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Policies Affecting U.S.-China International Relations in the Space Domain

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Introduction

Some consider the current relationship between the U.S. and China to be at its worst in decades [1, 2]. China's growing economic power and human rights concerns prompt U.S. unease regarding China's influence internationally. In recent years, China has placed special emphasis on becoming a global power in the space domain by launching its own space station and the development of the multi-national International Lunar Research Station (ILRS).

The Wolf Amendment

The Wolf Amendment is a U.S. law restricting federal funding for China or Chinese-owned companies for space-related activities due to national security concerns. It says, in part:

"None of the funds made available by this division may be used for the National Aeronautics and Space Administration or the Office of Science and Technology Policy to develop, design, plan, promulgate, implement, or execute a bilateral policy, program, order, or contract of any kind to participate, collaborate, or coordinate bilaterally in any way with China or any Chinese-owned company unless such activities are specifically authorized by a law enacted after the date of enactment of this division." [3]

Some see the Wolf Amendment as a necessity to protect U.S. national interests from China's rapid advancements in science and technology [4]. The strong ties between China's space sector and military, and increasing autonomous capabilities, enable China to assert itself in the geopolitical context. However, some view U.S. restrictions like those contained in the Wolf Amendment as counterproductive, generating a suspicious and resentful attitude [5]. Healthy competition requires engagement, innovation, and collaboration. Additionally, sharing data and knowledge gained in space science can be mutually beneficial and cooperative for both parties [6].

Plans considered during the Obama administration foresaw the possibility of including China in the International Space Station (ISS) program. If Chinese docking mechanisms achieved compatibility with international standards, China could substitute Russia as Roscosmos exits the ISS [6]. This solution would have allowed full sanctioning of Russia for the invasion of Ukraine and a stronger deterrence of nuclear war. However, the Wolf Amendment prohibited this.



Understanding the Chinese Space Program

China has recently restructured the organization of its space activities, introducing the People's Liberation Army Strategic Support Force (PLASSF), a unified command structure focused on increasing efficiency [7]. According to the U.S. Department of Defense (DoD), China is actively developing capabilities that would degrade or deny U.S. access to space [7]. The most significant Chinese space policy available to the international community was released in 2017 and it highlights China's ambitions for: an advanced space-based solar observatory satellite, Martian soil sample retrieval, self-reliant Earth observation and navigation, satellite robotic arm grappling and satellite refueling in orbit, and satellite support to air operations during inclement weather [8]. As Chinese space capabilities improve, so does China's ability to conduct complex operations. In the military sector, the next-generation of long-range strategic bombers might be capable of threatening Hawaii, Australia, and the U.S. mainland [7].

Chinese international business and academic partnerships have been a way for the country to circumvent the U.S.'s exclusionary space policies and transfer technology and intellectual property [7]. For example, U.S.-based company Nanoracks LLC supported the deployment of Chinese technology in space, and Kuang-Chi is a Chinese company created by Chinese citizens trained in elite U.S. institutions [7]. More recently, the China Commercial Small Satellite Industry Innovation Alliance was established in 2018 as part of the State-Industry Innovation Alliances to study and implement space-related policies, laws, and regulations. China's alliance with developing space nations in exchange for access to Chinese space capabilities has given China a rising influential role in the geopolitical order. For example, Beidou, a Chinese navigation system, is made available to all countries participating in the One Belt, One Road initiative, as part of the Digital Silk Road initiative. Strategically, that could potentially lead to Beidou's positioning as a substitute to American GPS [7]. Additionally, the establishment of the ILRS may be seen as an attempt to create an alternative to the U.S.-led Artemis Accords [9, 10].

Navigating the New Space Economy and ITAR

The U.S. bases its commercial space industry on private sector entities running under market dynamics and offering services to both governmental and non-governmental customers. Due to its strategic importance, U.S. agencies prioritize national commercial space capabilities, partner with domestic industry, adopt creative procurement approaches, and only establish governmental programs when commercial solutions aren't feasible. NASA, DARPA, and the U.S. Air Force all provide funds to small businesses aimed at boosting technological innovation and providing vital services for government contracts [11].

Export requests for the space industry are individually assessed according to various regulations, including the International Traffic in Arms Regulations (ITAR) and the Conventional Arms Transfer Policy (CATP) [11]. The government promotes exports that do not threaten national interests and simplifies authorizations for items commonly available globally,



non-critical militarily, and intended for specific allies [11]. However, negative outcomes of these policies are that, despite being highly skilled or deeply enthusiastic, non-U.S. citizens living in the U.S. are unable to contribute to U.S. space goals. ITAR can also make doing business more difficult for space companies.

Conclusion

The relationship between the U.S. and China is perpetually in the spotlight, and the space domain is a central context in which this plays out. The alignment of different countries under the Artemis Accords or ILRS is moving the global space industry towards a more bifurcated future under the guise of international cooperation. U.S. policies like the Wolf Amendment and ITAR attempt to balance national security interests with collaboration, but are often seen as heavy-handed. The story of the Wolf Amendment is far from over.

Author Bios



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