

Forum: UN International Space Council

Issue 1: The question of Regulating lunar exploration and resource extraction in light of NASA's Artemis Program and China's International Lunar Research Station (ILRS)

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Videos

- [Prospect: Exploring the Moon's south pole](#)
- [NASA reveals Artemis 3 plans and crew](#)
- [International Lunar Research Station \(ILRS\) Guide for Partnership](#)
- [The Space Race \(Back\) to the Moon: Artemis, Moon Bases...](#)
- [The Future of Space Travel: Moon Mining, Artemis, and Commercial Space ft. Rob Meyerson](#)

Articles

- [Artemis -NASA](#)
- [What is the Artemis Program? -National Air and Space Museum](#)
- [The New Space Race -Harvard Kennedy School](#)
- [The New Space Race -Royal Museum Greenwich](#)
- [Regulating the Environmental Impact of Asteroid Mining -ScienceDirect](#)
- <https://www.weforum.org/stories/2023/08/space-water-ice-moon-south-pole/>

Key Terms

Space exploration: Investigation, by means of crewed and uncrewed spacecraft, of the reaches of the universe beyond Earth's atmosphere and the use of the information so gained to increase knowledge of the cosmos (Britannica, 2026)

NASA's Artemis Program: NASA's initiative aimed at achieving the national goal of landing American astronauts on the surface of the Moon and maintaining U.S. superiority in exploration and discovery (NASA, 2026)

China's International Lunar Research Station: China's set of complex research facilities to be constructed with the possible involvement of international partners on the surface and/or in the orbit of the Moon. It is designed for multi-purpose scientific research activities, including exploration and use of the Moon, moon-based observation, fundamental research experiments and technology verification, with the capability of long-term unmanned operation with the prospect of subsequent human presence. (ROSCOSMOS, 2021)

Sustainability: Meeting the needs of the present without compromising the ability of future generations to meet their own needs. (UN, 1987)

Outer Space Treaty (1976): The treaty providing the basic framework on international space law, including but not limited to the principles governing the use, exploration, preservation of outer space. (UNOOSA, NA)

The Moon Agreement: As cited by the UNOOSA, "The [Moon] Agreement reaffirms and elaborates on many of the provisions of the Outer Space Treaty as applied to the Moon and other celestial bodies, providing that those bodies should be used exclusively for peaceful purposes, that their environments should not be disrupted, that the United Nations should be informed of the location and purpose of any station established on those bodies. In addition, the Agreement provides that the Moon and its natural resources are the common heritage of mankind and that an international regime should be established to govern the exploitation of such resources when such exploitation is about to become feasible."

Lunar water ice: Water found in the form of ice on the moon. Essential for Moon exploration as it can be used as a source of drinking water, to cool equipment or as fuel. (Reuters and World Economic Forum, 2023)

Overview

While the first moon landing as part of the Apollo missions (The Aerospace Corporation) marked the victory for the United States in the cold war space race, more recently, a new space race has begun, now between major parties; the United States, China, Japan etc. Unlike the former, the current space race between China's IRLS and USA's Artemis mission deviates from the initial unifacted objective for space exploration, racing to establish a permanent lunar base, both parties aim to gain better conditions for exploration, experimentation while also providing access to lunar resources and a route from which travel to mars is facilitated. However, this act soon sheds light onto many issues regarding territory, resource extraction, sustainability etc (Belfer Center for Science and International Affairs).

Furthermore, the current space race is no longer a fully governmental space race, the current features commercial launching and investment involving major commercial companies, namely SpaceX and Blue Origin (Belfer Center for Science and International Affairs).

