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CCP Inc. in Argentina

China's International Space Industry Engagement

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Executive Summary

This "CCP Inc." case study examines China's state capitalism in the space sector by unpacking key Chinese business deals and state projects in Argentina. To Beijing, the space sector is strategically important for national military, economic, and technological development and is therefore more closely tied to the state than most other industries. As demonstrated by projects in Argentina, these close ties can benefit Chinese party-state actors who go overseas by providing material state support—but they can also become a liability by rousing skepticism among host countries and potential business partners regarding Chinese firms' motivations. To explore these elements of the CCP Inc. ecosystem, this report examines two cases of China-Argentina space collaboration: first, the construction of China's first international deep space ground station, and second, the dynamics of Chinese business collaboration with Argentine satellite technology start-up Satellogic.

Contents

Introduction

What does China's expanding space sector reveal about the country's state capitalist economic system? This case study examines the CCP Inc. ecosystem of Chinese regulators, state-owned and private financiers, technology companies, and military entities key to becoming what Chinese leader Xi Jinping has termed a "great space power" (航天强国).[1] China's ambitions include developing world-leading space technology and systems, pursuing deep space exploration, and shaping the norms of global space governance. Toward these goals, China continues to enhance bilateral and multilateral cooperation with a growing number of countries.[2] This case study examines how the complex ecosystem of Chinese party-state actors serves—and sometimes limits—Beijing's space ambitions by investigating Chinese commercial and state-backed investments in Argentina's space sector.

China's broader state capitalist system has evolved since Xi Jinping assumed power in 2012. The Chinese Communist Party (CCP) extended its control over both China's private sector and state-owned enterprises (SOEs), while SOEs merged and consolidated into bigger entities with more expansive networks of subsidiaries, as part of an initiative to improve efficiency.[3] State investment has taken on increased importance as a method for steering Chinese companies toward the pursuit of strategic objectives. These developments have created a complex ecosystem in which state-owned and private-owned Chinese companies are subject to state and party influence via an array of financial, ownership, and personnel conduits—but are still able and encouraged to pursue commercial aims within the bounds of the CCP's strategic interests. This new paradigm of Chinese state capitalism is known as the "CCP Inc." system.[4]

Globally, CCP Inc. benefits Chinese companies; rather than go it alone, Chinese companies enter new markets and projects as part of an ecosystem of government and commercial entities in pursuit of common economic goals. Yet CCP Inc. can also be a liability for Chinese firms, engendering skepticism

overseas about their motivations; close connections with CCP and state actors make it difficult for individual Chinese firms to distance themselves fully from broader party-state aims when approaching potential partners abroad.[5] The effectiveness of CCP Inc. varies substantially by country and industry, depending on China's diplomatic relationships with the target state and the degree of CCP control over the sector in question.

This case study explores how CCP Inc. has enabled China's space sector to grow its international footprint through key projects in Argentina. From the BeiDou Navigation Satellite System to successful explorations on the far side of the moon and a mission to Mars, China's national space capabilities have improved dramatically in the past three decades.[6] Along with eye-catching interplanetary missions, China's space sector recently underwent a less publicized structural transformation. In 2014, China opened the sector to private investment, expanding the role of commercial actors in the country's space program.[7] However, as this case study shows, the core of the sector remains closely linked to state agencies, SOEs, and military organizations—even more so than other industries examined in this series of CCP Inc. case studies.[8]

China's space cooperation with Argentina illustrates how state, military, and commercial entities have broadened the overseas footprint of China's space sector. Space cooperation between China and Argentina began through diplomatic channels. In the early 2010s, amid deepening bilateral relations, Argentina agreed to host China's first international deep space ground station: the Estación de Espacio Lejano (Spanish for "deep space station," referred to in this report as the "Espacio Lejano Station"), which was constructed by Chinese SOEs that had track records of working on People's Liberation Army (PLA) contracts and is now managed by a Chinese military-linked state entity. As commercialization of the Chinese space sector has grown, commercial deals by private Chinese companies have also become an increasingly important part of China-Argentina space cooperation, particularly through deals focused on satellite technology.

This case study proceeds in three parts. Chapter 1 provides a brief introduction to China's space sector and China-Argentina space cooperation. Chaper 2 examines the development of the Espacio Lejano Station, which remains a source of controversy within Argentina and internationally due to its links to the PLA.[9] Finally, Chapter 3 explores the role of Chinese commercial space engagement in Argentina through examination of deals between Chinese companies and Argentine satellite imagery start-up Satellogic.

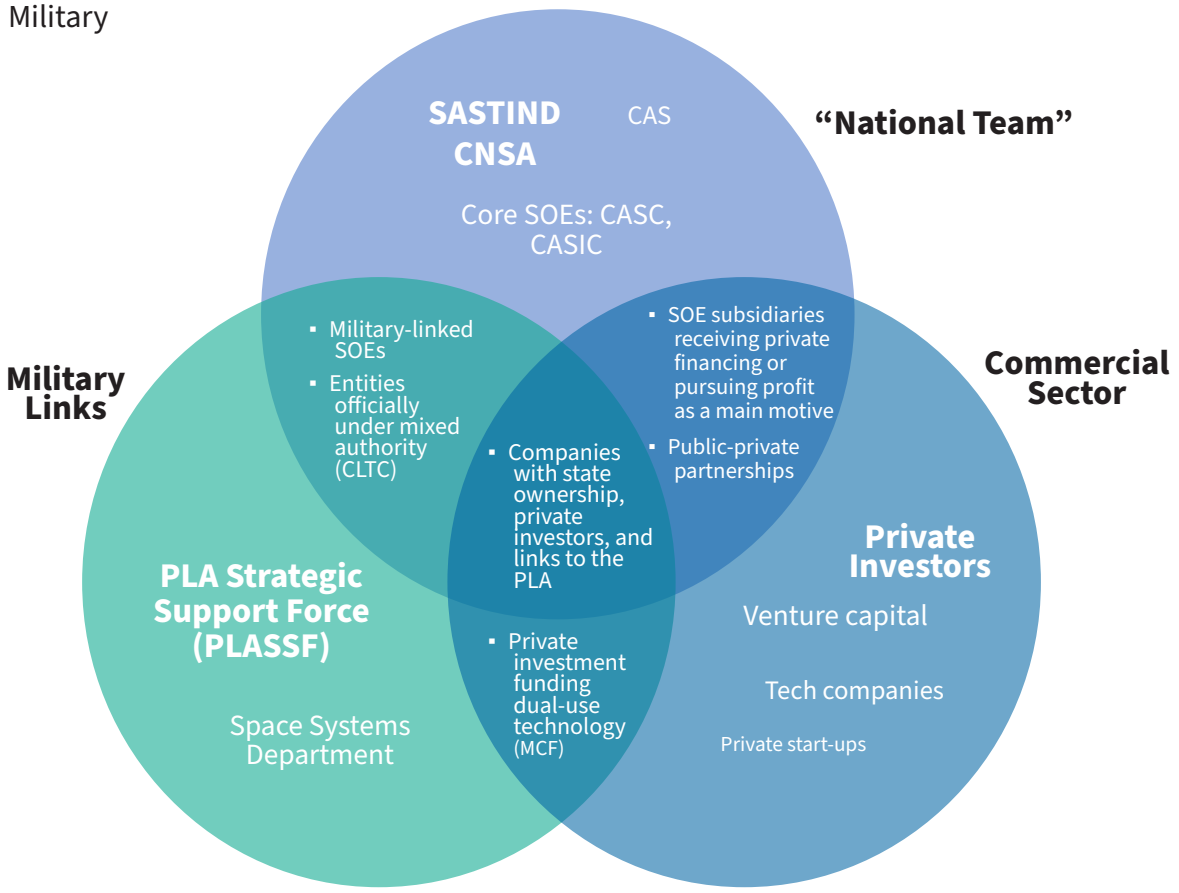
1

China's Space Program and China-Argentina Space Cooperation

Compared to the more established industrial sectors examined in previous CCP Inc. case studies on mining, financial services, energy, and telecommunications, China's space industry is relatively new and quickly evolving. It is also tightly interwoven with government and military bodies to a degree unparalleled by market economies, even those with substantial state involvement in the space sector.[10]

