Registration of Space Objects

Space Law Conference
8-10 December 2020
Registration of Space Objects

Background

- Why registration?
  - Assist in their identification
  - Contribute to the application and development of international law

*Preamble, Registration Convention*

- Important for implementation of the other space treaties
- Facilitates transparency in the conduct of outer space activities
Registration of Space Objects

Two pathways

- General Assembly resolution 1721B (XVI) of 20 December 1961 (non State Parties)
  - Voluntary
  - First registrations received in 1962

- Registration Convention which entered into force on 15 September 1976 (State Parties)
  - Mandatory
  - First registrations received in 1977
Who registers?

- Article VI of the Outer Space Treaty (...activities of non-governmental entities ...require authorization and continuing supervision by the appropriate State Party.)

- Article VIII of the Outer Space Treaty (...State Party ... on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object)

- Article II, paragraph 2 of the Registration Convention ([States] shall jointly determine which one of them shall register the object.....bearing in mind the provisions of article VIII of the [Outer Space Treaty])

- Multi-State
  - issues of liability and registration usually are part of cooperative agreements

- State practice (in general)
  - register space objects launched/operated by private companies incorporated within that State’s territory
Registration of Space Objects

How to register: national space object registry

- Establish a national space object registry
- Maintenance?
  - Depends on the State:
    - National Space Agency
    - Ministry of External Relations/Foreign Affairs
    - Ministry of Business/Economy
    - Other entities
- Other issues to consider
  - Open access or restricted?
  - Link to a satellite permit/licensing regime?
How to register: national space object registry

- Level?
  - Enactment through national legislation or an executive decree/order?
- Notification of establishment
  - Secretary-General of the UN
- Non-parties
  - Not required but recommended
Registration of Space Objects

How to register: submission of information to the SG

- **Mechanism:**
  - Sent by: Permanent Mission accredited to the United Nations addressed to the SG of UN
  - Send to: UNOOSA (email/hardcopy)
    - Can use the registration form developed by UNOOSA
    - Own form to provide technical information on their space objects

- **Language:**
  - Any of following: Arabic, Chinese, English, French, Spanish and Russian
Registration of Space Objects

What to register

- 1721B (XVI) does not specify
  - Can provide information comparable to that required under the Registration Convention
- Article IV, Registration Convention
  - name of launching State or States
  - an appropriate designator of the space object or its registration number
  - date and territory or location of launch
  - basic orbital parameters, including nodal period, inclination, apogee & perigee
  - general function of the space object
  - additional information chosen by the State of registry

- Plus
  - Notify SG when a registered space object is no longer in Earth orbit.
Registration of Space Objects

When to register

- Register soon after launch with initial orbit?
- Register after satellite has reached operational orbit?
- Register soon after launch with intended operational orbit?

UNOOSA recommendation:
- As soon as possible after launch providing intended operational orbit
- If operational orbit is not achieved, an additional notification can be made later
Registration of Space Objects

UN Secretariat’s registration process

- What happens after submission?
  - Origin validation
  - Data verification
  - Data entered in the Register and the Online Index of Objects Launched into Outer Space.
  - Submission is edited and translated into all six official languages of the United Nations.
  - Public dissemination
Registration of Space Objects

Resources

- UNOOSA/ITU Guidance on Space Object Registration and Frequency Management for Small and Very Small Satellites
  - See under Space Object Register resources: [www.unoosa.org](http://www.unoosa.org)
- Registration submissions by Parties
- Information Submission Form
- Texts of UN Treaties, Principles and Resolutions
- Status of ratification of the Treaties (updated annually)
- Collection of national space legislation from 26 Member States
Registration of Space Objects

Resources: Online Index

- Web-based tool
- Fusion of official and unofficial data
  - All registered and unregistered functional space objects from 1957 to present
- Each space object record contains (when available) information from the State of registry:
  - Initial registration document; documents containing additional information; document containing date of decay/re-entry/deorbit
  - Links to documents by other States containing information related to the space object
- Searchable (by name, international designator, launching State, date of launch, orbital status, etc.)

http://www.unoosa.org/oosa/osoindex/index.jspx
Registration of Space Objects

Registration Convention

- Status as of 1 December 2020:
  - 69 States Parties
  - 3 Signatories
  - 4 IGOs: ESA, EUMETSAT, EUTELSAT & INTERSPUTNIK.
- Most recent State Party: Slovenia
- Number of African States Parties: 6
Dashboard: African States

- States that have space objects: approx. 10
- States that have registered space objects: 6
- States submitting under the Registration Convention: 2
- States submitting information under resolution 1721B (XVI): 4
- Most recent registration submissions received under resolution 1721B (XVI):
  - Ethiopia for the Ethiopian Remote Sensing Satellite 1 (ETRSS-1)
  - Egypt for the Tiba-1 geostationary communications satellite
Registration of Space Objects

Registration dashboard

- Total functional objects launched: over 10,100
  - Total registered: approx. 87%
- In 2020, UNOOSA has processed registration data on over 1,100 satellites
- Space objects on deep space/planetary missions ✔
- Nuclear powered satellites ✔
- Crewed spacecraft ✔
- Space station flight elements ✔
- Military/national security satellites ✔
- Satellites that fail after entering orbit ✔
Thank you

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