China's ILRS aims to be an experimental research facility designed for research experimentation, scientific observation and research with permanent human presence. Other than scientific research, the ILRS is believed to provide significant economic, military and reputational benefits for China (Payload Space). Starting with a landed crew in 2031 and ending in 2035, several ILRS missions aim to establish various structures and facilities, including but not limited to, a Cislunar Transportation Facility, a Long-term Support facility, and a Lunar Transportation and Operation Facility (China National Space Administration). The IRLS is currently co-funded by the two sovereignties China and Russia, however, with Russia's ongoing war and lower GDP, China acts as the main investor, currently stating a 12 billion annual budget. Russia does not act as the only collaborator in the ILRS mission, currently open for cooperation of international partners, and act distinct from the national Artemis mission, several nations have already signed cooperation agreements or letters of intent: Argentina, Pakistan, Brazil, UAE and the eight countries that Asia-Pacific Space Cooperation Organization consists of (China National Space Administration).

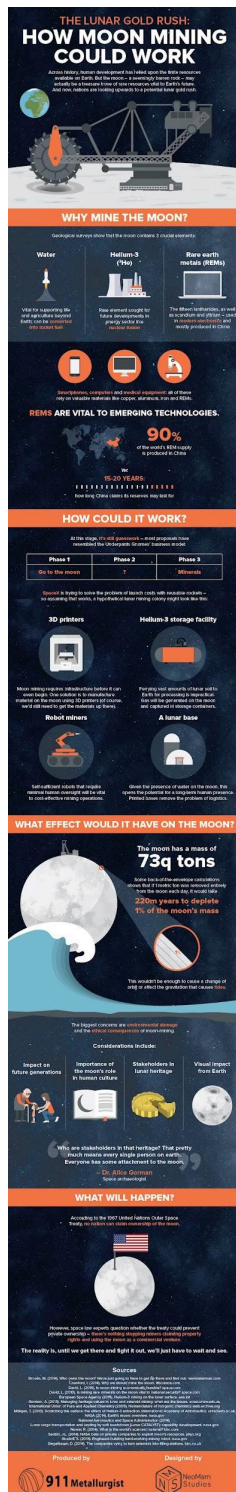
Although NASA's Artemis mission still remains governmentally funded, the mission itself is no longer solely governmental, with increased involvement of contracts with major commercial companies such as Blue Origin and SpaceX, NASA now has over 2700 suppliers from 47 states supplying it with essential infrastructure and cargo flights and delivery (NASA). But these commercial parties do not only act as suppliers, with SpaceX aiming to create a "self- growing" lunar civilization by the mid 2030s (Reuters). Distinct from SpaceX's self-growing civilization and China's more research and exploration focus, the US aims to be the first country to bring humans back onto the Moon, though still ending with a permanent lunar base and Mars as its final destination, striving to establish a permanent lunar base by 2030 and reach Mars around the 2040s (NASA).

Both parties plan to land and establish their lunar bases on the Lunar South pole, specifically the shaded regions, where the presence of lunar water ice is believed to allow for a sustainable presence, able to provide drinking water, produce fuel and oxygen as well as cool equipment. Furthermore, deposits of all 17 rare earth metals (yttrium, scandium, and the lanthanides) have been found on the surface of the moon (World Economic Forum). These are valued greatly by not only the US, but any party not wishing to rely on exports from China, which currently holds half of the Earth's rare metals (Mining.com.au). Other than rare earth metals, Chinese experts also predict at least one million tons of He-3 to be reserved on the moon. This new isotope has been suggested to be essential to solving the current energy crisis through nuclear fusion (China National Space Administration). However, the laws regarding lunar resource extraction and territory are still largely unclear. While the Outer Space Treaty has been largely ratified, The Moon agreement, stating that no territory or resource from the

