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# Lunar Mineral Resources and International Challenges of their Exploration, Exploitation and Utilization

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#### International Legal Status of the Moon

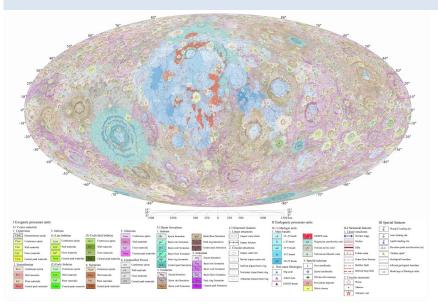
The Outer Space Treaty of 1967: Articles I

"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"

- The Moon Agreement of 1979: Article 4 (1)
  - "1. The exploration and use of the Moon shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. <...> "
- The Outer Space Treaty of 1967: Article II

"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"

# **Lunar Rocks**



Geological map of the Moon, Ji J., 2022



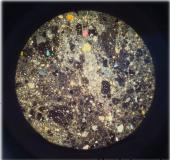






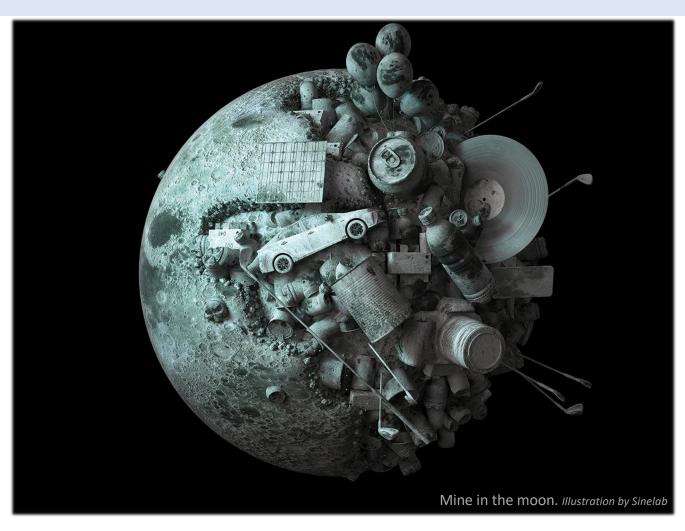
- The lunar oceans' basalts
- ANT rocks (anorthosite—norite—troctolite)
- KREEP rocks (include potassium (K), rare earth elements (REE))
- Regolith





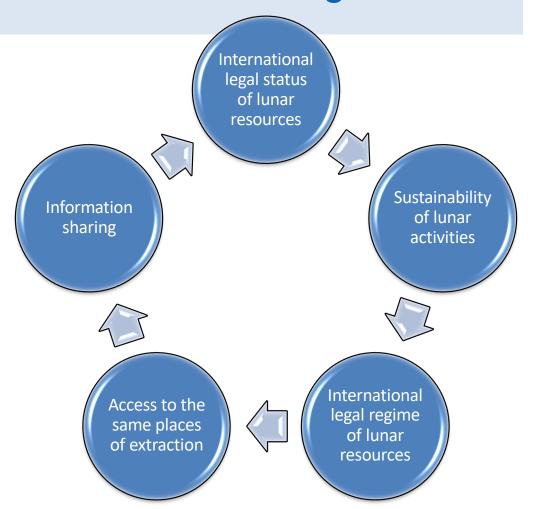
The images are taken from open sources on the Interne

## **Lunar Mineral Resources**

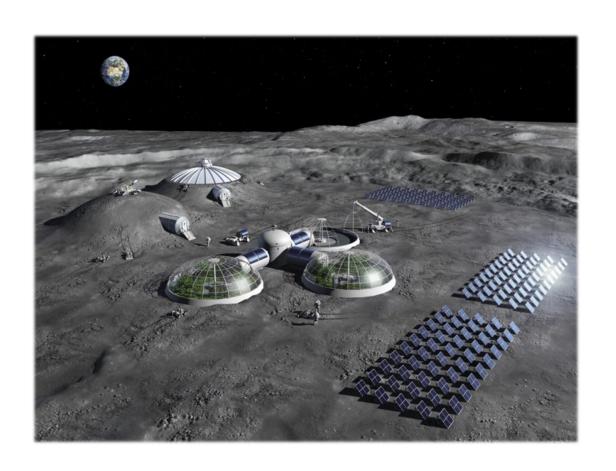


- ➤ Helium-3
- > Water
- > Regolith
- > Silica
- **➤** Basalt
- > Iron
- > Titanium
- > Aluminum
- ➤ Magnesium
- > Platinum
- Rare Earth Elements

### International Challenges in the field of Lunar Mineral Resources







# THANK YOU!!!