To understand this deep integration, one need only look at the composition of China's space sector today, which consists of three primary groups of actors (see Figure 1): the state-owned "national team" of government agencies and major SOEs; entities linked to the PLA; and—since 2014, when deregulation opened the door for private investments—a burgeoning set of commercial actors who are interlinked with the other two groups. As a window into CCP Inc., the evolution of China's space industry over the past decade demonstrates how China's state capitalism can simultaneously open more opportunities for commercial development while maintaining tight state control over private sector involvement in a strategic industry. The important role of the PLA in this sector also impacts how international companies and governments engage with China's space industry, as demonstrated by the projects in Argentina detailed in the second and third sections of this report.

Figure 1: Three Overlapping Actors in China's Space Sector: State, Commercial, and Military



Source: Authors' research based on multiple sources cited throughout this report.

The "national team" of China's space industry is the well-established core of the national space program, compared to the country's relatively new commercial space sector.[11] It consists of government agencies, central SOEs, and hundreds of SOE subsidiaries. Two state agencies, the State Administration for Science, Technology, and Industry for National Defense (SASTIND) and the China National Space Administration (CNSA), oversee China's space industry as civilian administrators, while the Chinese Academy of Sciences (CAS) plays a key role in aerospace research and technology development. Marc Julienne, head of China research at the French Institute of International Relations, has described SASTIND as the "nerve center" for the country's space program; as the name suggests, the organization is focused on defense.[12] According to China's State Council, it was established to serve "the needs of national defense, military forces, national economy, and military-related organizations," in addition to the "coordination of communications and cooperation on the use of nuclear power and space activities with countries and international organizations."[13] Under the purview of the State-owned Assets Supervision and Administration Council (SASAC), two SOEs—China Aerospace Science and Technology Corporation (CASC) and China Aerospace Science and Industry Corporation (CASIC), each with hundreds of subsidiaries—form the core of the government's aerospace research and development (R&D) and defense sector.[14]

In 2014, Chinese regulators lifted numerous restrictions on private investment in the space sector, resulting in a growing number of start-ups and new, mixed-ownership SOE subsidiaries with private investors, which together comprise China's commercial space sector. At the time, the State Council released a statement commonly referred to as "Document 60," which encouraged "private capital to participate in the construction of national civil space infrastructure" such as satellite launch and operations, as well as ground systems.[15] Later, the State Council's 2016 white paper on space highlighted efforts "to increase the level of commercialization of the space industry" by encouraging the participation of "nongovernmental capital and other social sectors" in space-related activities.[16]

Even with this government backing for commercialization, new players joined a preexisting ecosystem of government and military-linked entities. According to the white paper, "commercialization" does not require that funding come solely from nongovernment actors—rather, "commercial" entities can be funded by both government and nongovernment actors.[17] Some analysts estimate that the number of commercial space sector companies is over 200 but note that this figure would vary based on how broadly "commercial" is defined.[18] Commercial companies often share close institutional and personnel connections with the "national team." For example, a 2019 study by the Institute for Defense Analyses found that many founders and executives of Chinese start-ups in the field were previously affiliated with CAS or with the major SOEs in the aerospace sector.[19]

The military plays a direct role in China's space program through the PLA Strategic Support Force (PLASSF), which assumed responsibility for space activities after its creation in 2015. A product of China's military reorganization that year, the PLASSF was tasked with integrating the space domain more closely into China's military operations.[20] According to analysts of China's space industry, the PLA—via the Strategic Support Force—works closely with SASTIND to coordinate R&D and manufacturing to support China's space activities.[21]

China's Growing Space Presence: Goals and Strategy

Chinese leadership has specified national space goals in authoritative documents: quinquennial State Council white papers on space; publications by top state agencies such as SASTIND and the National Development and Reform Commission (NDRC); and the national Five-Year Plan, a development agenda passed every five years by China's legislative body, the National People's Congress. The State Council's most recent space strategy white paper, published in January 2022, emphasizes China's continued goal to "strengthen its space presence in an all-round manner" in order to boost self-reliance in science and technology, secure its role in space governance, and enhance its national security (among other objectives).[22] Internationally, the space sector features in China's flagship Belt and Road Initiative (BRI) through the Spatial Information Corridor, an initiative designed to provide comprehensive spatial information services (such as BeiDou satellite navigation) for countries along the BRI.[23]

In 2015, China's defense white paper officially elevated space to a military domain. The paper argued that "outer space has become a commanding height in international strategic competition" now that the "first signs of weaponization of outer space have appeared."[24] These publications affirm that Chinese leaders view space as a pivotal playing field in geopolitical competition.

Chinese leadership encourages the array of state-owned, military-linked, and commercial actors in China's space industry to support the state's space goals. For example, Document 60 (which allowed

for private capital in China's space sector) promotes investment in specific space technologies such as satellites, remote-sensing data, and ground stations, specifying key areas that commercial actors are expected to support.[25] While many countries have military aims in space, as the U.S. Space Force demonstrates, defense analysts characterize China's military as more actively involved in the national space sector compared even to that of the United States.[26]

Indeed, the state actively encourages cooperation between the military and civilian pillars of China's space industry. A prominent aspect of China's national defense and military strategy is its pursuit of military-civil fusion (MCF), which involves "infrastructure and resource sharing" and "joint innovation of military and civilian science and technology," as Xi stated in a 2018 meeting of the Military-Civil Fusion Development Committee.[27] China's 14th Five-Year Plan, published in 2021, emphasizes the need to deepen military-civil cooperation in space in the context of national aerospace technology development.[28] In 2018, SASTIND outlined the requirements to apply for projects with the organization, specifying that applications should "strengthen civilian-military coordination on relevant scientific research plans [民口、军队有关科研计划的协调], [and] make proper links with defense industry scientific research projects already implemented."[29]

The Chinese government's broader efforts to promote and enhance dual-use technologies aim to encourage innovation and investment that supports both China's economic goals and military development.[30] While companies are not legally required to support these MCF goals for space, MCF still plays a key role in China's space strategy and commercial space development because the state incentivizes companies to develop new technologies that support China's military abilities in space.

