Zero-G Balancing: The U.S. must take steps to compete with China's initiatives

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In February of this year, China and Russia announced a memorandum on lunar exploration that features the International Lunar Research Station. A permanent structure on the Moon would be the realization of collective dreams held for years - one would be forgiven for having forgotten about NASA's plan to send a crew to the Moon by 2024. This is an emerging trend: China's planned investment in space and plans for it are more developed and ambitious than current U.S. plans.

The United States is not properly responding to China's challenge to its leadership in space. This article outlines China's proposed Earth-Moon economic zone, lunar research station, and large modular space station, as compared to the United States' Artemis program and Artemis Accords. The United States can be seen to be underbalancing because it does not match China's initiatives. This analysis has grand strategic value insofar as the space race is a surrogate for war, a peaceful competition that bears consequences for victory or defeat.

International Cooperation

While China's general advantage in alliance building is debatable, it appears to have better prospects to offer states looking to involve themselves in space. The International Lunar Research Station is the best example of this. Though only Russia is currently part of the fledgling project, China has already signed an agreement with the Italian Space Agency to cooperate on future initiatives, including their large modular space station. The U.S., conversely, is offering the Artemis Project with its cislunar space station, meant to operate as a "dry dock" for the Moon. The accompanying Artemis Accords, which are a series of international regulations to be made standard across all signatories regarding ownership of space resources, have been signed by eight states. That said, states known for their interest in space are conspicuously absent. Germany, France, and India, in particular, are active participants in space exploration and are not signatories. The current signatories seem to be more interested in developing their manufacturing capabilities. The European Space Agency has called cooperation with China a "strategic necessity," in line with the goal of cooperation in space. All of this is amplified by the Wolf Amendment, which largely prohibits cooperation between China and the U.S. While the U.S. does have partners, China is drawing partners that are more active in space exploration and commercialization while U.S. partners are more interested in manufacturing.

Economic Benefits

Despite its immature commercial space sector, China's commercialization ambitions are considerably more developed than those of the U.S. China has clearly made commercial concerns a primary factor in its national space strategy. A director at the China Aerospace Science and Technology Corporation has proposed the creation of an Earth-Moon economic zone that could be worth as much as $10 trillion annually by 2050. This would involve international partners as well as China's burgeoning domestic space industry, which the Chinese government has invested in heavily. As Chris Devonshire-Ellis argues, China's economic plan relies on eroding the integrity of the United Nations Outer Space Treaty, to which every space-faring country is a party. This treaty says no state can claim sovereignty over the Moon or any other celestial body, but may be argued to leave private entities free to claim resources. This is the stance of the Artemis Accords, which are seen by detractors as opening the door to future debates over the treaty and mining rights with its commercial regulations. While the Accords themselves offer much needed regulatory guidance for private industry, their controversy may limit their adoption. NASA also has a strategy to commercialize the ISS, though it is more hesitant to assign numeric value to the project. In all, both initiatives may result in an international framework that favors commercialization, but only China has a plan in place to maximize the economic benefits. As important, it is willing to share the idea with like-minded states, though in what capacity remains to be seen.

Conclusion

The U.S. is underbalancing against China in the coming space race, failing to match China's external and internal efforts. U.S. initiatives are not reaching key space partners, do not have significantly more support from international law, and lack the clear economic strategy of China's economic zone proposal. There are solutions to be found, particularly in the U.S.'s developed commercial sector and satellite industry. Regardless, a clear strategy that draws peers in spaceflight is needed if the U.S. hopes to secure its leadership role.