

Article

The Development of China's Private Space Resource Ecosystem

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Abstract: This paper examines the rise of China's commercial space sector through mid-2026. It traces how commercial space rose in national policy, how capital flowing into the industry grew and changed in structure, and the operational record of the private launch companies and their megaconstellations. Over the past five years the Chinese commercial space sector has advanced at a pace few observers anticipated. This paper examines three developments in particular. The first is the rise of commercial space within Chinese national policy. The second is the growth and changing structure of capital flowing into the sector. The third is the operational record of the private companies themselves. This includes orbital launch milestones, reusable rocket development, and the building of national megaconstellations. The paper examines these three developments to further understand the interaction of the state and private space commercial sector.

Keywords: space policy; Chinese space economy; space resources; NewSpace

1. Introduction

China has made significant progress in developing a robust space economic and business ecosystem over the last several years. China views space as critical to its future security and economic interests due to its vast strategic and economic potential. Moreover, Beijing has specific plans not merely to explore space but to industrially dominate the sector within the cis-lunar space [1]. Subsequent analysis has similarly characterized China's space activity as a sustained pursuit of pre-eminence across the civil, commercial and military domains rather than a series of discrete programs [2].

To that end, China has been encouraging the creation of private commercial space companies in order to take advantage of private sector innovation. Within its state issued policy guidance there exists top down, government controlled space initiatives as well as a series of bottom up measures designed to develop a private market centered on university-industry collaboration, small startups, and venture capital, which seem to follow a Silicon Valley model [3].

Beijing's ambitious space program has seized the imagination of the global space community, generating as much positive expectation as apprehension and angst [3]. All the leading space powers, as well as the investment community at large are now aware more than ever that China's ascendancy can no longer be ignored.

The context for that ascendancy has also changed. The global economy is undergoing a structural transformation, driven by the convergence of space infrastructure, artificial intelligence, and the race for technological sovereignty. The United States-led model, which combines megaconstellations, AI integrated data services, and aggressive capital deployment, has set the benchmark against which other space economies are now measured. SpaceX's Starlink constellation, with over 10,000 satellites in orbit, has shown that private, vertically integrated space infrastructure can achieve global communications reach [4]. Countries worldwide are now asserting sovereign space capabilities, establishing national constellations and agencies to reduce dependence on



foreign controlled infrastructure. China is the most consequential of these actors, and the development of its private space resource ecosystem is the subject of this paper.

This paper examines how China's commercial space sector has developed through mid-2026, and what the interaction of state direction and private execution reveals about the model driving that development.

The paper provides a review and analysis of the Chinese private space industry by examining its policy development; regulatory framework; including state support; the launch and constellation industry development; and funding, both private and public.

The paper has been written by a native English speaker with limited Mandarin or Cantonese fluency who is assisted with modern translation tools as well as third party research assistance.

While researching this paper, it was apparent that due to the nature of the topic, some reliance on both private sector and government press releases, media, and third party reporting is necessary in order to appropriately present as fulsome a snapshot of the industry as possible. It should be noted that these articles are not subject to the same rigorous peer review as research accessed from journals. The author made every effort to source data from peer reviewed journals where possible. This mixed evidentiary base is consistent with established practice in the study of Chinese politics and policy, where the diversity of available sources is treated as a methodological strength rather than a deficiency [5].

2. Findings & Analysis

2.1. China's Space Policy Development

China has had a space program in development since the 1950s, roughly coinciding with the development of NASA [6]. At the time, similar to the early Soviet space program, China's space-related companies and funding were focused on military technologies. That defence industrial inheritance continues to shape the sector, as the absorption of foreign technology and the cultivation of indigenous innovation within the defence technology base have remained central to how China builds advanced capability [7].

However, since the 1970s, in conjunction with China's economic rise through state directed intervention and policies, China has developed an increasingly sophisticated space ecosystem, including military, robotic and human spaceflight. In 1980, at the outset of the reform and opening period, the China Great Wall Industry Corporation ("CGWIC"), was established to market Long March launch services commercially, under the ministry then responsible for China's launch vehicle programme [8,9]. The China Aerospace Science and Technology Corporation ("CASC") was not formed until July 1999, when the State Council divided the former China Aerospace Corporation into CASC and what became the China Aerospace Science and Industry Corporation [9,10]. CGWIC subsequently became a subsidiary of CASC, and today it remains the sole commercial organization authorized by the Chinese government to provide commercial launch services, satellite systems and to carry out space technology cooperation [8], which includes international cooperation. Although CGWIC was marketed as a private company, in reality it was state controlled and effectively a Chinese State Owned Enterprise.

