Artemis Accords: Challenges and Opportunities

Artemis Accords: Historical and Broader Context

By

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10 July 2020

Introduction & Outline

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- **The NASA's Artemis program aims to "find and use water and other critical resources needed for long-term exploration" (i.e. in situ resource utilization)** https://www.nasa.gov/what-is-artemis

- **Such *in situ* resource utilization is one of the first steps towards the ultimate goal of recovery and use of space resources on the Earth. (from resource exploration to resource exploitation)**

- **This is an American program, in which international partners are being invited to play a key role.**

- **Thus, the program will essentially be carried out in compliance with, or subject to, American national laws, policies and politics (national legal & political compatibility)**

Introduction & Outline

- **Exploration and exploitation of space resources are space activities that must also be carried out in compliance with, or subject to, international obligations of the US and Partner States (international legal compatibility).**

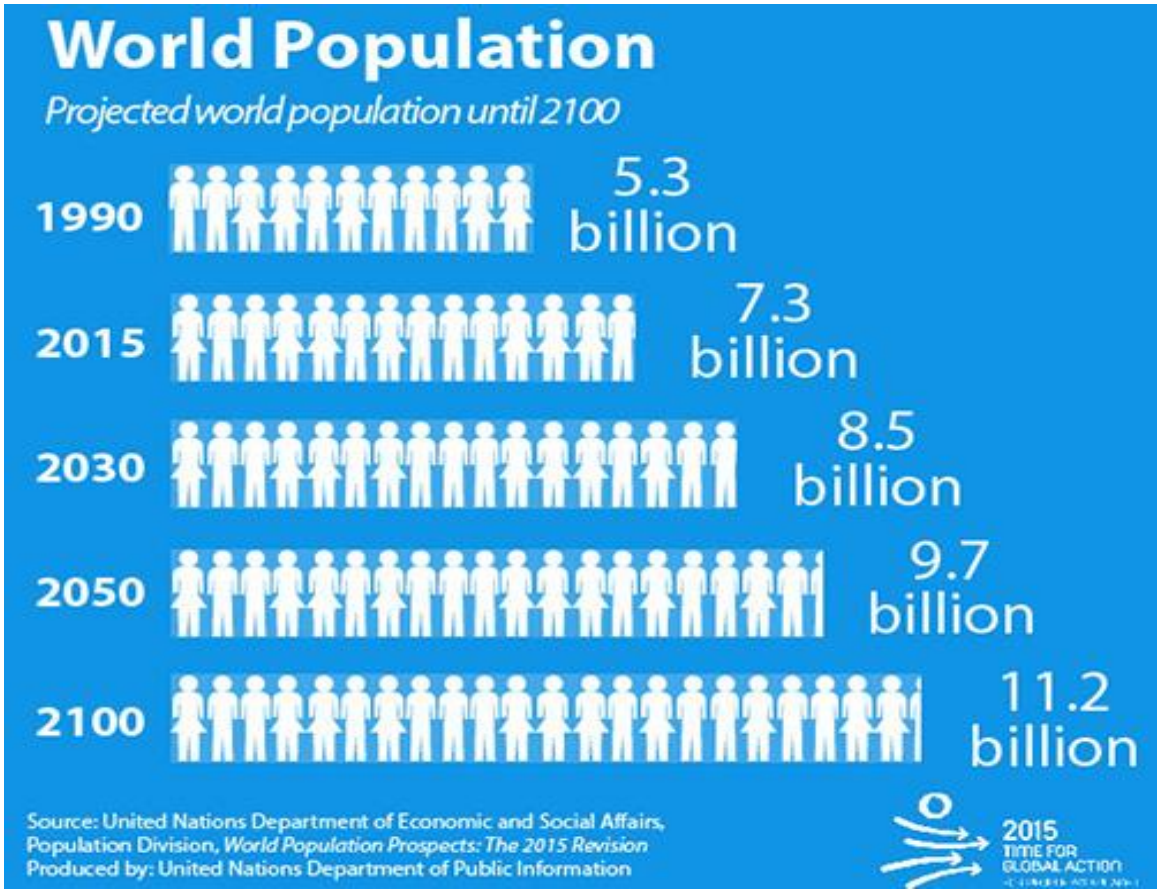
- **Therefore, Artemis Program & Artemis Accords should be seen and understood in an historical, broader and American and global space governance and political context for recovery and use of space resources.**

