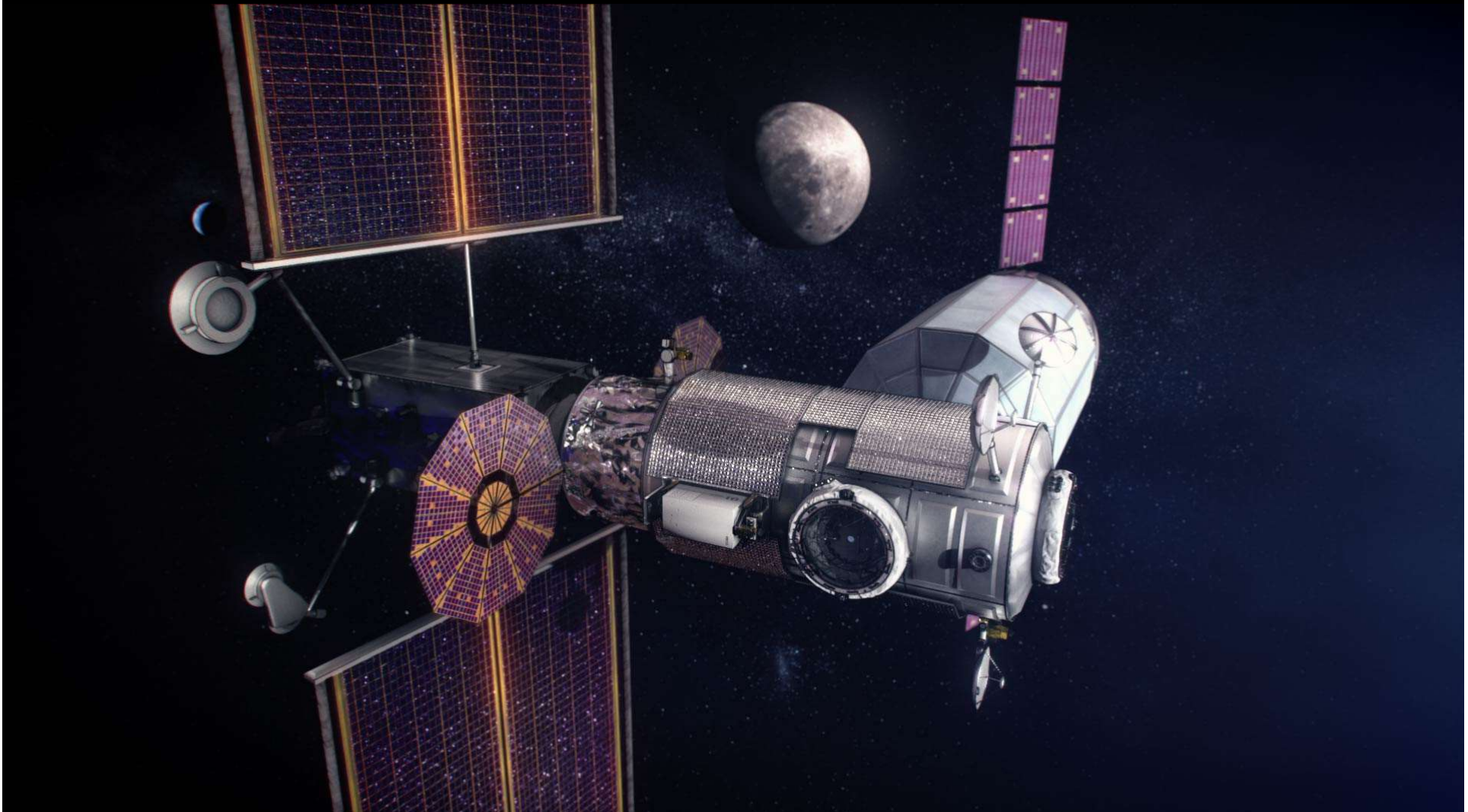
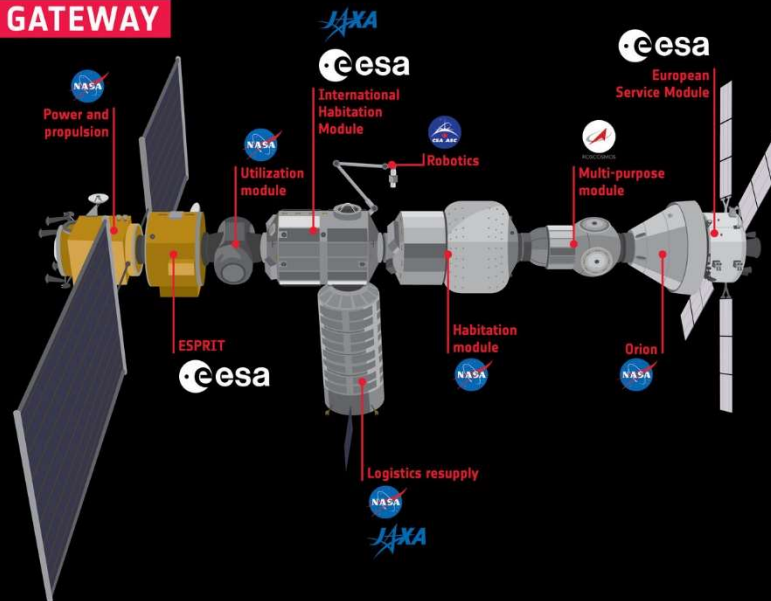


