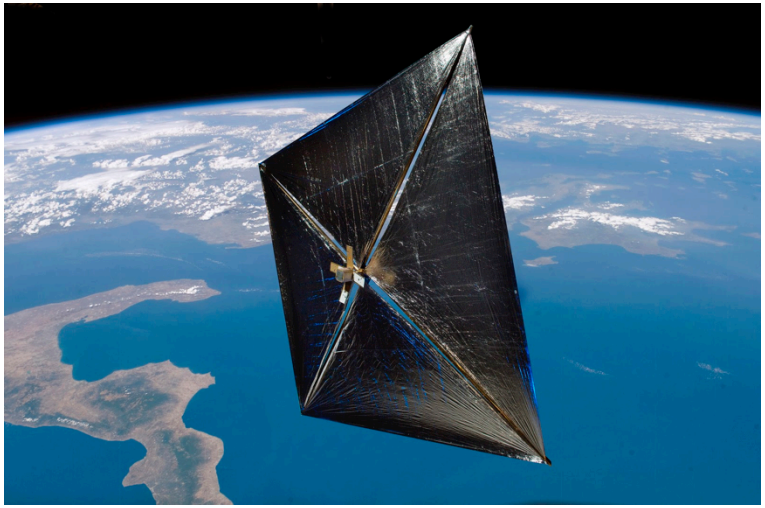

- Space Debris Mitigation Guidelines of COPUOS are based on the IADC mitigation guidelines (A/62/20, paras. 117 & 118 and Annex, endorsed by the General Assembly in A/RES/62/217)
- Voluntary and not legally binding under international law
- Compendium of space debris mitigation standards adopted by States and international organizations (A/AC.105/2014/CRP.13)

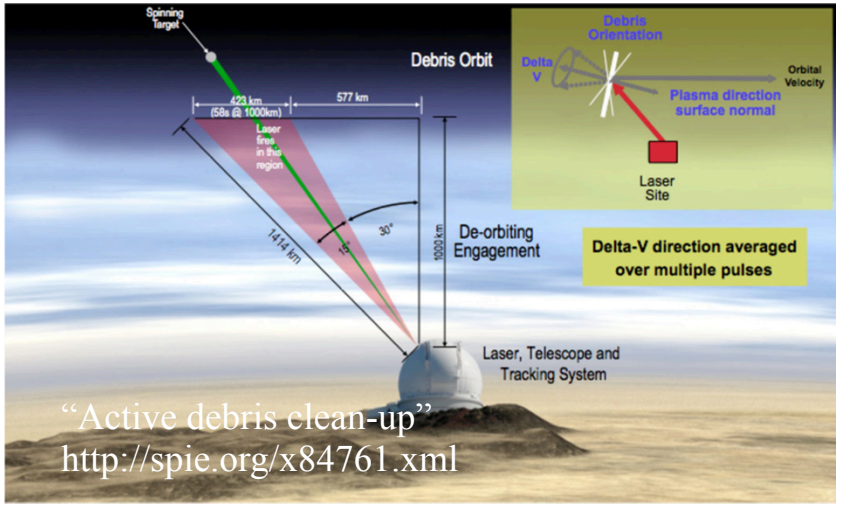
# COPUOS Space Debris Mitigation Guidelines

1. Limit debris released during normal operations
2. Minimize the potential for break-ups during operational phase
3. Limit the probability of accidental collisions in orbit
4. Avoid intentional destruction and other harmful activities
5. Minimize potential for post-mission break-ups resulting from stored energy
6. Limit the long-term presence of spacecraft and launch vehicle orbital stages in the LEO region after the end of their mission
7. Limit the long-term interference of spacecraft and launch vehicle orbital stages with the GEO region after the end of their mission

# Technical and Operational Mitigation Measures

- Launch into operational orbits from which de-orbit is guaranteed due to natural decay and that do not put other space objects into unnecessary risk (e.g. below ISS orbit)
- Propulsive de- (into Earth atmosphere from LEO) or re-orbit (from GEO to graveyard orbit) at the end of mission life time
- De-activation (depletion of full tanks, shut-down of batteries...) to prevent destructive events
- Deployable structures (solar sails, inflatable balloons or booms, Tethers) to accelerate de-orbit from Low Earth Orbit





# UNCOPUOS and Small Satellites

- At the 53rd session of the Legal Subcommittee in 2014 the Subcommittee requested the Secretariat
- "to develop, in consultation with ITU, an information handout on issues relevant to registration, authorization, debris mitigation and frequency management with respect to small and very small satellites, for the benefit of space actors intending to operate small and very small satellites."
- Available from: http://www.unoosa.org/documents/pdf/psa/bsti/2015_Handout-on-Small-SatellitesE.pdf (A/AC.105/1090)

# 54th LSC, 13-24 April 2015, A/AC.105/1090

- 174. Some delegations expressed the view that the Subcommittee should consider the issue of space debris in connection with the **growing number of deployments of small satellites**.
- 222. The Subcommittee agreed that a new single issue/item for discussion entitled **"General exchange of views on the application of international law to small satellite activities"** should be included on the agenda of the Subcommittee at its fifty-fifth session, on the basis of conference room paper A/AC. 105/C.2/2015/CRP.23/Rev.1, and that ITU should be invited to update the Subcommittee at its fifty-fifth session on relevant developments and issues regarding ITU procedures and regulations applicable to small satellites.

Documents available from http://www.unoosa.org/oosa/en/ourwork/copuos/lsc/2015/index.html

# Concluding Remarks

- All space activities should be conducted in full compliance with international legal and regulatory obligations (UN Space Treaties, UNGA Resolutions, ITU Radio Regulations ... ), and to the extent possible with established best practices and guidelines (space debris mitigation guidelines ...)
- There may also be legal and regulatory obligations based on national space law
- Discussions on the Long-Term Sustainability of Outer Space Activities and on small satellites are on-going in the Committee on the Peaceful Uses of Outer Space and may impact future small satellite activities
- It is important for the small satellite community to be aware about these on-going discussions

# Thank you for your attention!

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