China's space white papers also make clear that its leaders see the sector as a source of innovation in the country's technology economy and view China's growing space presence as a way to "promote high-quality economic and social development."[31] For example, these white papers have repeatedly stated that China aims to promote the application of its satellites and space technology in order to "serve national security and national economic and social development."[32] These goals contributed to decisions to allow commercial space ventures, boosting the sector's rapid growth in recent years. Since 2014, new satellite and rocket companies have emerged with greater frequency, generating high-value jobs and enabling China to make inroads into overseas markets for Chinese space technology.[33]

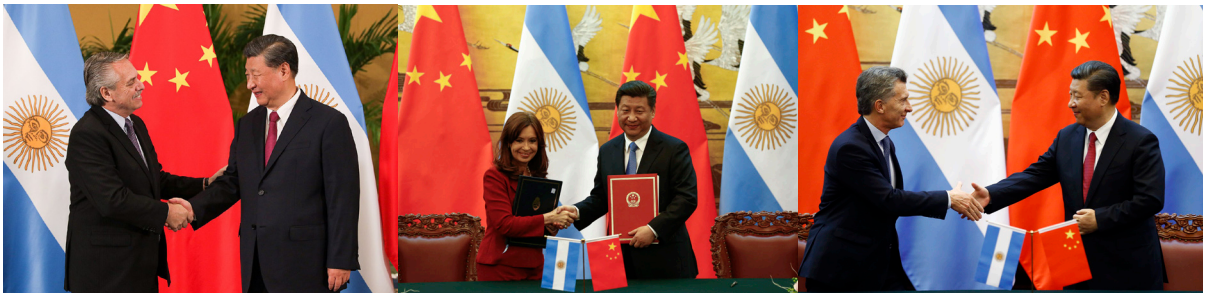
By allowing private investment in China's space sector, Chinese authorities have claimed a bigger stake in the fast-growing global commercial space economy. According to measurements by the Space Foundation, the global space economy had grown to a value of $469 billion by mid-2022, primarily due to increasing revenue in the commercial space sector.[34] This marked a 54 percent growth in industry value over the past decade.[35] While the United States is still by far the largest government spender on its space industry, China is now beginning to lead in other metrics, such as number of orbital launches.[36]

To extend the reach of its space technology and tap into the growing global space economy, China has pursued global partnerships while building up its domestic space industry—which, in turn, informs understanding of China's international space engagement. The remainder of this case study dives into China's space engagement with Argentina, where close diplomatic ties and opportune financial circumstances facilitated frequent collaboration on both commercial and state-linked projects. The mix of state, military, and commercial entities characteristic of China's domestic space industry is reflected in Argentina, where official diplomatic engagement and PLA actors played central roles in creating space industry ties, followed by commercial deals to deepen space cooperation.

Two Decades of Steadily Deepening China-Argentina Relations

Argentina's diplomatic and economic relationship with China has deepened significantly over the past two decades. China has become one of Argentina's major creditors, offering a source of investment during Argentina's perennial financing challenges. According to the Inter-American Dialogue lending database, China's policy banks have lent $17 billion for infrastructure development projects in the country since 2007—more than China has lent to any other Latin American nation—and commercial banks have entered into 36 agreements in the country.[37] Though China's overseas spending and lending dropped off during the Covid-19 pandemic, in 2022 China pledged support for Argentina to join the BRICS bloc of emerging market powers (made up of Brazil, Russia, India, China, and South Africa), indicating both a continued appreciation for Argentina's economic importance and a geopolitical interest in expanding the bloc's footprint in the Western Hemisphere.[38]

A steady trend of friendly relations across different Argentine and Chinese administrations deepened government-to-government ties throughout the past two decades. Current and former presidents Alberto Fernández (2019–present), Mauricio Macri (2015–19), and Cristina Fernández de Kirchner (2007–15) desired varying degrees of closeness to China, but ultimately each advanced the bilateral relationship during their terms.[39]



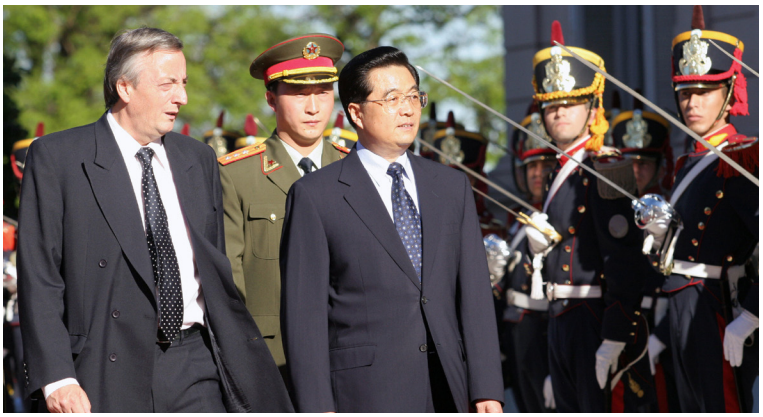
Casa Rosada, licensed under CC BY 2.5 AR. ROLEX DELA PENA/POOL/AFP/Getty Images Damir Sagolj/Pool/Getty Images

President Xi has enjoyed friendly relations with the past three Argentine governments, led by Alberto Fernández (left), Mauricio Macri (center), and Cristina Fernández de Kirchner (right).

This strong diplomatic relationship created a foundation for Chinese investment in and cooperation with Argentina across a variety of industries, including mining, agriculture, telecommunications, and energy. In addition to these more traditional areas for Chinese investment, space has become an important component of bilateral ties. Over the past two decades, the two countries signed multiple space cooperation frameworks, China offered technical and financial support for Argentine satellites, and—most critically—Argentina granted China land to construct its first deep space ground station on foreign soil.

China-Argentina Space Cooperation

China's efforts to strengthen international space cooperation with Argentina can be traced back to the early 2000s. In 2004, Chinese president Hu Jintao and Argentine president Néstor Kirchner (the husband of later president Cristina Fernández de Kirchner) signed a joint agreement on the



DANIEL GARCIA/AFP/Getty Images

Argentine president Néstor Kirchner and Chinese president Hu Jintao during Hu's 2004 visit to Argentina.

"Cooperation of Peaceful Utilization of Outer Space Technology" during Hu's visit to Argentina.[40] During this trip, Hu also visited a space satellite manufacturing company, Investigación Aplicada S.E (INVAP), which was responsible for creating and launching satellites for Argentina's newly formed national telecommunications company, Empresa Argentina de Soluciones Satelitales Sociedad Anónima AR-SAT (ARSAT). In 2005, China offered to sell Argentina a full satellite-launching system at a great discount in exchange for ARSAT stock—a deal that, if it had gone through, would have created a Chinese ownership stake in the state telecommunications company.[41]

While INVAP ultimately chose a different contractor and ARSAT remained Argentine-owned, China's engagement in Argentina's space sector broadened and deepened in the years after Hu's visit.[42] Both state- and privately owned Chinese firms have supported Argentine satellite development through financing and technology provision.

