In China's Orbit

Beijing's Space Diplomacy in the Global South

METHODOLOGY
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Overview

The China Space Cooperation Index is a weighted index that measures China's space diplomacy by capturing five indicators which reflect the primary channels of Chinese engagement with foreign partners. Since 2000, China has engaged 64 countries in at least one of the five indicators measured in the index.

The index was developed for the CSIS Hidden Reach report: **In China's Orbit: Beijing's Space Diplomacy in the Global South**.

Indicators

Indicator	Definition	Weight	Source(s)
Ground segment	Binary variable indicating whether the country hosts at least one telemetry, tracking and command (TT&C) facility or receiving ground station built or funded by China, as of December 2025	30%	Various
Satellite contracting	Number of satellites owned or operated by the country designed or built by Chinese firms, from 2010 to 2024	25%	Union of Concerned Scientists, CASC
Satellite launch	Number of satellites owned or operated by the country that were launched by Chinese launch vehicles from 2000 to 2024	20%	Jonathan McDowell, **Orbital Launch Log**
Multilateral agreements	Number of China-led multilateral (global or regional) space organizations the country has joined as of December 2025	15%	Various
Bilateral partnerships	Binary variable indicating whether the country has at least one active or planned bilateral partnership agreement with China as of December 2025	10%	Various
Total		**100%**	

About the Index

The index employs various normalization methods and weighting systems. Indicators are rescaled using min-max normalization to ensure comparability across different data types. Each indicator is weighted differently based on relative importance determined by authors' assessment, with particular consideration given to whether it captures actions versus intentions. For instance, partnerships and agreements signal strategic intent, whereas

tangible outputs—such as TT&C stations and satellite launches—represent materialized cooperation, and are therefore weighted more heavily.

The satellite launch indicator was log-transformed prior to normalization to address severe skewedness from an outlier, Argentina. The extreme observation, albeit legitimate, would compress the remaining data range and hence disproportionately assign other countries' scores near zero. Log transformation reduces such distortion, which makes it possible to maintain relative rankings while enabling meaningful comparisons.

Other Considerations

One country, Finland, is included in the index despite receiving a score of zero. This is because Finland and China **agreed** in 2018 to develop a joint space observation research center in the far-northern Finnish city of Sodankyla. However, reporting from 2022 **suggests** that the agreement was on a three-year term and was not renewed after expiring in 2021. The case was still included to reflect China's interest and intent on establishing a physical space footprint in Finland.

Finally, a note on binary variables: Bilateral Agreements is encoded as a binary indicator denoting whether a country has at least one active or planned partnership agreement with China. Even a single agreement signals that the country is open to direct engagement with China, and additional agreements would typically not change the character of that relationship in a substantial way. In contrast, participation in China-led multilateral space organizations is captured as a numerical variable, reflecting the number of organizations the country has joined. Since involvement in multiple bodies may indicate a country's deeper embeddedness in China's space ecosystem, the ordinal variation in multilateral memberships carries meaningful analytical value.

Download the latest dataset **here**.

Read the full report **here**. Last Update: January 2026

For questions about the methodology, please contact:

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