
Engaging with China on Space Activities

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For the last several decades, the United States has been concerned about China's space programs and plans, in a dynamic which often reflects the larger U.S.–China relationship. There is no doubt that the United States and China are engaged in a geopolitically competitive relationship, but there is also no doubt that China is a major space actor across all dimensions of space activity and it cannot be ignored. In an attempt to “constrain” China's space program, the United States has put in place laws and policies that end up harming itself while doing little to impede China's progress in space. While recognizing that China is a competitor, the United States can still benefit from finding ways in which to engage with China to maintain stability in the space domain and to proactively promote responsible space activities.

Background

China's space program in many ways originated as a result of U.S. national security fears. The program was started by Qian Xuesen, who worked on space projects at CalTech in the 1950s until (unfounded) worries about him passing classified information to communists led to his security clearance being revoked and five years of house arrest. He subsequently emigrated to China and helped found their nuclear weapons and space programs. This set the tone for much of the way the United States has viewed China's space program: with great suspicion and responses that often exaggerated the threat while simultaneously creating the exact circumstances they were trying to prevent.

U.S. concerns about China's space program re-emerged in the late 1990s. After two launch failures of U.S. commercial satellites on Chinese rockets, U.S. companies provided technical information during the accident investigation that ended up improving the reliability of Chinese rockets for both space launch and ballistic missiles. In response, Congress imposed strict export controls on everything related to space. While these restrictions did not impede China's space program, they did harm the U.S. space industry, which lost significant global market share due to the rise of international competitors who were not hampered by similar export restrictions.



Today, China is engaged in a long-running effort to develop the full breadth of space capabilities for economic development, scientific research and exploration, human spaceflight, and national security uses. Two decades after being excluded from the International Space Station (ISS) program, China has developed its own robust human spaceflight capabilities, including operating a crewed space station with continuous crew presence since June 2022, and has plans to conduct crewed Moon landings beginning as soon as 2030. Under the International Lunar Research Station (ILRS) program, China has built a network of partners (including governments, companies, and universities) to participate in its lunar development plans, demonstrating diplomatic reach.¹ Since 2016, the Chinese government has made a number of policy and financial changes designed to develop and leverage commercial and private space capabilities, including remote sensing, launch, and satellite broadband constellations. U.S. policymakers have been concerned about how these industry capabilities relate to and integrate with the Chinese military and how they are leveraged in support of China's foreign policy objectives. Chinese companies began to launch satellites in their own large low Earth orbit (LEO) constellations intended to provide broadband internet capabilities, similar to SpaceX Starlink and Amazon Kuiper. Up to three Chinese constellations, with thousands of satellites in each, are planned. China has also developed its own space-based intelligence and reconnaissance capabilities and its version of the Global Positioning System called BeiDou, all of which have military applications. China is also developing a suite of offensive counterspace capabilities aimed at deterring and negating U.S. capabilities in a future conflict.

Current Policy and Gaps or Shortcomings

In 2011, Congress passed the Wolf Amendment, named after then-Representative Frank Wolf (R-Virg.), who was concerned about China's treatment of religious minorities and possible intellectual property theft via hacking. While it does not officially preclude U.S.–China bilateral cooperation in space, it requires the White House's Office of Science and Technology Policy, NASA, and the National Space Council to obtain certification by the Federal Bureau of Investigation (FBI) that no technical information with economic security or national security implications will be shared with China and that none of the entities involved have human rights violations; in addition, Congress and the FBI must be notified 30 days in advance of the activity. Although there is little evidence that the Wolf Amendment has achieved its goals or affected China's domestic policies, it has given Chinese officials a pretext to deflect criticisms about its lack of transparency or engagement onto the United States.

The Obama administration started two sets of bilateral exchanges with China, one on space safety and one on security. Space was also included in iterations of the bilateral Economic and Security Dialogue. The first Trump administration initially attempted to continue these dialogues, although no formal meetings were ultimately held. There was no continued engagement on these bilateral exchanges during the Biden administration.

