

Registration of Space Objects with the Secretary-General

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The way forward after UNISPACE+50 and on Space2030
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Registration Convention

- Built upon registration practices of States under resolution 1721B (XVI) and evolution of international space law.
- Adopted by the UN General Assembly: 12 November 1974 (resolution 3235 (XXIX)).
- Opened for signature on 14 January 1975, entered into force on 15 September 1976.
- As of 1 November 2018, there were **67 States Parties** and 3 Signatories.
- Most recent ratification by New Zealand in January 2018.
- Four international organizations have also declared their acceptance of rights and obligations: ESA, EUMETSAT, EUTELSAT & INTERSPUTNIK.
- Most recent declaration by INTERSPUTNIK in July 2018.





Registration of Space Objects: Status

- Between the two Registers, **92% of all functional space objects** have been registered.
- As of 1 November 2018, **7,514 functional space objects** have been registered under the Registration Convention and resolution 1721B (XVI) since 1961.
- Most recent registration submission from the United Kingdom (ST/SG/SER.E/864) registering RemoveDebris & RemoveDebrisNet.

State of registry		State of registry		State of registry	
Algeria	6	Hungary	1	Poland	3
Argentina	10	India	88	Republic of Korea	29
Australia	17	Indonesia	10	Russian Federation (including USSR)	3,501
Austria	3	Israel	3	Saudi Arabia	12
Azerbaijan	2	Italy	29	Slovakia	1
Belarus	2	Japan	223	South Africa	3
Belgium	32	Kazakhstan	2	Spain	11
Bolivia	1	Lithuania	2	Sweden	15
Brazil	21	Luxembourg	24	Thailand	1
Canada	46	Malaysia	6	Turkey	9
Chile	4	Mexico	13	Ukraine	4
Czech Republic (including Czechoslovakia)	6	Mongolia	1	United Arab Emirates	8
Democratic People's Republic of Korea	2	Nigeria	3	United Kingdom of Great Britain and Northern Ireland	84
Denmark	11	Norway	11	United States of America	2646
Egypt	1	Pakistan	4	Uruguay	5
Finland	2	Papua New Guinea	1	Venezuela	2
France	144	Peoples Republic of China	307		
Germany	59	Peru	3	EUMETSAT	7
Greece	1	Philippines	2	European Space Agency (ESA)	70



Online Index of Objects Launched into Outer Space

- Web-based treaty monitoring/verification tool developed by UNOOSA in 2001 allowing States to identify whether a space objects has been registered and who is the State of registry.
- Fusion of official and unofficial data. Includes all registered and unregistered satellites/probes/spacecraft/space station flight elements from 1957 to present.
- Functional space objects only. Space debris and non-functional objects are not included.
- Each space object record contains (when available) information from the State of registry:
 - Initial registration document (Article IV, para. 1)
 - Documents containing additional information (Article IV, para.2)
 - Document containing date of decay/re-entry/deorbit (Article IV, para.3)
- Links to documents by other States containing information related to the space object are also provided (i.e. mentioned in a State providing launch services)
- Links to documents provided by States under other treaties and principles (Outer Space Treaty, Rescue Agreement, NPS Principles)
- Search could be performed using different parameters (name, international designator, launching State, date of launch, orbital status, etc.)

<http://www.unoosa.org/oosa/osoindex/index.jsp>



Registration Practices: Overview

- All States of registry provide information on their functional space objects.
- Some States of registry provide information on non-functional space objects.
- Most States provide information on when their space objects cease to exist in orbit.
- Most States provide the geostationary position of functional space objects.
- With the adoption of resolution 62/101 “Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects”, there have been substantial changes to registration practices of States of registry.
- A growing number of States have begun using the model registration form developed in accordance with resolution 62/101.
- More States are providing information on:
 - Transfer of ownership/supervision
 - Mission termination
 - In-orbit disposal
 - Re-entry of space objects



Registration of Space Objects: small satellites

- Growing trend of new “space nations” due to proliferation of small satellites using **cubesat technology**.
- Nearly 1,000 such satellites have been launched into Earth orbit and beyond. Two cubesats (MarCO-A & -B) presently on their way to Mars.
- Over the last few years, of the 11 nations that launched their first satellite, 9 were based on cubesat technology.
- However, not all new space nations register their satellites.
- Majority of satellites using cubesat technology launched by non-governmental entities (i.e. private companies) of “old” space nations.
- Joint UNOOSA & ITU publication “Guidance on Space Object Registration and Frequency Management for Small and Very Small Satellites” available online.





Recent TCBM efforts: GGE on TCBMS on OS

- Group of Governmental Experts on Transparency and Confidence Building Measures in Outer Space Activities was established in 2011 (A/RES/65/68).
- Recommendations by the Group (A/68/189 of 2013):
 - Information exchange on national space policy and on military space expenditures
 - Information exchange on outer space activities, including orbital parameters, possible conjunction, natural space hazards and planned launches
 - Notifications on risk reductions such as scheduled maneuvers
 - Voluntary visits to launch sites, command and control centers
 - International cooperation, consultative mechanisms, outreach also TCBMs
- Concludes that voluntary political measures can form the basis for legally binding obligations



Enhanced information exchange on space objects and events

- UNISPACE+50 Thematic Priority 3
 - Recognition that the tempo and nature of space activities is moving beyond existing information exchange mechanisms established under the United Nations Space Treaties.
 - Awareness of international legal obligations concerning space objects is increasing amongst States and the private/academic sectors.
 - Relevant organizations within the UN System are working together to raise awareness amongst States and private/academic sectors.
 - Goodwill of States in recognising the need for effective governance of activities in Earth orbit or beyond.
- Existing information exchange include risk reduction notifications relating to:
 - Pre-launch and re-entry of nuclear powered space objects
 - Controlled and uncontrolled re-entry of high-interest space objects (i.e. space station components)
 - Recovery and return of foreign space debris



Recommendations for improving existing mechanisms for information exchange

- Possible measures by the United Nations Secretariat to improve services provided under existing mandates:
 - Allow States of registry to submit registration data to the Secretariat via an online registration form, including option for “bulk registration”.
 - Electronic dissemination of information in English and French (working languages of the UN Secretariat) following completion of existing review and verification procedures.
 - Recipients: national space object registration focal points, Permanent Missions and others wishing to receive such information.
 - Information also made publicly available on the Office’s website in an online version of the Register to be based on the present Online Index of Objects Launched into Outer Space.
 - Consolidated quarterly report of registration information produced in the working languages of the Secretariat and transmitted electronically to permanent missions.
 - An annual report would be disseminated to Member States during the sessions of the Committee and its Subcommittees.

THANK YOU



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