Since those initial steps toward space cooperation, China and Argentina have worked together on multiple space projects led by a combination of state, military, and commercial actors. Notable ongoing projects include the China-Argentina Radio Telescope (CART) in Argentina's San Juan Province and the recently announced partnership between Argentine satellite manufacturer Ascentio Technologies S.A. (Ascentio) and Chinese commercial space firm Emposat (航天驭星, previously known as Satelliteherd) to develop a ground station.[43] The CART is an example of international engagement led by the national team of China's space sector; the project was officially approved by China's Ministry of Science and Technology as one of the country's major international collaborative science projects in 2010, with the Argentine provincial government of San Juan administering its construction.[44] The Ascentio-Emposat deal, on the other hand, demonstrates how the commercial wing of China's space industry drives growth in international engagement while still working closely with the national team. Emposat, a private company founded in 2016, frequently partners with Chinese government- and PLA-affiliated organizations such as CAS and SOEs such as CASC to pursue projects abroad.[45] In addition to a new partnership with Argentina's Ascentio, Emposat has contributed to the construction of ground stations across Europe, the Middle East, and Africa.[46]

Along with the proliferation of China-Argentina space industry business deals and infrastructure projects, the current state of space ties is outlined in official agreements between the two nations. Under the current administration of President Fernández, China and Argentina frequently include deepening space cooperation as an important part of the overall bilateral relationship.[47]

The most notable achievement of China-Argentina space engagement is the construction of a PLA-run deep space ground station in Argentina's Neuquén Province. Both the unique position of the Espacio Lejano Station in China's space strategy and the group of CCP Inc. actors responsible for its construction merit a closer look. The following chapter examines in detail the circumstances behind the space station agreement and how different Chinese actors worked together to construct and run the secretive site.

2

China's First International Deep Space Ground Station

China's ambition to become a "great space power" involves expanding its "deep space network" (深空网路), a series of large radio dishes that provide a better understanding of deep space; more frequent telemetry, tracking, and command (TT&C) capabilities; reliable communication with launched satellites; and more precise navigation. Deep space ground stations are thus critical to realizing Beijing's goals of furthering lunar and planetary exploration and increasing TT&C coverage.[48] Operation of ground stations and satellite TT&C functions fall under the purview of the PLASSF Space Systems Department, the military organization responsible for the bulk of the PLA's space operations, including control over the four satellite launching sites and three TT&C sites that provide the infrastructure for China's growing ambitions in space.[49] In 2020, China launched more satellites into space than any other country, and it completed more than 60 orbital launches in 2022 alone.[50]

Background on TT&C, Deep Space Ground Stations, and CLTC

TT&C systems facilitate communication between satellites and ground stations by downlinking transport data from a satellite—such as its location and overall performance—and allowing ground stations to give commands to satellites. The frequency of communication with satellites depends on the number and placement of ground stations, since connections can only be established when the satellite or space object is within range (or view) of the ground station. As a deep space ground station, the Espacio Lejano Station also allows China to have more frequent communication with and access to deep space objects, which have longer orbital periods and come into view less frequently.[51]

Established in 1986, China Satellite Launch and Tracking Control General (CLTC, 中国卫星发射测控系统部) is the main organization in charge of China's TT&C and space launch sectors. Verifying the chain of command above CLTC is not simple; examining public corporate registration documents, external analytical

accounts, and CLTC's subsidiary structure produces an uncertain picture. Online company registry databases show CLTC registered as a company wholly owned by the Commission for Science, Technology, and Industry for National Defense (COSTIND, 国防科工委), a civilian ministry of the State Council that was discontinued in 2008 and succeeded by SASTIND.[52] That ownership structure would make CLTC a civilian body, but other indicators suggest that it is in fact a subordinate body of the PLASSF's Space Systems Department. China's satellite launch centers fall under the jurisdiction of the PLASSF's Space Systems Department and are also subordinate to CLTC.[53] Additionally, CLTC's current and past leadership has included members of the PLASSF, with the same individual serving simultaneously as the chief of staff of the PLA General Armaments Department and the chairman of CLTC.[54] Overseas space companies have, at times, stopped working with CLTC in preference for commercial TT&C companies due to CLTC's ties to the PLA.[55] As this evidence suggests, CLTC is intimately involved with both China's civilian space program and the PLA.[56]

China currently has three deep space ground stations: two within China (in Kashgar and Jiamusi) and one abroad (in Neuquén Province, Argentina). The Espacio Lejano Station thus fills a temporal gap in China's global coverage. Adding a ground station on the other side of the globe allows China to improve the frequency of communication with its satellites. Since ground stations most easily communicate with satellites when they pass overhead, the additional deep space ground station in Neuquén gives China more continued access to them. Notably, ground stations can also gather information from other satellites that pass overhead, not just Chinese ones. Thus, more deep space ground stations allow for faster and more frequent gathering of data, which can help China understand the behavior of other countries' satellites.[57] The station's official purpose is to expand deep space capabilities, with Chinese statements about it emphasizing its role in lunar exploration. For example, the Chinese National Space Administration (CNSA) says the Espacio Lejano Station played an important role in the 2019 Chang'e 4 mission to the far side of the moon.[58] China's space presence in Latin America extends beyond Argentina: CLTC constructed facilities for the Santiago Satellite Station, a ground station with three TT&C antennas in Chile's Andes mountains.[59] The station is operated by Swedish Space Corporation, which leased operation of two of the antennas to CLTC.[60]

Figure 2: China's Deep Space Ground Stations

Source: Peter Wood, Alex Stone, and Taylor A. Lee, "China's Ground Segment: Building the Pillars of a Great Space Power," BluePath Labs for China Aerospace Studies Institute, March 1, 2021, https://www.airuniversity.af.edu/CASI/Display/Article/2517757/chinas-ground-segment-building-the-pillars-of-a-great-space-power/.

The agreement for the construction of the Espacio Lejano Station was reached in 2012, during a period of particularly strong diplomatic and economic ties between the Chinese government and the administration of Argentina's president Christina Fernández de Kirchner. The agreement codified that the Espacio Lejano Station

would be managed by CLTC and constructed with the aid of Chinese SOE contractors, subsidiaries of China Communications Construction Company. Operational since 2018, the station quickly became a flashpoint within Argentina and internationally—particularly within the United States.[61] As discussed later in this chapter, the opacity around the station's construction, political controversy around the terms of the deal, and CLTC's links to the PLA have fueled suspicion about China's intentions for the station.

The Espacio Lejano Station reveals two observations about the PLA's position in the CCP Inc. ecosystem. The station agreement and its construction were facilitated by Chinese officials, state-owned construction firms, and a PLA-linked organization (CLTC) that now runs the station. Through one lens, this could be seen as a case study of how the PLA rallied other parts of the CCP Inc. ecosystem to advance China's military interests abroad. At the same time, throughout the process, these military ties featured as key reasons for pushback against the Espacio Lejano Station and setbacks to Chinese investments in Argentina's space sector.