Much of the U.S. national security space enterprise has stoked concerns about China's lunar plans, often to the detriment of redirecting attention away from more pressing threats. The landing sites under consideration in China's lunar program are in similar locations to sites under consideration in the U.S.-led Artemis Program (driven by similar technical, scientific, and economic motivations). Much of the public analysis in the United States of China's

¹ Secure World Foundation, "Lunar Space Cooperation Initiatives," last updated January 23, 2025, <https://swfound.org/lunar-space-cooperation-initiatives/>.



lunar programs focuses on potential competition and threats to the United States, rather than on the technical, diplomatic, and scientific drivers (and challenges) informing China's programmatic decisions.

Both China's increasing deployment of large satellite constellations and its lunar ambitions have raised coordination and safety concerns within industry and other space stakeholders. As U.S. satellite operators deploy and operate their own satellite constellations, the risk of potential collisions with Chinese operators is growing because the Chinese systems deploy through existing constellations and operate in orbits similar to existing systems. Bilateral sharing of information and coordination for basic operational safety is limited, and there is a need to improve engagement around space safety practices. U.S. operators—and those from other partner countries—have established coordination and transparency practices amongst themselves; they are looking for options to exchange information with Chinese operators to do the same and thus formalize norms shaping space safety. On the Moon, concerns about the ability to respond in a timely manner to human safety issues, understanding of intent, and shared hazards of lunar dust, among other concerns, drive perceived need for coordination channels.

Multilateral space security discussions have pitted the United States (and like-minded nations) against China and Russia in terms of identifying what the biggest threat is to space security and whether the best way to mitigate that threat is through legally binding instruments or nonbinding voluntary norms of behavior. For nearly two decades, China and Russia have been promoting a treaty to prevent the placement of weapons in space; the United States has taken the position that it is much more effective to focus on norms, rules, and principles of responsible behavior aimed at making the space domain more stable, predictable, and reliable to access and use.

By isolating China from existing multilateral cooperative efforts in space like the ISS, the United States has pushed China to launch its own space station. Furthermore, this forced separation has allowed China to use its space program to create its own relationships with countries the United States has long deprioritized, particularly in Latin America and Africa. This has resulted in soft power advantages for China that have shown benefits in trade and diplomatic discussions. ●

Establishing channels for information sharing and promoting space safety practices can act to reduce the potential for misunderstanding that might lead to conflict while promoting stability in the operating domain that will support growth in space activities.



Policy Recommendations

→ Reassess the Wolf Amendment to allow for limited space engagement with China.

Working with the Trump administration, Congress should review and revise the implementation of the Wolf Amendment to increase NASA's engagement in space activities with China that support U.S. national interests. Priority areas for engagement include basic space science and research, robotic space exploration, human spaceflight safety, lunar search and rescue, and increased data sharing on space weather and orbital debris.

→ Expand space safety dialogue with Chinese actors.

The United States and China have shared interests in ensuring basic operational safety in the space environment, including both in LEO and in cislunar space (including the lunar surface). Establishing channels for information sharing and promoting space safety practices can act to reduce the potential for misunderstanding that might lead to conflict while promoting stability in the operating domain that will support growth in space activities. This is particularly important in the context of national space traffic management and/or coordination initiatives. Dialogue of this type might be pursued in several ways, including: bilateral government-to-government discussions; informal civil society dialogues; and engagement in multilateral fora such as the proposed Consultative Mechanism on Lunar Activities at UN COPUOS.

→ Increase understanding of the Chinese space sector.

Congress should work with the Trump administration to fund and carry out studies that systematically document and understand the structure and nature of the Chinese space ecosystem, how the industry is structured, the true relationships between the central government, the state-owned enterprises, and the private companies, the role of the provincial governments, how private capital operates in the Chinese space sector and how all of this relates to the space program priorities of the Chinese government.