Starting in 2000, when China issued its first space white paper [11], the country began to regard space as an important part of its comprehensive development plan. This led to growing government support for space including China's first manned mission into space in October of 2003.

As space increased in importance, China issued increasing national policy guidance on how the sector should develop. The most important of these are the State Council White Papers on Space Activities, the 2015 to 2025 medium and long term development plan for National Civil Space Infrastructure, and national policies regarding private investment into the space industry. In this state guidance, policymakers made it clear that "China does not want to follow and play science and technology catch up, but is striving to learn to innovate and choose its own path to space" [3]. This ambition sits within a wider reorientation of Chinese innovation policy away from catch-up imitation and toward indigenous capability, pursued in significant part as a means of escaping the middle income trap [12].

Much of China's private commercial growth can be directly attributed to the issuance, by the Chinese government, of a national policy commonly referred to as Document 60 or more formally "*Guiding Opinions of the State Council on Innovating the Investment and Financing Mechanisms in Key Areas and Encouraging Social Investment*" (国务院关于创新重点领域投融资机制鼓励社会投资的指导意见) [13]. Document 60 was formally issued in 2014 by the State Council which is the chief administrative authority of the People's Republic of China, which is an interpretation that the very highest level of Chinese political decision making supports the development of a robust private space resources economy. The 2015 Medium and Long Term Development Plan for National Civil Space Infrastructure further opened commercial satellite development to private capital. These two measures are widely regarded as the founding moment for China's commercial space sector [14].

Along with both broad and specific policy documents focusing on science and technology such as Document 60, the Space White Papers, which are published only in Chinese, are critical to understanding the development of the private space resources ecosystem as they lay out the state approved framework that startups must work within. Following the 2016 edition, China has issued a fifth white paper, and the policy framework has been built out in a series of further steps that are described below.

2.2. *The 2022 White Paper and the Elevation of Commercial Space in National Planning*

On 28 January 2022, the State Council Information Office released China's fifth space white paper, titled "China's Space Program: A 2021 Perspective" [15]. It followed the white papers of 2000, 2006, 2011 and 2016. For the purpose of this paper the most relevant feature of the document is the prominence it gives to commercial space. The white paper does not contain a single section devoted to the topic. Instead, commercial activity is woven through the sections on space technology, the space application industry, governance, and international cooperation.

The white paper records that a group of competitive commercial space enterprises had emerged and were realizing industrialized large scale operation, and that the commercial use of satellite technology was expanding the applications market [15]. It notes that commercial vehicles such as the Smart Dragon-1, Kuaizhou-1A, Hyperbola-1 and CERES-1 had been successfully launched, and that demonstration flight tests on reusable launch vehicles had been carried out. Within the section on future five-year plans for national economic and social development of the People's Republic of China ("five-year plans"), the document commits the state to build commercial launch pads and launch sites to meet different commercial launch needs.

The section on modernizing space governance is the most direct. Under the heading "Encouraging Commercialization," the white paper states that China had formulated guidelines on commercializing its space industry, that it would expand the scope of government procurement of space products and services, and that it would grant relevant enterprises access and sharing rights to major scientific research facilities and equipment. Most significantly, it commits the state to establish a negative list for market access to space activities, to ensure fair competition and the orderly entry and exit of participating enterprises [15]. A negative list defines only those activities that are prohibited or restricted, leaving everything else open, and its adoption signals a meaningful shift toward a market based approach.

The pace of policy development accelerated after 2022. At the Central Economic Work Conference held in Beijing on 11 and 12 December 2023, which set economic priorities for 2024, commercial aerospace (商业航天) was named for the first time as a strategic emerging industry, alongside biomanufacturing and the low altitude economy [16]. This was the first time the term had appeared at this level of economic planning. The designation was carried forward into the 2024 Government Work Report, presented by the Premier to the National People's Congress on 5 March 2024, which called on the state to foster new growth engines [17]. This was the first appearance of commercial spaceflight in a Government Work Report. According to the China Daily, the 2025 Government Work Report referred to commercial space twice, confirming its standing as a national priority [18].