The Espacio Lejano Station Agreement

The framework agreement for the Espacio Lejano Station was signed in 2012 by Argentina's civil space agency, Comisión Nacional de Actividades Espaciales (CONAE), CLTC, and the province of Neuquén, where the station is located.[62] These parties then signed a further follow-on agreement in 2014.[63] The deal granted China 50 years of full sovereignty and tax exemption over a 200-hectare (500-acre) plot of land to build the deep space ground station. China received the right to construct, establish, and operate ground tracking and data collection without needing to specify what the technology and data would be used for.[64]

The contract guaranteed CONAE the use of 10 percent of the deep space ground station's operating time per year. However, the agreement does little to limit China's operations there. Rather, it specifies that Argentina cannot "interfere [with] or interrupt the normal activities carried out under the Cooperation Agreement" and that if Argentina were to take any decisions that might interfere with China's activities, it must inform China in advance and explore alternative options.[65]

The total cost of the station to China remains unclear. According to records captured by the AidData database, CLTC spent $50 million (USD) in state funding for the project in 2012, while Chinese media reports in 2015 say that CLTC was expected to invest $300 million.[66] The framework agreement also includes language about the Chinese government paying Chinese workers according to their own labor laws, suggesting that the $50 million could refer to the amount the Chinese government—via CLTC—paid its own contractors and workers for the station.[67] Though the framework agreement was first reached in 2012, the deal did not pass Argentina's Congress until 2015.[68] The station has been operational since 2018.[69]

The initial Espacio Lejano Station agreement was reached during the administration of President Cristina Fernández de Kirchner (2007–2015), a period marked by both financial troubles for Argentina and a deepening of the Sino-Argentine partnership. In 2014, China and Argentina upgraded their relationship to a comprehensive strategic partnership and dramatically deepened their economic ties.[70] China and Argentina signed dozens of commercial deals, China offered an $11.4 billion (RMB 70 billion) currency swap between the two countries' central banks, and Argentina benefited from Chinese loans to upgrade its infrastructure.[71] The bilateral relationship has since remained relatively strong, grounded in these expanding economic ties. In 2015, a new center-right government led

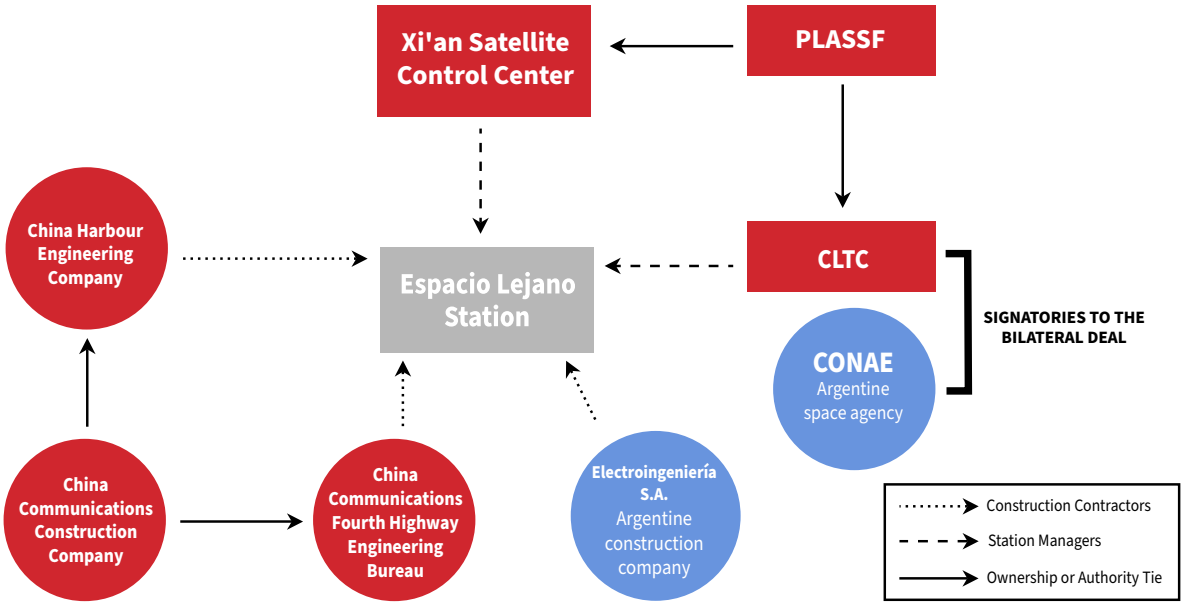
by President Mauricio Macri initially raised concerns about transparency in dealings with China. He pledged to review—and potentially cancel—major bilateral deals with China as he attempted to deepen relations with the United States and Europe. However, Macri ultimately maintained the arc of continued alignment with China, meeting with Xi five times and accepting further financing and business deals during his tenure.[72]

The Espacio Lejano Station spotlights the linkages that often exist between high-level state goals (China's aim of becoming a leading international space power) and individual projects overseas. Examining how the station was constructed and how it is now run underlines the benefit of being able to draw on party-state support for strategic projects. As the following section shows, CLTC relied on Chinese construction companies with a track record of working with the PLA to build the Espacio Lejano Station.

Construction and Management in Neuquén

Per the diplomatic agreement between the Chinese and Argentine governments, Chinese state-owned construction companies built the station. According to Chinese government press releases and media reports about the station, two subsidiaries of China Communications Construction Company (CCCC, 中国交通建设公司)—China Harbor Engineering Company (中国港湾工程有限责任公司) and China Communications Fourth Highway Engineering Bureau (中交第四公路工程局有限公司)—led this process, alongside an Argentine construction firm, Electroingeniería S.A.[73] CCCC is a majority state-owned and publicly traded company that has played a significant role in China's island-building in the South China Sea and the military stations upon them.[74]

Figure 3: Actors Involved in Constructing and Managing the Espacio Lejano Station



Source: Authors' research based on multiple sources cited throughout this report.

Few details regarding the selection process for contractors at the Espacio Lejano Station are publicly available, but the involvement of these firms follows a precedent set in the South China Sea and elsewhere, in which the PLA uses select construction companies to work on sensitive projects. With construction now finished, the Espacio Lejano Station is managed by CLTC and one of its sub-entities, Xi'an Satellite Control Center (XSCC), both of which are subordinate to the PLASSF Space Systems Department.[75] After China's military reforms in December 2015, the Space Systems Department acquired authority over China's space-related test bases, which include XSCC and satellite-launch bases. XSCC, which is China's largest satellite control center and the main center for China's TT&C operations, was designated by CLTC as the entity responsible for "construction and operating matters" at the Espacio Lejano Station.[76]

The cooperation between CLTC and the two construction SOEs—China Harbour Engineering Company and China Communications Fourth Highway Engineering Bureau—shows how connectivity with Chinese firms enables the PLA to execute international projects. Just as CCCC constructed islands in the South China Sea that proved crucial to PLA expansion there, PLA-affiliated CLTC relied on military-industrial support companies to construct the Espacio Lejano Station.

CLTC's role has been central to accusations that the station is essentially run by the military, drawing criticism from the local community and analysts abroad. The PLA's involvement and the secrecy that Espacio Lejano Station is able to maintain—in no small part due to the fact that China relied on its own contractors—has attracted suspicion from local residents, Argentine legislators, and international analysts alike. This suspicion reveals the drawbacks of military involvement in the CCP Inc. ecosystem and foreshadows hurdles for China's space industry—and its bid for a greater international presence—going forward.