# The legal regime of the Lunar Gateway

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→ LUNAR GATEWAY



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# Lunar Gateway: the project

- It is an essential component of NASA's **Artemis** programme, aiming to bring back humans to the Moon in 2024
- It will be “an outpost orbiting the Moon that provides vital support for a sustainable, long-term human return to the lunar surface, as well as a staging point for deep space exploration” (NASA website)





# Lunar Gateway: the project

- Known before as the Deep Space Gateway, it was mainly planned as an intermediate step to a human mission to Mars. Although Mars remains in the background, it was re-focussed on the Moon
- The ISS partners of the US have been involved and have manifested their interest in participating in the project
- The station will be inhabited (although not permanently) by a multinational crew
- Recently, the first contracts have been awarded by NASA to private companies for the building of the first modules and for logistics



# ISS MCB statement

- 5 March 2019
- The International Space Station (ISS)'s Multilateral Coordination Board (MCB) **endorses** plans to continue the Gateway development
- “It welcomed each agency’s intention to proceed toward their respective stakeholders’ approval and funding processes for providing specific elements, modules, and capabilities to the Gateway and associated benefits based on a common concept”

# ESA Council Resolution 2019

- **Resolution on ESA programmes: addressing the challenges ahead** (ESA/C-M/CCLXXXVI/Res.3 (Final))
- 9. STRESSES that the formalisation with NASA and other international partners of Europe's participation in ...:
- (i) the Lunar Gateway, to enable a regular human presence on the Moon; ...
- shall be concluded urgently in view of the ambitious schedule for the actual development, launch and operation of the corresponding hardware elements; and NOTES that the approach to developing the necessary agreements and arrangements builds on the wealth of experience gained through, ... 30 years of ISS cooperation...



# ESA Council Resolution 2019

- 10. UNDERLINES that, with the provision of a series of European Service Modules (ESMs) for the NASA-developed Orion capsule under a barter scheme outlined in ISS cooperation-related Implementing Arrangements, the Agency is already an important stakeholder in the Lunar Gateway endeavour





# ISS IGA 1998

- ISS Intergovernmental Agreement (**IGA**), Washington, 29 January **1998** (USA, Canada, Japan, European states members of ESA\*, Russian Federation)
- Article 9 (Utilization)
- ... Partners which provide resources to operate and use the Space Station, which are derived from their Space Station infrastructure elements, shall receive in exchange a fixed share of the use of certain user elements. ... The Partners shall have the right to **barter** or sell any portion of their respective allocations

- \*Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, Switzerland, UK

# Which kind of legal regime?

- → need of an international legal framework:
- a) amendment of the ISS legal framework to cover the Lunar Gateway;
- b) conclusion of a new multilateral agreement among all partners, based on the ISS model;
- c) conclusion of bilateral agreements among each partner and the USA



# ISS legal framework

- Three levels:
- 1. **IGA 1998**
- 2. **Memoranda of understanding** (NASA-ESA, and NASA with each of the other space agencies)
- 3. **Implementing arrangements** (NASA with each of the other space agencies)



# ISS legal framework

- Provisions on:
- **Registration, jurisdiction and control**
- **Rights of ownership**
- **Management**
- **Design and development**
- **Utilization**
- **Operation; crew → Code of conduct**
- **Transportation**

# ISS legal framework

- Provisions on:
- **Communications**
- **Evolution**
- **Funding**
- **Liability** (Liability Convention) and cross-waiver of liability
- **Exchange of data and goods**
- **Intellectual property**
- **Criminal jurisdiction**



# Artemis Accords



- They are a set of principles proposed in May 2020 by NASA to govern space exploration from Moon to Mars. NASA invites partner agencies involved in the Artemis programme to subscribe with it **bilateral Artemis Accords agreements** incorporating those principles, proclaimed to be «grounded in the Outer Space Treaty of 1967», and having the purpose «to create a safe and transparent environment which facilitates exploration, science and commercial activities for the benefit of humanity»

# Artemis Accords

- Among the principles:
- Peaceful purposes
- Transparency and release of scientific data
- Emergency assistance for astronauts
- Registration of space objects
- Protecting heritage
- Deconfliction of activities → «safety zones»
- **Space resources** (to be used to support space exploration):
- «The Artemis Accords reinforce that space resource extraction and utilization can and will be conducted under the auspices of the Outer Space Treaty, with specific emphasis on Articles II, VI, and XI»