The elevation reached its current form in the 15th Five-Year Plan for National Economic and Social Development of the People's Republic of China (2026–2030) (the "15th Five-Year Plan") for the period 2026 to 2030, adopted in March 2026 following the conclusion of the annual sessions of the National People's Congress and the National Committee of the Chinese People's Political Consultative Conference (the "Two Sessions"). The 14th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives through the Year 2035 ("the 14th Five-Year Plan"), adopted in 2021, had mentioned commercial spaceflight only once in passing, although it did identify satellite internet as a strategic emerging industry [19]. The 15th Five-Year Plan goes considerably further. It lists commercial aerospace as one of ten named new industries and new tracks to be cultivated, and it lists aerospace among the strategic emerging industries to be accelerated, alongside next generation information technology, new energy, intelligent connected new energy vehicles, robotics, biopharmaceuticals and high end equipment [20]. The 15th Five-Year plan also designates the building of an aerospace superpower as one of China's national objectives.

The intent, as summarized by state media, is to transform aerospace from a symbol of national strength into a key driver of new productive forces capable of generating trillions of yuan in economic value [21]. China explicitly aims to become a space superpower, and the 15th Five-Year Plan is the clearest statement of that aim to date. The aerospace sector has accordingly been read as a diagnostic of China's wider national pivots and priorities, with its treatment in successive planning documents revealing the direction of state strategy more broadly [22].

This is the same direction being taken by peer economies, although at very different scales. Singapore launched its National Space Agency of Singapore on 1 April 2026, and Luxembourg's space sector now accounts

for nearly two percent of national gross domestic product. These examples show what a small economy can achieve by committing early to space, and help explain why a country of China's scale treats the sector as a national priority.

2.3. The Regulatory Framework

The regulatory framework for private launch has its origin in a notice issued jointly by the State Administration of Science, Technology and Industry for National Defense ("SASTIND") and the Equipment Development Department of the Central Military Commission in June 2019, titled "Notice on Promoting the Systematic and Orderly Development of Commercial Carrier Rockets." This was the first comprehensive regulatory framework specific to private commercial launch vehicle companies in China [23]. It defined commercial carrier rocket activities, established a qualification process running from enterprise registration through approval by SASTIND to a weapons and equipment research and production licence, and required debris mitigation, third party liability insurance, and a launch licence applied for through the China National Space Administration ("CNSA"). The weapons and equipment licence requirement was widely regarded as a significant barrier to entry for purely commercial firms [23].

The framework has since been built out. In November 2024 China completed the draft of first commercial space law, providing the sector with a national legal framework. This draft has been included as a preparatory deliberation item in the State Council's 2026 legislative work plan. Earlier scholarship on China's domestic space resources legislation had identified this as a gap [24].

Analysis of the sector in the years immediately preceding the law had likewise found that the absence of dedicated commercial space legislation left licensing, liability and supervision to be handled through instruments designed for state actors, and had argued for a purpose-built regulatory solution [25].

Additionally, it was reported in the press that on 21 July 2025 the CNSA released a notice strengthening quality supervision of commercial space projects, establishing quality standards across the full lifecycle of a project from design to decommissioning [26]. The most important institutional step came in late November 2025, when the CNSA established a dedicated Commercial Space Department, described as the first national level department anywhere dedicated to commercial spaceflight regulation [27,28]. Previously the same departments handled both state directed and commercial activity, and the creation of a separate department signals institutional recognition of commercial space as a distinct regulated domain.