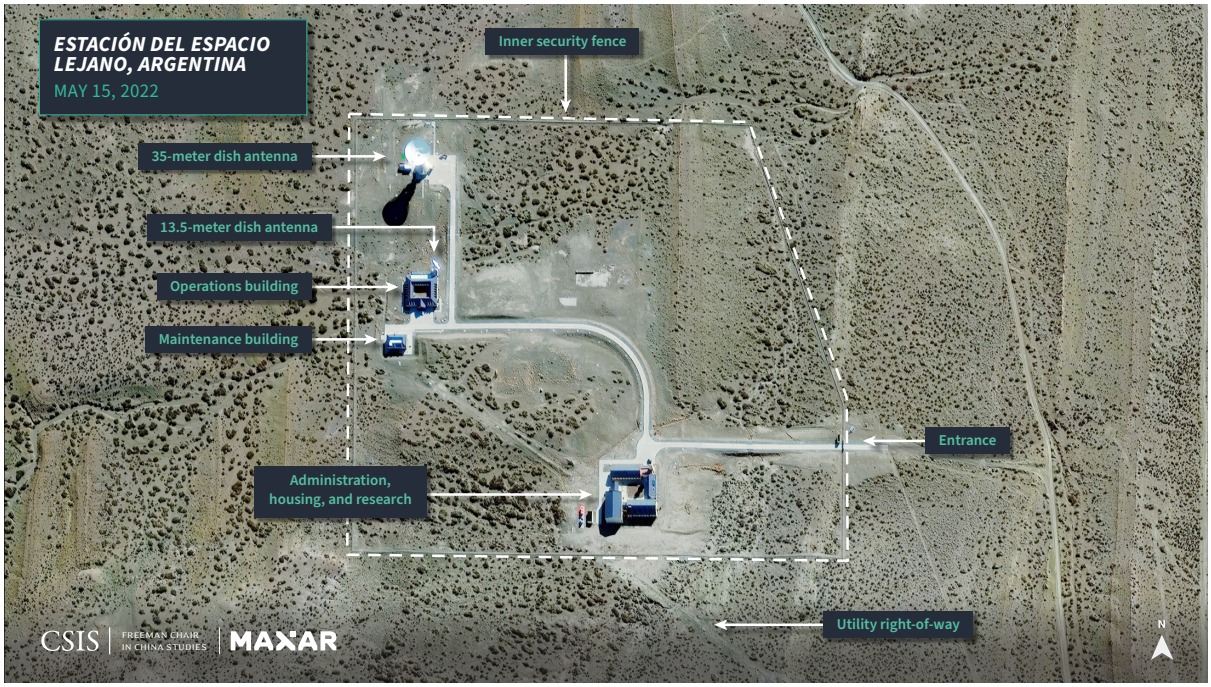
Suspicions Surrounding CCP Inc. at the Espacio Lejano Station

Emanating from both local and international observers, concerns about the potential uses of the Espacio Lejano Station stem from a combination of factors: secrecy around the space station's operations, the dual-use nature of the space technology involved, the PLA's presence, and the impression that Argentine interests are not being served in the deal.

At the local level, residents living nearby have expressed concerns that the station is a military base disguised as a research facility.[77] Horacio Quiroga, former mayor of Neuquén (the capital city of Neuquén Province), told media that, in his view, the installation is "practically Chinese territory."[78] On the national level, legislators have rallied for further oversight, including through a 2019 effort by Argentina's Senate majority leader to create an independent monitor for the station.[79] Internationally, analysts highlight that the technology used at ground stations like Espacio Lejano is inherently dual-use and could serve military or civilian purposes.[80] U.S. military officials have also voiced concerns about the potential military use of the Espacio Lejano Station to target the space activities of the United States or its partners and spy on U.S. satellites.[81] Any internet search in either English or Spanish turns up pages of results revealing concerns among these various actors about the Chinese military's involvement in Neuquén.[82]

While none of these concerns prevented the Espacio Lejano Station from being built, they did affect its reputation. Still, the Argentine government stood by its agreement and sought to reassure the public.[83]

In 2016, Argentine minister of foreign affairs Susana Malcorra and her Chinese counterpart, Wang Yi, signed an additional protocol affirming that the station would be used only for peaceful purposes.[84] Argentina's current ambassador to Beijing, Sabino Vaca Narvaja, maintained that "China shares all information about its space program with Argentina" after the commander of the U.S. Southern Command questioned the potential military uses of the station.[85] In a 2021 meeting with China's vice minister of industry and information technology, Zhang Kejian, who oversees the CNSA, Vaca Narvaja underlined Argentina's interest in deepening space cooperation and highlighted the Espacio Lejano Station's aid to China's Chang'e 5 lunar probe as a positive example of bilateral cooperation.[86]



Satellite imagery of the Espacio Lejano Station shows an unusually large number of administrative and housing facilities on site given the size of the ground station itself. The vast amount of leased land around it—far more than the deep space station currently uses—could also indicate intentions to expand the installation.

However, reassurances from Argentine and Chinese officials have not changed the facts that the station remains operated by a PLA-linked administrator, official oversight by Argentina is limited, and the installation continues to house dual-use technology. Because CLTC drew on Chinese SOEs to construct the station, Argentine companies' involvement has been limited. The degree of concern that has emerged about the Espacio Lejano Station clearly demonstrates a critical liability of the CCP Inc. ecosystem: suspicions regarding the intentions of the Chinese state and, in this case, the Chinese military are extended to each of the country's international projects, particularly those that involve strategic technologies.

The Espacio Lejano Station shows that close ties to the military can be a reputational liability for China's overseas space efforts, but also that the close connections between the civilian and military sides of China's space industry benefit the PLA by enabling it to conduct international space projects. As previous CCP Inc. case studies in this series underline, engagements with one Chinese firm or institution are not carried out in a vacuum.[87] CCP Inc. involves a web of relationships between parent

and subsidiary companies, financiers, and Chinese officials, as well as personnel ties to the CCP. Within the space industry, the PLA is part of that list of relationships.

As the following section shows, the close integration of the PLA into the space sector is often a factor in whether overseas investors and firms choose to engage with China's commercial space projects. In the space industry, profit-seeking Chinese companies frequently work with the PLA or toward MCF aims. In Argentina, business dealings between Argentine satellite start-up Satellogic and multiple Chinese space companies reveal that the latter may act in pursuit of commercial aims but are never too far removed from the state.

3

Satellogic and China's Commercial Space Sector

Argentine start-up Satellogic's engagement with Chinese companies illustrates how China's burgeoning commercial space sector is increasingly involved in international investments. Founded in 2010, Satellogic has grown into a pioneering satellite technology company valued at over $200 million on the Nasdaq, as of writing.[88] Satellogic describes itself as operating in the commercial "NewSpace" sector, where it focuses on building more cost-effective satellites. The company's vertically integrated structure—in which it manufactures the various parts of its satellites rather than relying on vendors—enables it to roll out new technology quickly. The company has major ambitions: it plans to launch enough satellites into orbit to provide global, high-resolution imagery, refreshed every day—a mission Satellogic says will "completely reshape the business model" for imagery data.[89] Satellogic's latest launch, in January 2023, brought its total fleet up to 30 operational satellites.[90]

Satellogic has collaborated with state-owned Chinese firms for technology support, received major investments from a private Chinese company, and entered the Chinese market through a contract with a Chinese data science company to provide imaging services. Though Satellogic's partnerships were commercial, they still brought the Argentine start-up into the fold of the state-linked Chinese space sector. After the company set its sights on going public in the United States and gained new U.S. investors, it appears to have pivoted away from its Chinese partners, naming SpaceX as its preferred launch partner and divesting itself of any ownership stake by Chinese investors.