# US: Executive Order April 2020

- **US president → Executive Order on Encouraging International Support for the Recovery and Use of Space Resources, 6 April 2020**
- Americans should have the right to engage in commercial exploration, recovery, and use of resources in outer space, consistent with applicable law. Outer space is a legally and physically unique domain of human activity, and **the United States does not view it as a global commons**
- The Secretary of State shall seek to negotiate joint statements and bilateral and multilateral arrangements with foreign states regarding safe and sustainable operations for the public and private recovery and use of space resources



# Artemis Accords

- What kind of agreements are they?
- They should not concern the legal regime of the Lunar Gateway



# Applicable rules

- **Article I, Outer Space Treaty (OST, 1967)**
- The exploration and use of **outer space, including the Moon and other celestial bodies**, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind
- Outer space, including the Moon and other celestial bodies, shall be **free for exploration and use by all States** without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies
- There shall be **freedom of scientific investigation** in outer space, including the Moon and other celestial bodies, and States shall facilitate and encourage international cooperation in such investigation





# Non appropriation

- **Article II, OST**
- **Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means**



# Non interference

- States shall conduct their space activities in a spirit of cooperation and mutual assistance and keeping **due regard for the corresponding interests of other States**
- **Before undertaking activities causing potentially harmful interference** with the activities of other States → **duty to consult**
- State having reason to believe that an activity planned by another State may cause harmful interference may request consultation



# Military uses

- **Article IV, OST**
- States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or **station such weapons in outer space in any other manner**
- **The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes...**



# Responsibility, registration, jurisdiction

- **Article VI, OST** → responsibility for national activities
- **Article VIII, OST** → jurisdiction and control, ownership
- **Registration Convention (1975), Article II**
- When a space object is launched **into Earth orbit or beyond**, the launching State shall register the space object...



# Liability

- **Liability Convention (1972), Article II**
- 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





# Moon Agreement

- **Moon Agreement (1979)**
- **Article 1.2**
- **For the purposes of this Agreement reference to the Moon shall include orbits around or other trajectories to or around it**
- **Article 3.3**
- **States Parties shall not place in orbit around or other trajectory to or around the Moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction or place or use such weapons on or in the Moon**



# Moon Agreement

- Article 5
- Information on the time, purposes, locations, orbital parameters and duration shall be given in respect of each mission to the Moon as soon as possible after launching, while information on the results of each mission, including scientific results, shall be furnished upon completion of the mission. In the case of a mission lasting more than sixty days, information on conduct of the mission, including any scientific results, shall be given periodically, at thirty-day intervals. For missions lasting more than six months, only significant additions to such information need be reported thereafter...
- If a State Party becomes aware that another State Party plans to operate simultaneously in the same area of or in the same orbit around or trajectory to or around the Moon, it shall promptly inform the other State of the timing of and plans for its own operations



# Moon Agreement

- **Article 11**
- **The Moon and its resources are the Common heritage of mankind**
- **The international regime will have to be established by a review conference under Art. 18**



# Moon Agreement

- **Article 6**
- In carrying out scientific investigations and in furtherance of the provisions of this Agreement, the States Parties shall have the right to collect on and remove from the Moon samples of its mineral and other substances. Such samples shall remain at the disposal of those States Parties which caused them to be collected and may be used by them for scientific purposes. ... **States Parties may in the course of scientific investigations also use mineral and other substances of the Moon in quantities appropriate for the support of their missions**



# Moon Agreement

- Article 7
- In exploring and using the Moon, States Parties shall take measures to **prevent the disruption of the existing balance of its environment**, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or otherwise





# Moon Agreement

- Article 9
- **1. States Parties may establish manned and unmanned stations on the Moon.** A State Party establishing a station shall use only that area which is required for the needs of the station and shall immediately inform the Secretary-General of the United Nations of the location and purposes of that station. Subsequently, at annual intervals that State shall likewise inform the Secretary-General whether the station continues in use and whether its purposes have changed
- **2. Stations shall be installed in such a manner that they do not impede the free access to all areas of the Moon of personnel, vehicles and equipment of other States Parties conducting activities on the Moon in accordance with the provisions of this Agreement or of article I of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies**



# Moon Agreement

- Is the Moon Agreement relevant?
- Entered into force on **11 July 1984**
- **18 States parties** (Armenia, Australia, Austria, Belgium, Chile, Kazakhstan, Kuwait, Lebanon, Mexico, Morocco, Netherlands, Pakistan, Peru, Philippines, Saudi Arabia, Turkey, Uruguay, Venezuela)
- **4 signatories** (France, Guatemala, India, Romania)