Issued at the same time, on 25 November 2025, was the CNSA's Action Plan for Promoting the High-Quality and Safe Development of Commercial Space for the period 2025 to 2027 [29]. The action plan is significant for several reasons. It establishes a National Commercial Space Development Fund to guide patient capital, and opens national research, development and testing facilities, such as rocket engine test stands, to commercial actors. It calls for a negative list for market access, building on the commitment in the 2022 white paper, and it removes the weapons and equipment research and production licence requirement for commercial satellite developers, addressing one of the barriers identified in the earlier regulatory framework. It mandates a liability insurance system, establishes the China Commercial Space Promotion Association, and calls for the acceleration of national space legislation, with a target that the high quality development of commercial space be basically achieved by 2027. Taken together with the new department, the action plan marks a significant shift toward commercial sector participation. In April 2026 the CNSA and the State Administration for Market Regulation released a Commercial Space Standards System, establishing unified standards across the commercial launch, satellite production, data and services chain [30].

2.4. Provincial and Municipal Support

One source of capital and policy support rarely seen in the west is the use of municipal and provincial venture capital funds and industrial policy. To spur development and attract high technology jobs, many Chinese provinces and cities operate government owned venture capital firms, many of which have taken stakes in space companies. This arrangement complicates the categorization of private versus publicly owned companies, but has become one of the defining features of the Chinese model.

The pattern is not unique to space: studies of the Belt and Road Initiative have shown that Chinese provinces and municipalities act as active interpreters of national strategy, competing to attach local industrial ambitions to central priorities rather than simply executing instructions from Beijing [31].

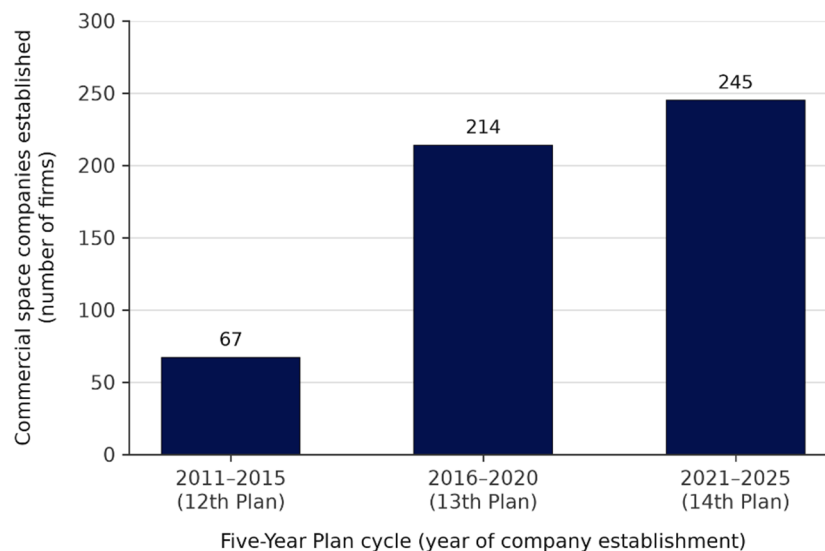
Beijing however, remains the epicenter of the industry, hosting nearly two hundred commercial space companies. In January 2024 the municipal government issued an implementation guide for its high end industrial development fund that explicitly included commercial aerospace and satellite applications, with support for satellite and rocket production capacity and for spacecraft launches through insurance subsidies [33]. Beijing's Haidian

District committed substantial capital to a space cluster of roughly two hundred companies [29]. Shanghai has anchored the G60 Science and Technology Innovation Corridor in its Songjiang District, which backs the Qianfan megaconstellation, and has committed subsidies and set industry value targets for the sector [33]. Provincial and municipal investment entities in Nantong, Sichuan, Wuxi, Suzhou, Ningbo, Nanjing and Chongqing appear frequently in the funding disclosures of the leading companies. By 2025, local government funding accounted for an estimated sixty percent of all investment into Chinese commercial space companies, their highest ever share [34].

2.5. Private Commercial Space Industry Growth

China's state controlled space industry has recorded a series of significant milestones, including leading the world in number of launches in 2018, becoming the first nation to soft land a spacecraft on the far side of the moon in 2019, completing the BeiDou Navigation Satellite System in 2020, and launching the Tiangong Space Station into low Earth orbit in 2021. Since then, the center of activity has shifted decisively toward the commercial sector, and the milestones now belong increasingly to private companies.