Satellogic's History of Partnership with Chinese Firms

Satellogic partnered with China Great Wall Industry Corporation (CGWIC, 中国长城工业集团) to launch its early satellites. CGWIC is a fully owned subsidiary of the SOE CASC, but it describes itself as

STR/AFP via Getty Images

A Chinese rocket carrying China's remote sensing satellites is launched from Jiuquan Satellite Launch Center in Gansu Province. China has ramped up its rocket launches in recent years and completed more than 60 orbital launches in 2022 alone.

a "commercial" organization because it is authorized by the Chinese government to provide commercial launch services.[91] It also partners with military-affiliated organizations in China's space industry, including CLTC.[92] In 2015, 2016, and 2017, CGWIC signed initial agreements that helped Satellogic launch satellites into low-earth orbit and, in 2019, signed a multiple launch agreement (MLA) for 90 Satellogic spacecraft.[93] In November 2020, CGWIC sent 10 Satellogic satellites into orbit in the company's largest launch to date, bringing the total number of CGWIC-launched satellites to 17.[94]

Chinese investors also played a critical role in providing seed money and follow-on investments that facilitated Satellogic's development. Privately owned Chinese technology and media conglomerate Tencent participated in three rounds of investment in Satellogic prior to the company's listing on the Nasdaq. Subsequently, according to filings with the U.S. Securities and Exchange Commission (SEC), Satellogic (referred to in the filings as "Nettar Group Inc.") raised a total of $40 million from Tencent, via its subsidiary Columbia River Investment Limited, over six rounds of funding between January 2015 and September 2019.[95]

A few months ahead of Tencent's 2019 investment, Satellogic signed a $38 million agreement with Chinese data science company Zhong Ke Guang Qi Space Information Technology Company (known in English as ABDAS, 中科光启空间信息技术有限公司)—a private company that was set up with the support of CAS—to provide ABDAS with imaging services of China's Henan Province. This agreement granted ABDAS exclusive access to a fleet of satellites and decisionmaking authority over which specific regions to observe when passing over Henan, giving it the observational data needed to support crop yield and evaluate compliance with environmental regulations.[96] This was Satellogic's first deal for a "dedicated satellite constellation," wherein customers can lease ownership over satellites when they pass over a specified geographic region. While none of the companies involved ever confirmed a link between Satellogic's agreement with ABDAS and Tencent's investment, industry analysts have speculated that Satellogic's relationship with Tencent may have helped it navigate its partnership with ABDAS.[97]

Satellogic's cooperation with ABDAS also extended to a project of close interest to the CCP. At the end of 2019, ABDAS and People's Data Company (人民数据管理有限公司) jointly launched the People's

Nebula (人民星云) project, which combines satellite services with big data to "build a comprehensive aerospace data product sharing service platform" that will, in turn, facilitate China's access to satellite imagery and data.[98] The People's Data Company was established under the CCP's top newspaper, the *People's Daily*, which expanded its services to include data management and cloud computing.[99] Satellogic provided Henan Province complete control over its dedicated satellite constellation, but (if successfully completed) the People's Nebula project will allow China to access satellite-provided data on a far larger scale, without needing to utilize a third party such as Satellogic. This project requires building and launching a series of satellites, the first of which (Renmin-1) was developed by Satellogic and launched by CGWIC.[100] While few details are publicly available about this deal, Satellogic's existing relationship with Tencent and CGWIC likely contributed to Satellogic developing the first satellite for People's Nebula.

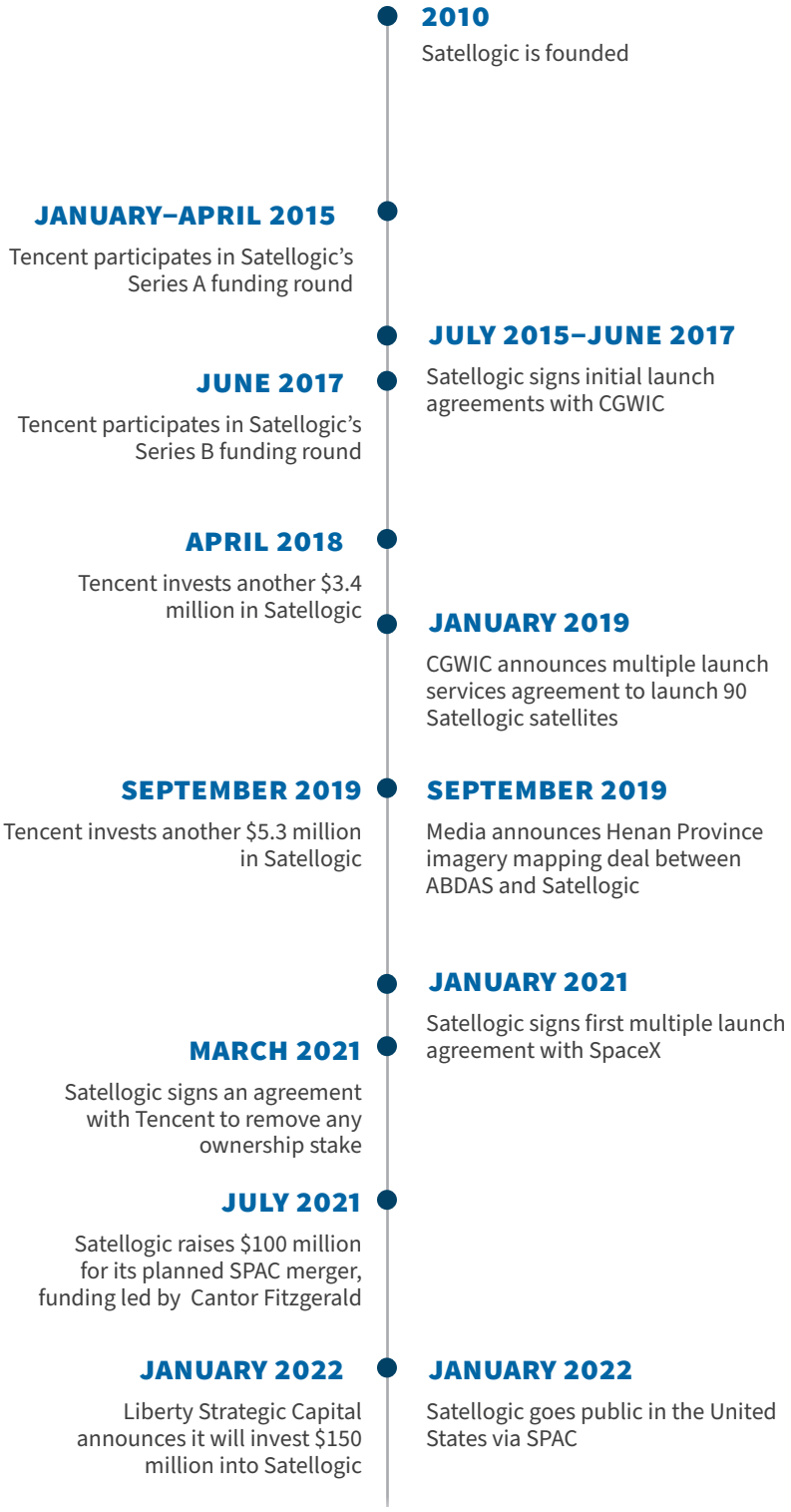
Chinese collaboration with Satellogic demonstrates the various forms of international engagement China's space industry takes. CGWIC, a company plugged into the state-owned and military-linked facets of this sector, played a key role in helping Satellogic get its first satellites off the ground and renewed its partnership with a multiple launch agreement in 2019. Tencent offered a source of private financing and, in addition to investing in Satellogic, has invested in other foreign space companies, including the U.S. firms Planetary Resources and Moon Express.[101] Satellogic's agreement with ABDAS was mutually beneficial, providing utility to Henan Province and enabling Argentina to access the Chinese market—and likely led to Satellogic's involvement in the People's Nebula project.