- **'Partners' means States other than the US/NASA or their space agencies. I will present my views mainly from the perspectives of Partners:**
  - **Opportunities for Partners**
  - **Challenges for Partners**
  - **Conclusions & the Way Rorward**

Opportunities for Partners

United Nations: our growing population

https://www.un.org/en/sections/issues-depth/population/index.html



Exponentially increased population will consume natural resources exponentially

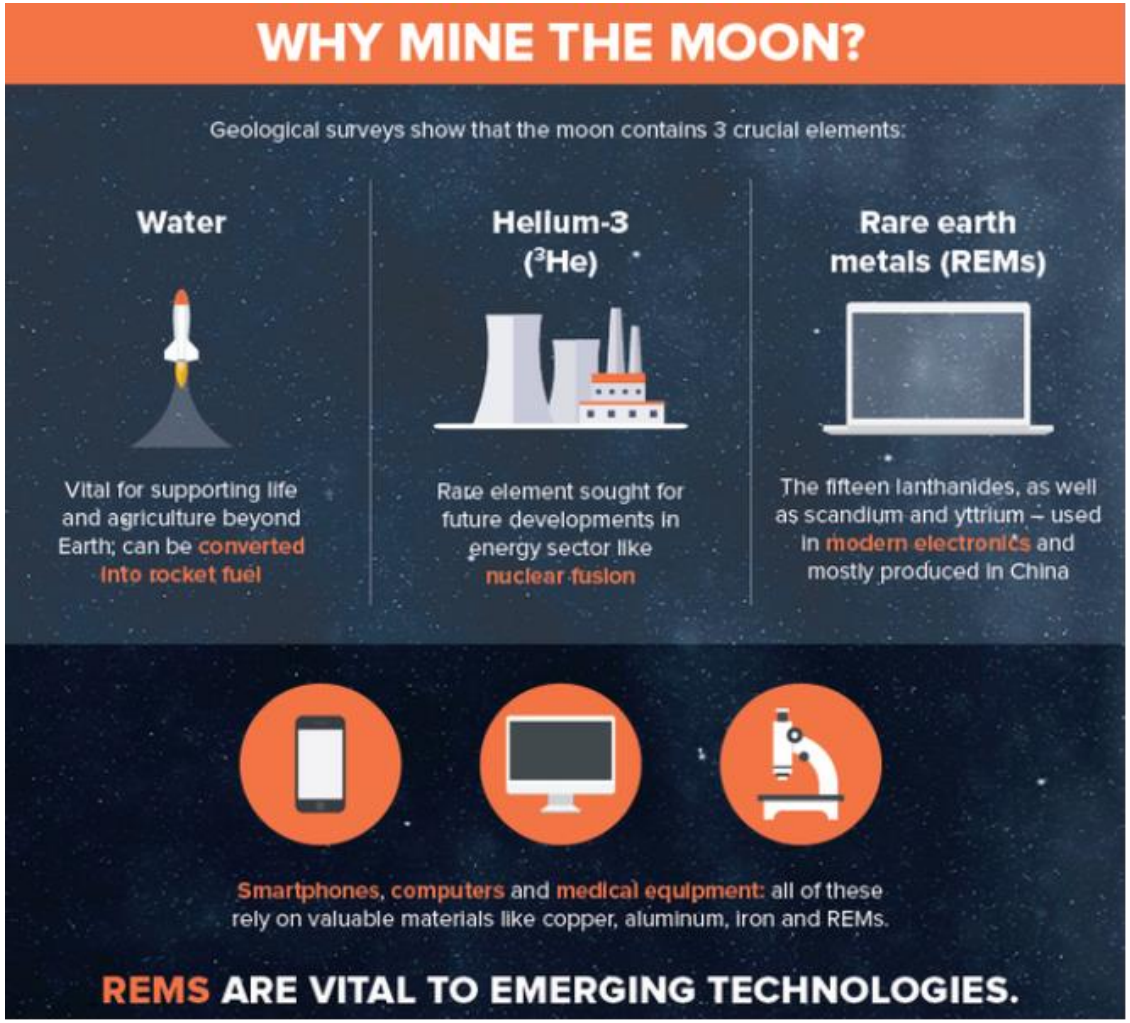
Search for space resources

- **Critical natural resources on the Earth will be depleted before the close of this century.**
- **Depletion of natural resources on Earth is dictating and inspiring search for resources in outer space.**
- **Preliminary investigations show promising prospects for recovery and use of resources on the Moon and asteroids.**