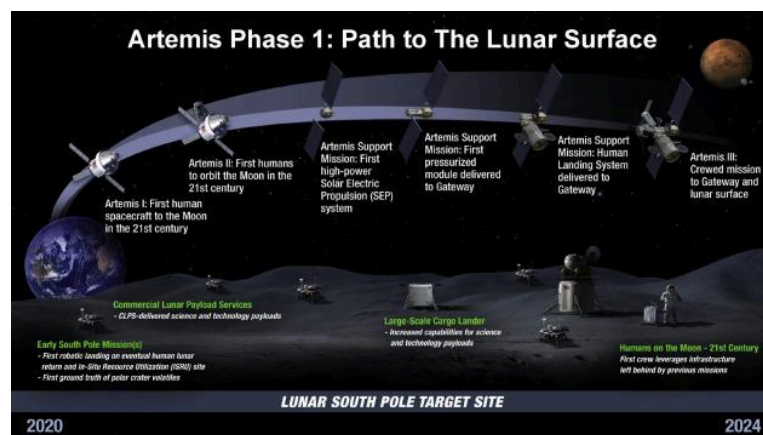
moon should be owned and is the “common heritage of all mankind” has not yet been ratified by any major forces part of the space race (UNOOSA).

Statistics & Infographics

<https://www.911metallurgist.com/blog/gold-mining-rush-how-moon-would-work/>



<https://www.sciencedirect.com/topics/earth-and-planetary-sciences/lunar-resource>



Timeline

1957	The first artificial satellite, Sputnik 1 was launched.
1967	Outer Space Treaty
1969	The first lunar landing achieved by Apollo 11
1979	The Moon Agreement (as defined earlier), though not yet ratified by major parties
2019	USA's Artemis program announced
2021	China's ILRS initiative approved
2030	The time by which Artemis and ILRS, among others, plans to establish permanent Lunar base.

Major Parties

China - Presents the ILRS, which functions in cooperation with many other parties. Primarily aims to establish and conduct research and exploration, both on the Moon and on Mars, rather than place humans back on the moon as early as possible. Interested in lunar resources, including He-3, which is believed to be able to solve the energy crisis through nuclear fusion (China National Space Administration).

USA - Presents the Artemis mission. While it aims primarily to be the first ones back to the moon, it also aims to establish a permanent lunar base, with an ultimate objective of landing on Mars (NASA).

Europe - Not in direct competition with China and USA, however, ESA is a critical partner to USA's Artemis mission, supplying hardware and personnel to the program (NASA).

India - India's ISRO has made a recent lead in being the first country to land a satellite to the Lunar South pole, not only this, ISRO operates in a highly cost-effective manner, making it commercially competitive (European Institute for International Relations).

Japan - Currently in collaboration with India, Japan's JAXA not only boasts a high level of robotic technology and aims to establish a long term human and robotic presence on the moon. JAXA is also in cooperation with USA's Artemis mission (NASA).

SpaceX, Blue Origin - These are the major, private companies, amongst others, that currently act as NASA's prime contractors, with over 2700 suppliers across 47 states manufacturing necessary equipment for the Artemis mission (NASA; Reuters).

Possible Solutions

Parties should aim to find clear collaborative solutions, working to clear up major grey areas in territorial use, resource extraction, and environmental protection through the ratification of the Moon Agreement or work to establish new governance guidelines. Furthermore, delegates may like to consider different designated sites for experimentation, habitation, resource extraction and protection (e.g. of historically significant sites). In regards to resource extraction, delegates may like to consider laws on UN-regulated licensing or transparency to details regarding the mining activity and purpose. Additionally, with the increase of commercial lunar activities, laws regarding commercial entities should be revised, ensuring their liability and responsibility. Lastly, delegates are encouraged to establish a cooperative environment for scientific exploration and discovery, allowing for the open sharing of non-sensitive scientific discovery and exploration results in areas such as mapping and environmental conditions.

Committee Objective

The International Space Council aims to promote collaboration between established nations, facilitated through building a fair and equitable framework governing space exploration, ensuring all states have equal access to spatial exploration and resources, preventing the development of monopoly states or the exploitation of lunar resources, which should be viewed as “common heritage of all mankind”. Furthermore, this council also seeks to clear up major grey areas regarding ownership of territory, environmental protection and regulation, and define the roles of commercial parties while preventing the militarization of space, ensuring outer space remains a peaceful environment, promoting exploration and scientific research.

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