Satellogic's Shift Away from CCP Inc.

Despite this track record of collaboration, Satellogic began shifting toward new U.S. partners in the past few years. In July 2021, Satellogic announced its plans to go public in the United States via a merger with CF Acquisition Corp. V (CFV), a special-purpose acquisition company (SPAC) sponsored by Cantor Fitzgerald, a U.S. financial services firm.[102] Cantor Fitzgerald also provided $58 million to a $100 million private investment fund, to which Liberty Strategic Capital (a private equity firm founded by former secretary of the treasury Steve Mnuchin) invested an additional $150 million in January 2022.[103] Shortly after Satellogic received this influx of U.S. capital, it announced a MLA with SpaceX for its next 68 satellites, with CEO Emiliano Kargieman describing SpaceX as the company's "preferred partner for rideshare missions" in "2023 and beyond," signaling a move away from CGWIC in future launches.[104]

Given that the 2019 CGWIC MLA promised to launch 90 spacecraft, Satellogic may still be working with the Chinese SOE—but any such collaboration is no longer highlighted on either Satellogic's or CGWIC's websites.[105] Additionally, Satellogic dropped Tencent as an investor after its final investment in September 2019. Documents filed with the SEC in March 2021 ahead of the company's public listing show that Satellogic repurchased shares and promissory notes from Tencent subsidiary Columbia River Investment Limited (CRIL) in exchange for owing CRIL a $40 million loan—removing any ownership stake for Tencent.[106]

Figure 4: Timeline of Satellogic's Partnerships



Source: Authors' research based on multiple sources cited throughout this report.

This shift away from Chinese partners is further explained in Satellogic's F-1 SEC filing (a form required from foreign companies before listing in the United States). The document notes that a significant part of Satellogic's growth plan relies on demand from international defense and intelligence customers and that "continued concerns regarding prior ownership of a minority interest in the Company's shares by a Chinese entity and its minor operations in China could impact the Company's ability to win bids from or enter into customer contracts with certain government agencies or commercial customers."[107]

Despite the key role of Chinese partners in—quite literally—getting Satellogic's early operations off the ground, the company seems to have decided that the business risks of continued collaboration with Chinese companies outweigh the opportunities. This decision underlines the particularly sensitive nature of the space industry. Though Satellogic is a commercial company, it is still cognizant that defense and intelligence uses of space technology remain central. Even Tencent, a private company, was impacted by Satellogic's (or new U.S. investors') concerns about links to the Chinese state. Satellogic repurchased Tencent's shares to eliminate the Chinese company's ownership stake despite its significant involvement in early funding rounds. The complex relationships and unclear boundaries in China's space industry may dissuade international cooperation as it becomes more difficult for Chinese companies to separate themselves from the PLA and international perceptions of the Chinese government.

China's Constrained Commercial Space

Business agreements and investments between Satellogic and various Chinese companies show a very different side of China's space industry compared to the state-led construction of the Espacio Lejano Station. Satellogic is a commercial actor working with Chinese space companies via business partnerships rather than bilateral agreements. It provides insight into how commercial deals factor into China's pursuit of space industry goals and how private actors such as Tencent are investing in the sector. From looking at Satellogic and China's domestic space sector more broadly, it is clear that private investors and Chinese businesses are able to pursue commercial ends only within a closely state-aligned environment.

Take Tencent, for example. Tencent's investment in Satellogic could be seen as a purely private sector agreement. But at home, it has been working on its own launch of a space program in collaboration with the Chinese National Astronomical Observatories.[108] Since China opened its space sector to private investment, the sector has seen an influx of startups and commercial space companies, but almost all of these still have a degree of state involvement and are typically only 30–50 percent privately funded.[109] Many of the most successful "commercial" enterprises are subsidiaries of CASC or CASIC—or receive a combination of funding from large government organizations such as SASTIND or provincial governments in addition to private investment. Companies often tailor their innovation targets to support national security goals or government priorities to guarantee more funding. Meanwhile, the CCP supports these companies because they can innovate faster and work on projects that government organizations would not necessarily pursue.[110]

China's model for the commercial space industry emphasizes the importance of centering private space ventures around national defense and security goals. In this context, the definition of "commercial" is limited, since most Chinese commercial space companies have elements of state ownership, connections to the PLA, or both. For example, it is common for prominent commercial space companies—such as ExPace, a commercial launch-vehicle maker and subsidiary of CASIC that

provides services to foreign customers—to have leadership and personnel overlap with that of state-owned entities. ExPace's chairman is simultaneously the deputy director of CASIC; in his dual roles, he has tasked the company with advancing successful commercial launch constellations and spaceplanes, which ultimately helps advance China's broader space goals.[111]

Opening China's space sector to private investment has brought increased sources of funding while retaining the level of state alignment needed to ensure that this private financing continues to serve China's strategic interests. Meanwhile, government funding in the sector allows the CCP to steer the growing array of commercial and state-owned companies. This creates a business ecosystem that is very tightly controlled—even more so than other industries in China. While financing, personnel ties, ownership structures, and political initiatives create conduits of party-state influence that are recognizable across the CCP Inc. state capitalist system, the strategic nature of the space industry and its close links to the military differentiate it from more traditional economic sectors.

Conclusion

Within the CCP Inc. ecosystem of China's space sector, teasing out the motivations of individual actors is extremely difficult. Tracing the connective tissue between the parts and the whole—such as links between certain companies, state administrators, and the PLA—is feasible. But discerning to what degree Chinese space companies are motivated by profits and growth opportunities, versus dedication to state policy, is another matter.

The case of China-Argentina space cooperation mirrors themes evident in China's other international engagements. Through CCP Inc., Chinese firms benefit when their commercial objectives align with state and military goals, enabling access to preferential state financing, diplomatic support, and other advantages. Additionally, by integrating state and business aims, the CCP Inc. system enhances party-state influence over commercial decisionmaking while maintaining ambiguity regarding whether certain corporate decisions are ultimately motivated by business or by state strategy.

Yet this complex ecosystem comes with risks for Chinese firms and, in turn, party-state goals overseas. Concern in host countries about Huawei compromising fifth-generation (5G) network security—or State Grid using its role in national electric grids to gain political leverage—centers on the strong connections between the Chinese party-state and China's global commercial reach.[112] The Espacio Lejano Station has been plagued by international and domestic political debates criticizing its opacity and military management. In the past few years, Argentine firm Satellogic has eschewed Chinese partnerships in favor of new investments and business deals in the United States, almost certainly due to Satellogic's assessment that links to China could undermine its ability to compete for international defense and intelligence contracts. CCP Inc. can be a liability for Chinese actors seeking to engage commercially overseas. As the global space industry grows and China aims to build its position within it through further international partnerships, Chinese actors will face a delicate balancing act between navigating the risks of the CCP Inc. system and seeking to realize its advantages.

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