What could be found on the Moon?

https://www.jpl.nasa.gov/infographics/infographic.view.php?id=11272

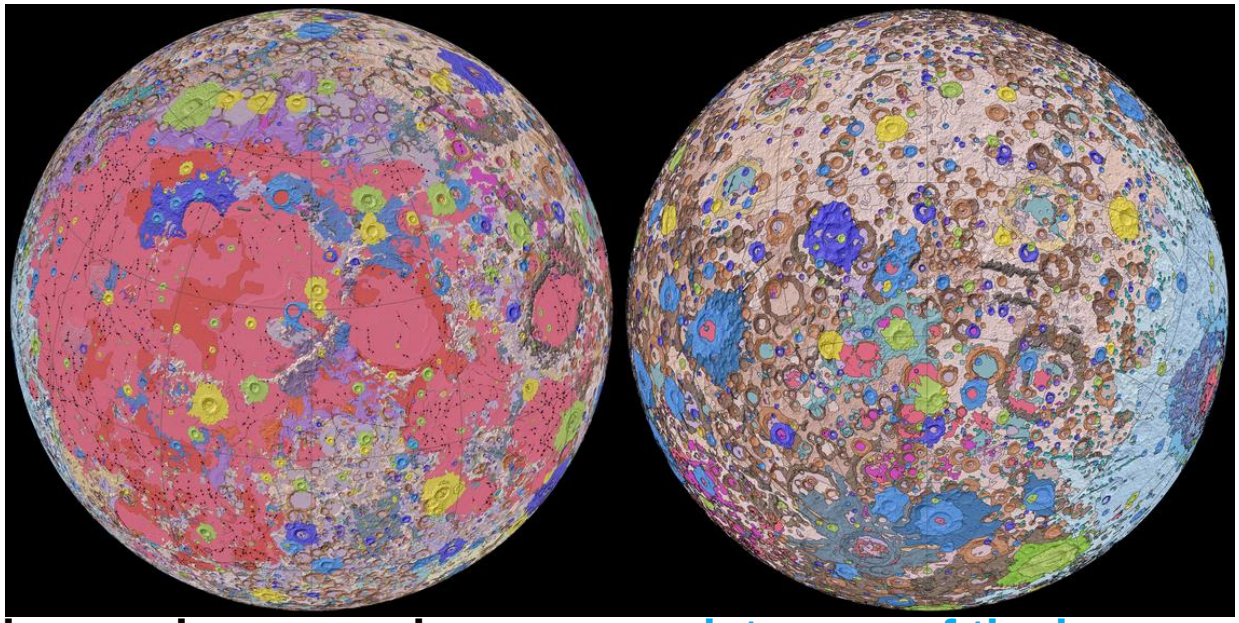
Jet Propulsion Laboratory
California Institute of Technology



Want to Mine the Moon? Here's a Detailed Map of all its Minerals

POSTED ON MAY 4, 2020 BY MATT WILLIAMS

HTTPS://WWW.UNIVERSETODAY.COM/145887/WANT-TO-MINE-THE-MOON-HERES-A-DETAILED-MAP-OF-ALL-ITS-MINERALS/



"future lunar miners now have a complete map of the lunar surface, which was created by the US Geological Society's (USGS) Astrogeology Science Center, in collaboration with NASA and the Lunar Planetary Institute (LPI). This map shows the distribution and classification of the mineral deposits on the Moon's surface"

Unique Opportunities for Partners

- **Eventually, it will be possible to bring back to Earth space resources of substantial strategic and economic value worth trillions of dollars.**
- **However, the short-term goal is to facilitate in situ resource utilization for creating lunar habitats and aiding interplanetary missions.**
- **NASA possesses considerable expertise, technology and economic sources to undertake and lead exploration for space resources.**
- **States now have unique opportunities for international cooperation with NASA in the form of Artemis Accords and leverage their expertise in lunar exploration.**

