ITU Symposium and Workshop on small satellite regulation and communication systems

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Prof. Dr. Lesley Jane Smith, LL.M.
Leuphana University Lüneburg,
Germany

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Scope and outline

- Impact of developments, particularly through small-scale satellite technology, on regulation of outer space
- Impact of commercialisation and privatisation of outer space activities on the legal framework
- International regulation of Outer Space activities
- New regulatory issues
- Specific role of national law governing outer space activities
- Perspectives

Significance of space treaties in context of small satellites

- Space - undergone a major evolution + profound change over past ~decade
  - Scientific and technical developments in space, as well as
  - Commercialisation and privatisation of space activities, and
  - Re-alignment among stakeholders, i.e.
  - Partnership among states, international organisations and private entities
- International legal framework for space is in place, BUT divergences in concepts appearing through technology-enabling tools
- Need for international community to ensure that the international system is also maintained at national level

Quo vadis? Small sat. markets and the law

- Consolidation of new space sectors; development of space industry; drive towards growth
- 13 countries with independent launch capabilities; > 60 countries operate satellites
- With a total ~ 1,419 satellites currently in operation
  - Space activities are set to expand further
  - Increase in number of satellites that will be launched (small satellites, large constellations)
- Outcome for body of international space and telecoms law?
- **UN Outer space treaty law and ITU law are two parts of a whole.**

Main UN Space Treaties and Agreements

- **Outer Space Treaty:** in force 10 October 1967
- **Rescue Agreement:** in force 3 December 1968
- **Liability Convention:** in force 1 September 1972
- **Registration Convention:** in force on 15 September 1976
- **Moon Agreement:** in force 11 July 1984
- reinforced by
- Further Declarations, Principles, 'soft law'

Statistics on treaty law: Outer Space Treaty

- 104 States have ratified the Outer Space Treaty
- 26 additional States have signed the Outer Space Treaty
- What is the impact of such a widely accepted treaty?
  - Is OST recognised by international community as customary international law? Does it apply to states that have not signed?
  - Does it contain obligations *erga omnes* (important for small sats)
  - Relationship between all space treaties, in event of divergent interpretation and developments?
  - Situation at national level, potential for divergent national laws?

General principles of the Outer Space Treaty

OST = outstanding example of contemporary international treaty law; major contribution to its progressive development and codification

OST establishes significant principles:

- freedom in the exploration and use of outer space;
- freedom of scientific investigation in outer space;
- international cooperation in scientific investigation;
- principle of non-appropriation;
- principle of denuclearization;
- codifies the principle of using Moon and other celestial bodies exclusively for peaceful purposes.

Relevance of Outer Space principles to the private space sector

- Principle of non-appropriation
- 2000 COPOUS Scientific and Technical Subcommittee
  - Increasing use of space applications and services , ongoing developments
- Art. 44 Constitution ITU:
  - MS to have due regard to and use of limited resources
- Property rights in Outer Space
  - 2003: Nimitz case:
  - 2015: US Competitiveness Act ; Hague Working Group on Space Resources

Current issues with the growing private 'small space' sector

- Relations between operators and regulators
  - Orbital and spectrum access and coordination; end of life management
- Launching and registration of constellations
  - Platforms for the release of further satellites
- Payloads, do they need to be registered?
  - Japanese Kitty (toy) payload
- New satlets – robotics – e.g. DARPA 'Phoenix project

Further major issue: Change of ownership in orbit

Issue:

- Space law uses two core legal concepts, the 'launching state 'and the 'state of registry'; these could lead to divergences in future, esp. with new constellations

e.g. Transfer of ownership in orbit; 3 possible scenarios:

- From owner A-owner B within same state of registry
- From owner A-owner B from one state of registry to another launching state
- From owner A in original state of registry to owner B in non-launching state

Solution: International State Responsibility Art VI OST

- International state responsibility encompasses all the consequences of national activities in outer space.
- Duties of supervision and control fall on national state
- States to take legislative action to regulate their private space activities and carry legal consequences

= UN Res 62/101 2007:

State of registry to notify changes in control to UN Sec. Gen., if no state of registry, then appropriate state to notify

Note verbale: Transfer of satellites to New Sky Satellites Case – Italy to the UN (29 July 2003)

Limited effect: International State Liability Art VII OST

- Only for damage inflicted through or by a space object, not otherwise; issues with damage in orbit (debris)
- Definition of launching State
  - Art VII OST; Art I LIAB 1972; REG Convention 1975
  - UNGA Resolution on the Application of the Concept of the "Launching State", G.A. Res. 59/155 (Dec. 10, 2004).
- Space object (or its component parts) is the object launched into outer space (manuf. space debris are therefore space objects).
- International liability is distinct from international responsibility;
- Notion of "damages" in 1972 Convention (LIAB).
  - On Earth or in Air Space = Absolute liability, Art II LIAB.
  - In outer space =fault-based liability, Art III LIAB.
  - No definition of fault yet applied, may well come

Ultimate state 'tool' remains Jurisdiction and Control Art VIII OST

Article VIII contains two prerogatives of the 'launching State(s)':

- To exercise "JURISDICTION AND CONTROL";

  "Jurisdiction" = application and enforcement of laws in relation to persons and objects.

  "Control" = right of the State of registry to adopt technical rules to achieve the space object mission and, if necessary, to direct, stop, modify and correct the elements of the space object and its mission.

- To REGISTER THE SPACE OBJECT;

  All space objects are to be registered at the national level

  Space objects are under the jurisdiction and control of the State of registry

  Stray space objects shall be returned to the State of registry.

  Current state practice

Current paradoxes and differences between space and other international legal regimes

- Presumption that launching state and state of registry are same; in times of commercial launches, this no longer holds
- Resort to dual registers; national and foreign launched satellites
- Space law has no equivalent to rules on transfer of aircraft registry under Art 83 *bis* Chicago Conv.
- Space law has no concept of 'flag of convenience,' as does maritime and air law
- National states have to monitor under Art VI OST, even if not launching state
- ITU rules confer legal rights to a Recorded assignment to use orbit/spectrum resource (No. 8.3 RR)
- Same with Master International Frequency Register – MIFR (No. 11 RR)

Way forward
Compliance and International cooperation

- States to implement space rules in domestic legal order
- States to ensure synergies and parallel interpretations for outer space activities
  - Environmental considerations, contamination, debris
- States to further international cooperation and assistance
  - Due regard, consultation
  - Dialogue
  - At COPUOS and ITU level
- Most importantly, secure dialogue with stakeholders enabling control and monitoring of developments

Further sources

http://www.oosa.unvienna.org/

http://www.esa.int/SPECIALS/ECSL/

http://www.iislweb.org/