

Legal Aspects of ~~Space~~ Exploration

Lunar

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Outline

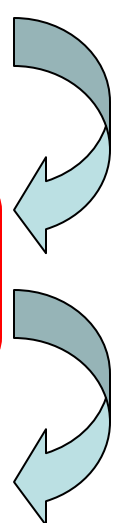
- The Changing Space Exploration Context
- The Legal Framework of Space (Lunar) Exploration
- What is needed?

Disclaimer: ITAR-free presentation!



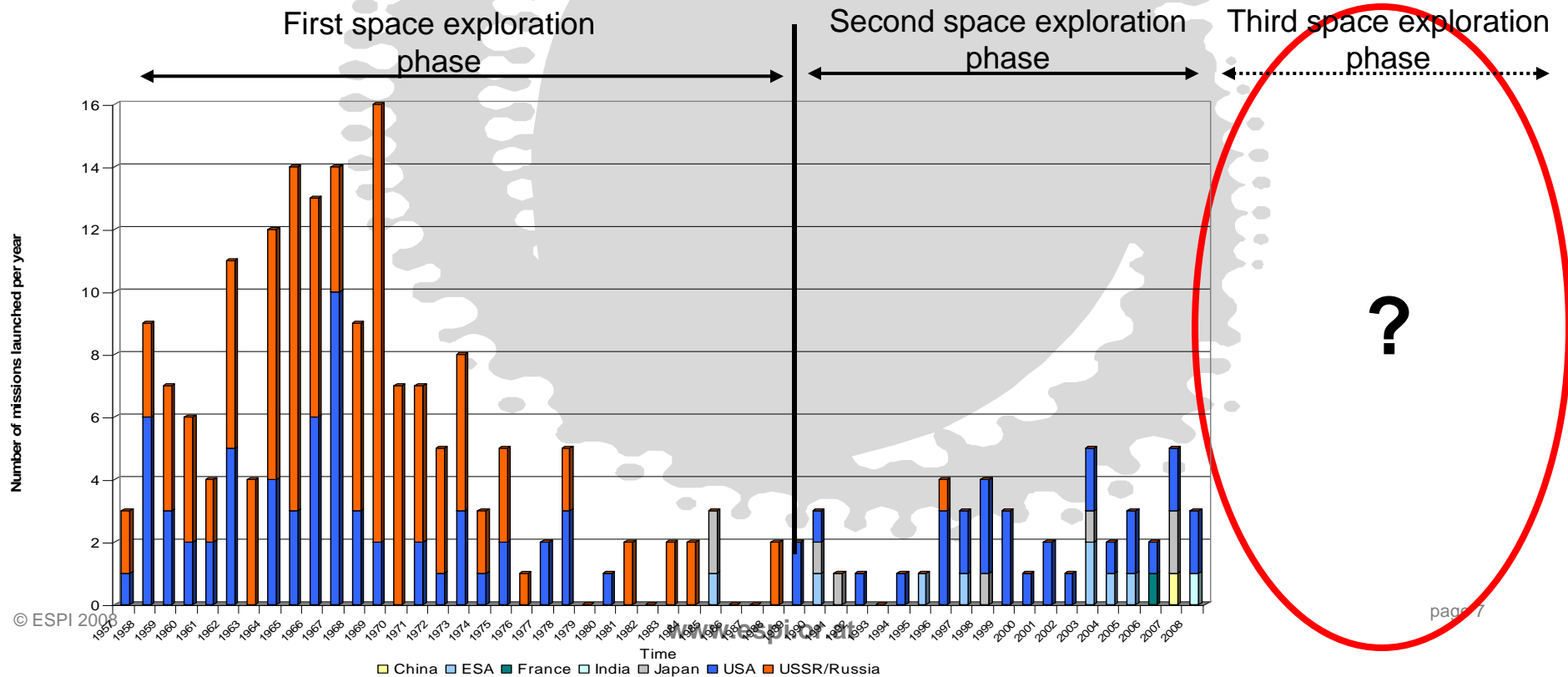
The Changing Space Exploration Context

The Changing Space Exploration Context

- Proto-space Age (before WWII)
 - **Leadership** of **individuals** (and **societies**) such as Goddard, Tsiolkovsky, Oberth etc. influenced by HG Wells, Jules Verne and other SciFi authors
 - First space exploration phase (Cold War)
 - **Competition** between the **United States** and the **U.S.S.R.** with **cooperation** limited to **intra-blocs partnerships** driven primarily by **political reasons** (duopoly situation)
 - **Second space exploration phase (1990s - now)**
 - **Exploration plans** with **new actors** willing to participate driven primarily by **scientific motives** (oligopoly situation)
 - Third space exploration phase (soon)
 - Era of **participatory exploration** (States + industries + universities + NGOs) driven by a **quest of knowledge** (including Arts and Humanities disciplines) as well as **economic potential** (open-market situation)
- 

The Changing Space Exploration Context

- Internationalisation and globalisation of space activities
- Space exploration has become a major element of the portfolio of countries with global aspirations (numerous plans/strategies)
- Increasing pool of potential partners for space exploration cooperation (robotic and humans)
- Moon is the centre of attention





The Legal Framework of Space (Lunar) Exploration

The Legal Framework of Space (Lunar) Exploration

One relevant **binding legal instrument** with **universal acceptance**:

- “The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies” (aka the **Outer Space Treaty**)

<http://www.unoosa.org/oosa/en/SpaceLaw/treaties.html>

One relevant **binding legal instrument** with **little international acceptance**:

- “The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies” (aka the **Moon Treaty**)

<http://www.unoosa.org/oosa/en/SpaceLaw/treaties.html>

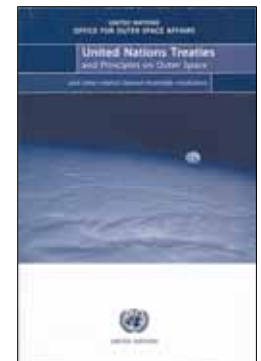
Non-binding standards and **guidelines**:

- Scientific guidelines

Policy documents

The Outer Space Treaty (1967)

- Adopted by the **UNGA** in its **resolution 2222** (XXI) (1966), opened for signature on 27 January 1967, entered into force on 10 October 1967
- Ratification status (**ratified** by **98 States**, **signed** by **27 States**)
 - **All space powers** are **parties**
- Use of terms: “**exploration and use**”; “**Moon and other celestial bodies**”
- Relevant principles
 - freedom of exploration and use (Art. I)
 - sharing the benefits (Art. I)
 - non-appropriation (Art. II)
 - non-militarization of the Moon (Art. IV)
 - status of astronauts as envoys of mankind (Art. V) (Rescue Agreement of 1968)
 - cooperation (Art. IX)
 - protection of the Earth environment (Art. IX)
 - openness of all installations on the Moon (Art. XII)



The Moon Treaty (1979)

- Adopted by the **UNGA** in its **resolution 34/68** (1979), opened for signature on 18 December 1979, entered into force on 11 July 1984
- Ratification status (**ratified** by **13 States**, **signed** by **4 States**)
 - Parties: Australia, Austria, Belgium and the Netherlands
 - Signatories: France and India
- Further development of principles already stated in the Outer Space Treaty
 - stricter rules on non-militarization (Art. 3)
 - exploration and use of the Moon “province of all mankind” in the interest of present and future generations (Art. 4)
 - clarification of “scientific investigation” (e.g. collect of samples; Art. 6)
 - environmental protection (Art. 7)
 - activities anywhere on or below its surface (Art. 8)
- Point of dissent
 - regime for exploitation of resources
 - task to establish an international regime based on the principle of “common heritage of mankind” to govern the exploitation of natural resources of the Moon (Art. 11)

Scientific Guidelines

- **Committee on Space Research (COSPAR) Planetary Protection Policy** (2002; amended 2005)
 - Current policy approved by **COSPAR Bureau** and **Council** at the COSPAR Scientific Assembly in **July 2008**

- **COSPAR Planetary Protection Policy** specific **measures** such as:
 - Constraints on spacecraft operating procedures
 - Documentation of spacecraft trajectories
 - Reduction of spacecraft biological contamination
 - Restrictions on the handling of returned samples

- **COSPAR Planetary Protection Policy** depend on the nature of the **mission** and on the **target planet**
 - **Five categories**



Scientific Guidelines

PLANET PRIORITIES

Not of direct interest for understanding the process of chemical evolution. No protection of such planets is warranted.

MISSION TYPE

Any

MISSION CATEGORY

I

Of significant interest relative to the process of chemical evolution, but only a remote chance that contamination by spacecraft could jeopardize future exploration. Documentation is required.

Any

II

Of significant interest relative to the process of chemical evolution and/or the origin of life or for which scientific opinion provides a significant chance of contamination which could jeopardize a future biological experiment. Substantial documentation and mitigation is required.

Flyby, Orbiter

III

Lander, Probe

IV

Any Solar System Body

Earth-Return

V

"restricted" or "unrestricted"

- NASA Planetary Protection Policy
- ESA Planetary Protection Policy
- Etc.

International Academy of Astronautics (IAA)

- Study Group on Planetary Protection

Credit Cassie Conley



Policy documents

The Global Exploration Strategy: The Framework for Coordination

published during the International Cooperation for Sustainable Space Exploration Workshop (29 May-1 June 2007)

http://esamultimedia.esa.int/docs/GES_Framework_final.pdf

- Exploration is “a global, societal project driven by the goal to extend human presence in Earth-Moon-Mars space”



The Vienna Vision on Humans in Outer Space, result of a ESF/ESA/ESPI Conference held in Vienna (11-12 October 2007)

<http://www.espi.or.at/images/stories/dokumente/leaflet/humansinouterspace.pdf>

- Humans in Earth orbit: What effect does it have?
- Humans in space exploration: What effects will it have?
- Humans migrating the Earth: How will it affect human thought?

ILWEG declarations etc.





Conclusion

What is needed?

- **Strong outspoken commitment to the principle of non-appropriation**
 - Strict persecution of fraud like selling land on the Moon
- **Binding legal instrument on the exploitation of resources**
 - Art. 11 Moon Treaty (Cf. Law of the Sea etc.)
- **Binding legal instrument on planetary protection**
 - From soft law to hard law (UNGA Resolution/Principles/Treaty)
- **Common understanding and respective action to safeguard scientific interests vis-à-vis commercial interests**
 - Middle point is needed Cf. frequency spectrum etc.



Thank You For Your Attention