The number of commercial space enterprises has grown rapidly. There were more than 140 enterprises as of 2020, and by the end of 2022 the official count had exceeded 400, and by the start of 2026 there were more than 600 commercial space companies in China, roughly a fourfold increase in five years [35,36]. The commercial space market, measured by output value, grew from approximately 800 billion yuan in 2019 to 1.9 trillion yuan in 2023, and was expected to exceed 2.3 trillion yuan in 2024 [37]. The narrower core commercial space industry exceeded 1 trillion yuan in 2025 [19]. This rapid rise of the market can be illustrated by Figure 1, highlighting the number of Chinese commercial space companies established per Five-Year Plan cycle.



Source: Orbital Gateway Consulting (2026).

Figure 1. Number of Chinese commercial space companies established per Five-Year Plan cycle (Orbital Gateway Consulting, 2026).

The clearest measure of the shift is the share of launch activity now conducted by the commercial sector. In 2025 China completed 50 commercial space launches, accounting for 54 percent of the country's total orbital launch missions, and 311 commercial satellites reached orbit, accounting for 84 percent of all Chinese satellites launched into orbit that year [36]. These figures, released by the CNSA in January 2026, mark a structural change from the position only a few years earlier, when commercial activity was a small fraction of the national total. The orbital launch record of private companies provides the supporting details.

iSpace (also known as "Interstellar Glory") was the first Chinese private company to reach orbit. Its Hyperbola-1 rocket reached orbit on 25 July 2019 [38]. The company then had three consecutive failures between early 2021 and May 2022. It returned to flight in April 2023. As of mid-2026, the Hyperbola-1 had recorded five successes and four failures [39].

Galactic Energy operates the Ceres-1 solid rocket and has become China's most prolific purely commercial launch company. It conducted its first sea launch from a barge in the Yellow Sea in September 2023.

Two milestones in 2023 are of particular importance. On 2 April 2023, Space Pioneer, also known as Beijing Tianbing Technology, became the first private Chinese company to reach orbit with a liquid propellant rocket, the Tianlong-2, and the first startup anywhere to reach orbit on its first attempt with a fully liquid fuelled rocket [40]. Then on 12 July 2023, LandSpace's Zhuque-2 became the first methane and liquid oxygen rocket anywhere in the world to reach orbit, preceding the comparable vehicles being developed by SpaceX and Relativity Space in the United States [41]. In January 2024, Orienspace launched its Gravity-1, the world's most powerful all solid carrier rocket and the first sea launched private Chinese rocket.

2.6. The Structure of the Launch Industry

Launch capacity remains the key bottlenecks for the Chinese sector, even though the commercial launch industry is now more than ten years old. The megaconstellations require hundreds of thousands of kilograms to be placed in orbit, while the small solid fuelled rockets that many companies began with deliver only a few hundred kilograms per flight. Of the several dozen Chinese commercial launch firms, eight had completed an orbital launch as of November 2025 [42]. Three are state backed spinoffs, namely China Rocket, which emerged from CASC, Expace, which emerged from the China Aerospace Science and Industry Corporation, and CAS Space, which emerged from the Chinese Academy of Sciences. The other five are more purely commercial, namely Galactic Energy, iSpace, LandSpace, Orienspace and Space Pioneer. Between them these eight companies had attempted ninety six orbital launches, of which eighty one were successful, a success rate of roughly 84 percent, and they had placed 336 of 371 satellites successfully in orbit, just over 90 percent [42].

It is useful to sort these companies into four groups that explain much about their prospects [42]. The first group is the fast moving small launch firms, which began quickly with small solid fuelled rockets. Galactic Energy is the standout in this group. Founded in early 2018, it had flown its Ceres-1 rocket twenty two times by late 2025, with twenty successes, a rate above 90 percent, and a cadence of seven, five and six attempts over the most recent three years. The Ceres-1 carries 300 to 400 kg to orbit, roughly the mass of a single Thousand Sails satellite, and the company is developing the larger Pallas-1. Several other early movers, including LinkSpace, Enter Space, NewSpace and Space Epoch, started with small solid fuelled vehicles but have since fallen dormant or failed.

