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Tech Watch

Geo-political Superiorities

Space Race 2.0

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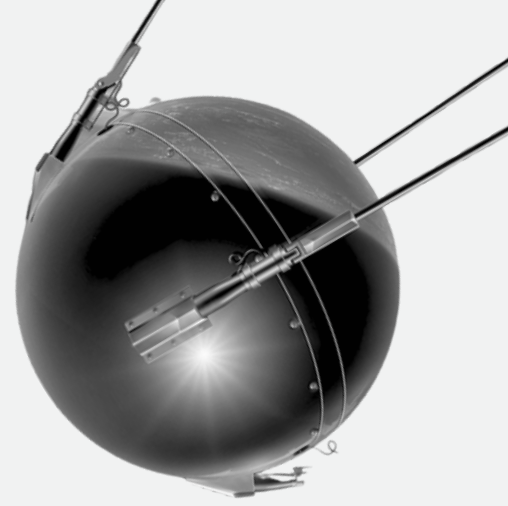


Executive Summary

The resurgence of interest in lunar exploration has brought forth critical challenges within the context of the contemporary space race. This report delves **into two Cs 'Collaboration and Competition'**.

In this context, we study the:

- Historical space achievements used for propaganda during the Cold War
- Geopolitical implications and risks associated with lunar exploration
- Adherence to international laws
- Current geopolitical space race
- Emergence of private space exploration
- ESG concerns in space exploration



Timeline of the Space Race 1.0

1960s

- USSR (1957) – Sputnik 1
- USA (1969) – Apollo 11
- Characterized by numerous space missions, technological advancements, and political tensions between the two superpowers during the Cold War era.

1990s

- Era of collaborations
- Global initiative to establish International Space Station (ISS)

2000s

- Era of Outer space land acquisition
- Surveillance from outer space



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Anti Satellite Tech

- China (2007) - Conducts an ASAT test by destroying one of its defunct weather satellites.
- Led to thoughts on the weaponization of space tech

Privatization and commercialism

- Expeditions by SpaceX, Blue Origin
- Emergence of 'Space Tourism'
- Surge in Private funding

Space Situational Awareness (SSA)

- Management of space debris debated
- Debate on usage of surveillance satellites-
Governance vs liberties



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Regulating the Outer Space

EU Code of Conduct (2008): The European Union proposed a Code of Conduct for Outer Space Activities, aimed at promoting responsible behavior in space and enhancing transparency. While it was not universally adopted, it contributed to discussions on space norms.

U.S. Space Force (2019): Establishment of the U.S. Space Force: The United States established the U.S. Space Force as a new branch of the U.S. military to focus on space security and defense. This move signals the increasing recognition of space as a domain of military significance.

Cyber Threats to Space Assets: The increasing reliance on space-based assets for communication, navigation, and surveillance has raised concerns about cyber threats targeting satellites and ground control systems.

Space Policy Updates

National Space Policy Revisions: Various countries, including the United States, have revised their national space policies to address space security, defense, and resilience in an evolving space environment.

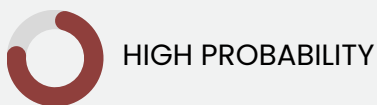
Commercial Space Activities

Rise of Commercial Space Industry: The growth of commercial space activities has added complexity to space security discussions, as private companies play a more significant role in space operations, including satellite deployment and space-based services.



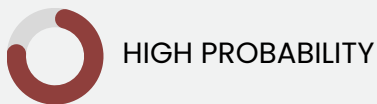
Assessment

Territorial Race



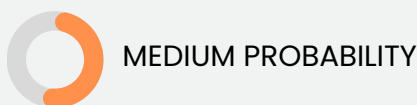
- High probability of global collaboration of ISS
- Medium probability of UHNI along with Country leaders lobbying for celestial body acquisitions.

Resource Race



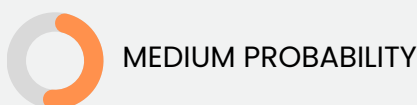
- High probability of surge mineral explorations in outer space in the next few years.
- High probability of rise in Private Equity in Commercial space expeditions.

Space Traffic Security



- Medium probabilities of space collisions.
- Medium probabilities on international regulations on space traffic.
- Low probabilities on the governance of commercialization.

ESG Voices



- High probability of private players lobbying of ESG standards on outerspace living
- Medium possibility of draft UN ESG standards of outerspace



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