Challenges for Partners

Artemis Accords: A New Type International Cooperation

- **INTELSAT: (1964/1973): Initiated by the US under a multilateral treaty open to all States "for the benefit of all mankind."**
  - **International organisation (INTELSAT) with international personality**
  - **Equitable financial investment (public-private-partnership) and sharing of benefits and managed like a business**

- **International Space Station (1988/1998): Initiated by the US under a multilateral treaty "among the Partners, on the basis of genuine partnership," supplemented by bilateral agreements with NASA but without a permanent international organisation**

- **Artemis program (2020): Initiated by the US to be carried out under "bilateral Artemis Accords agreements" between NASA and partners, without multilateral treaty and without a permanent international organization.**

Challenging Legal and Policy Issues

- **Under a US law, natural resources of the Moon can be appropriated (a private company can be entitled property rights) *(Act of 2015)***

- **The US does not view outer space as a global commons. (*Executive Order of 6th April 2020)***

- **The US has started implementing its understanding of Article II of the Outer Space Treaty through its national legislative and administrative steps, the latest of which are the Artemis Accords.**

- **NASA is expected to follow and promote these binding directives and understanding of Article II of the US government when negotiating and signing the Artemis Accords with partners.**

Challenging Legal and Policy Issues

- **If a State is of the opinion that appropriation of lunar resouces is contrary to Article II of the Outer Space Treaty, it would need to carefully examine its position before signing an Artemis Accord. Otherwise, it might impliedly indicate its agreement with the US interpretation of this Article.**

- **Will 'Safety Zones' on the Moon will be legally valid under Article II?**

  - **[VCLT: Art. 31: any subsequent agreement or state practice regarding the interpretation of the treaty may change the meaning of a provision in a treaty.]**

- **The same will be true with respect to understating of the status of outer space as a global commons.**

Challenging Legal and Policy Issues

- **The US has recently rejected the Moon Agreement (though it had actively contributed to its adoption) and decided to "object to any attempt" to treat the Agreement as customary international law.**

- **The States that are Parties to the Moon Agreement (e.g. Austria, Australia, Belgium, the Netherlands, Saudi Arabia etc.) might need to examine the implications for their obligations under the Agreement before joining the Artemis Accords, if invited.**

- **Under the Outer Space Treaty and the Liability Convention, a Launching State is held internationally liable, jointly or severally, for damage caused by their space objects. A State that plans to sign an Artemis Accord need to see if by doing so it would acquire the status of a Launching State for any space object launched for the purposes of the Artemis program.**

Challenging Legal and Policy Issues

- **Before becoming a partner, a State should envision and prepare for financial and other consequences in case the Artemis program is cancelled or significantly changed by the US due for any reason (including budgetary constrains) or the US unilaterally withdraws from Artemis Accords. This would be highly problematic for those States that have limited funds for space programs.**

- **Similarly, a State must prepare itself for the consequences in the event of imposition of sanctions, by the US, that would adversely affect the State's activities pursuant to an Artemis Accord.**

Challenging Legal and Policy Issues

- **It is envisioned that a significant amount of technical and strategically important data would be exchanged during the negotiations for, and during the entire period of operation of, the Artemis Accords.**

- **NASA's commitment "to the timely, full, and open sharing of scientific data" may be hindered by the US Export Control laws, including International Traffic in Arms Regulations (ITARs). Application of such laws and regulations is extensive and extraterritorial in nature and their violations are very severally punished.**

- **These are only some of the legal and policy risks (challenges) of international space cooperation with the US in form of Artemis Accords. They are not imaginary or academic. Thus they must be addressed carefully before signing the Artemis Accords.**

Conclusions & the Way Forward

- **For prospective partners that plan to sign NASA's Artemis Accords, there are several serious issues and I have described only a few.**

- **If States (or their space agencies) can successfully meet these challenges, the Artemis Accords can provide excellent opportunities and significant benefits for the partners.**

- **States (or their space agencies) should carefully, thoroughly, and broadly examine the costs (risks) and benefits of international cooperation with US-NASA in the form Artemis Accords.**

- **Such Accords should be negotiated by teams of technical experts and commercial entities as well as by experts in international relations and law.**

Thank you for attention !