The second group comprises the firms pursuing the larger constellation class rockets, which moved slowly and deliberately toward the vehicles that the constellations require. LandSpace, founded in June 2015, began with the small solid fuelled Zhuque-1, which failed in October 2018, then pivoted to the liquid fuelled and medium lift Zhuque-2 and to the reusable heavy lift Zhuque-3. iSpace followed a similar path from a small solid vehicle to a liquid fuelled one. Space Pioneer, founded in 2019, recently completed vibration testing of thirty six Thousand Sails satellites on its Tianlong-3. These firms are the ones most similar to SpaceX, in that they are commercial, willing to fail and learn quickly, and develop most of their technology in house.

The third group comprises the firms that leveraged technology transfer from the state owned enterprises and the Chinese Academy of Sciences. The state backed spinoffs Expace, with its Kuaizhou series, and China Rocket, with its Jielong series, are commercializing existing state technology, as in different ways are CAS Space and Orienspace. These firms have the most launches and the best reliability. The performance advantage enjoyed by this group is consistent with evidence from the United States, where the licensing of publicly developed space technology to commercial firms has been shown to produce measurable gains in their subsequent commercial activity [43].

Together Expace, China Rocket, CAS Space and Orienspace had completed fifty five launches since 2014, of which fifty one were successful. The Kuaizhou-1A alone accounts for roughly a third of all Chinese commercial launch attempts, at twenty nine of ninety six, with a payload near 300 kg. CASIC has stepped back from Expace, selling a large stake to the government of Hubei. CAS Space is an exception within this group, having flown its Lijian-1A, known in English as the Kinetica-1, ten times between early 2018 and November 2025 with nine successes, carrying about 8000 kg to low Earth orbit, with a manifest that includes Academy missions, a Jilin replacement and likely Thousand Sails satellites.

The fourth group comprises the component and subsystem suppliers, which build parts rather than rockets. These include engine makers such as Jiuzhou Yunjian, S-Motor and AA Engine, the fuel tank maker RSpace, the maker of three dimensionally printed fairings iStar Aerospace, and the servo suppliers HX Servo and Inovance. The state owned Fourth Academy of CASC, the Academy of Aerospace Solid Propulsion Technology, supplies most solid rocket engines. Some of these suppliers are already profitable, and iStar Aerospace filed for an initial public offering after recording more than 350 million yuan in revenue in 2023. The firms most relevant to the large constellations are those pursuing the constellation class rockets, together with CAS Space and Galactic Energy if its Pallas-1 enters service, while the futures of the state backed spinoffs are less certain.

2.7. Reusable Launch and the Comparison with SpaceX

The most closely watched contest is in reusable launch, where SpaceX has set the global standard. Several Chinese companies have conducted vertical take-off and vertical landing tests in pursuit of a recoverable first stage. LandSpace has the most advanced program. In January 2024 it conducted a low altitude hop test of a stainless steel test stage, and in September 2024 it conducted a ten-kilometer-high altitude hop test that included a mid-air engine cutoff and reignition during descent [44]. iSpace and Deep Blue Aerospace have conducted their own hop tests, and Deep Blue's September 2024 high altitude test came close to a successful landing before the vehicle was lost on touchdown [45].

The threshold event came on 3 December 2025, when LandSpace launched its Zhuque-3 reusable rocket from the Jiuquan Satellite Launch Center. The second stage reached orbit successfully. The first stage executed a re-entry burn, attitude control using grid fins, and a return glide, but a combustion problem prevented a soft landing and the booster impacted close to the designated landing zone [46]. LandSpace described the flight as a success for meeting its technical objectives, and stated that it was targeting a booster landing on the second flight in the second quarter of 2026 and the first reuse of a recovered stage by the fourth quarter of 2026, contingent on a successful recovery [47]. The Zhuque-3 is designed to carry up to 21,300 kg to low Earth orbit when expended, or 18,300 kg when the first stage is recovered downrange [48].

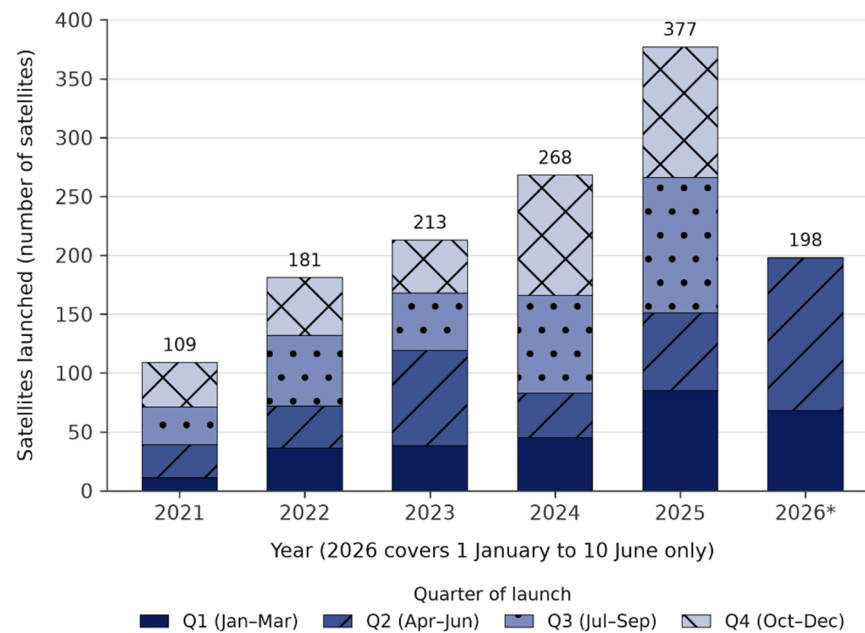
The reusable contest is no longer confined to a single firm. The state owned CASC has conducted its own recovery tests, demonstrating a re-entry burn and guidance on a Long March 12A before a failure during descent, and more recently achieving a simulated first stage orbital launch, powered descent and splashdown with a Long March 10A test stage [48]. Newer commercial entrants are also advancing, with Space Epoch raising a Series B round in February 2026 for its reusable Yuanxingzhe-1 and Zenk Space completing a first stage static fire of its Zhihang-1 [48]. The comparison is worth recording plainly. SpaceX first landed a Falcon 9 first stage on 21 December 2015, so the Chinese near landing came almost exactly ten years later. As of mid-2026, no Chinese company has recovered and reflown an orbital stage, while SpaceX routinely reuses Falcon 9 boosters [4]. China's average commercial launch cost in 2024 was approximately 75,000 yuan per kilogram, against approximately 20,000 yuan per kilogram for the Falcon 9 with reuse [49].

The launch cadence comparison is similarly instructive. In 2024 China conducted 68 orbital launches in total, while SpaceX alone conducted 134 Falcon 9 and Falcon Heavy launches, more than double China's entire national total [50]. In 2025 China set a national record of approximately 92 to 93 orbital launches, while SpaceX launched roughly 165 times [51]. The gap is real, and several analysts place Chinese reusable launch technology five to seven years behind SpaceX [52]. At the same time the direction of travel is clear, and the Chinese sector is closing the gap from a position that did not exist a decade ago.

2.8. Megaconstellations

The most important source of demand for the Chinese launch industry is the construction of national megaconstellations, which mirror the role Starlink plays for SpaceX. Two programs dominate. The first is Guowang ("GW Constellation" or "GuoWang"), the state-owned satellite internet constellation operated by China Satellite Network Group (translated as "the national network"), a state-owned enterprise established in April 2021 under direct central government control. Guowang is filed with the International Telecommunication Union for approximately 12,992 satellites, a figure comparable to the authorized size of Starlink [53].

The second program is Qianfan, also known as the Thousand Sails constellation, Spacesail Constellation or G60 Starlink, operated by Shanghai Spacecom Satellite Technology, a company backed by the Shanghai municipal government. Qianfan is planned to reach more than 15,000 satellites, with a first phase of 1296 satellites. Its first batch of 18 satellites launched in August 2024, and by May 2026 it had placed roughly 162 to 180 satellites in orbit. The program has experienced significant delays. To remain on schedule for its target of 648 satellites by the end of 2025 it would have needed to launch more than thirty satellites a month, and by mid-2025 only about 90 had been deployed [54]. The contrast with Starlink, which had roughly 8000 operational satellites by mid-2025 and launched more than 3000 in 2025 alone, illustrates the scale of the task that remains [4]. Figure 2 exhibits the total number of satellites launched by China from January 2021 through 10 June 2026.



Source: Orbital Gateway Consulting (2026). Bar labels show the annual total.

Figure 2. Total number of satellites launched by China, 2021–2026 through 10 June 2026 (Orbital Gateway Consulting, 2026).

The distinction between the two programs is itself revealing of the Chinese model. Guowang is wholly state owned and centrally directed, while Qianfan is a commercial entity with municipal government backing. The two together exemplify the hybrid state and market approach China has adopted. To remain on schedule against International Telecommunication Union filing deadlines, both programs require a substantial increase in launch capacity and cadence, which is the central reason the state has moved to fund the reusable launch companies, and Chinese planners are already studying constellations of up to one hundred thousand satellites [48]. Because orbital shells and spectrum are finite and allocated substantially on a first-come basis, the scale and pace of these filings have been analyzed as a form of strategic competition for a contested commons in low Earth orbit [55].

Beyond communications, China is extending the commercial model into new applications. Chang Guang Satellite operates the Jilin-1 constellation, the world's largest commercial sub-meter resolution remote sensing constellation, which had grown to roughly 172 satellites by early 2026 [56]. ADA Space launched the first twelve satellites of a planned space based artificial intelligence computing constellation in May 2025, and in November 2025 it deployed a large language model onto the orbiting cluster, an early demonstration of in orbit computing [57]. These developments reflect the broader convergence of space infrastructure and artificial intelligence described at the outset of this paper.

2.9. Commercial Launch Infrastructure

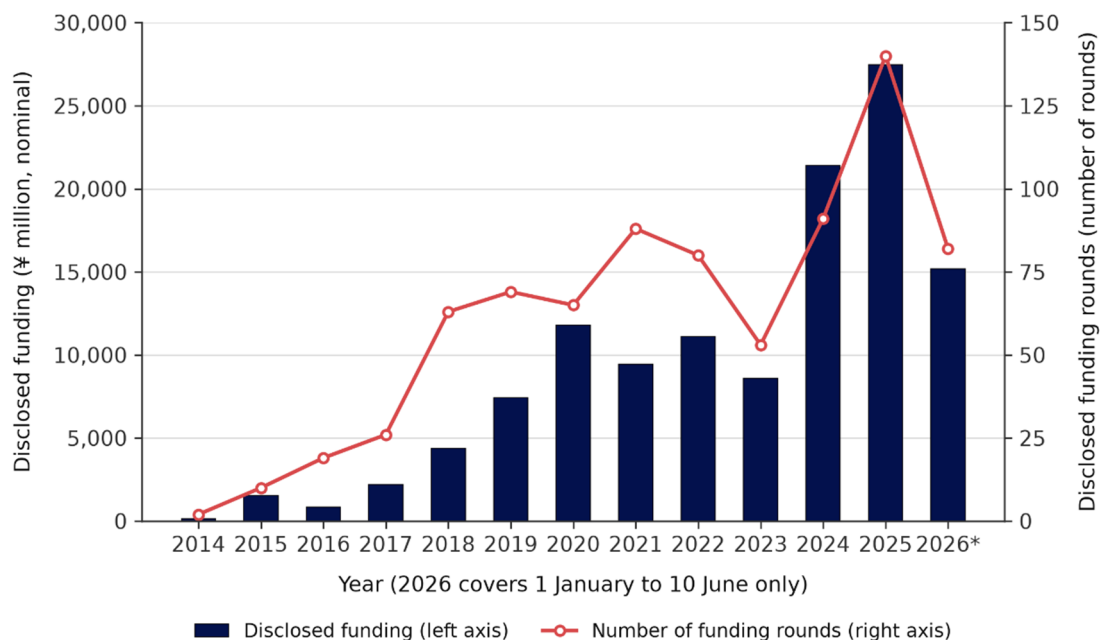
A further structural development is the construction of dedicated commercial launch infrastructure. The Hainan International Commercial Aerospace Launch Center at Wenchang, owned jointly by the Hainan provincial government and state-owned space conglomerates, is China's first commercial spacecraft launch site and the first launch complex operated by a local government [37]. The first launch took place on 30 November 2024, when a Long March 12 rocket made its maiden flight from the site [37]. The site conducted nine launches in 2025, and plans to double its launch pads from two to four by the end of 2026, targeting more than sixty launches a year, with a sea recovery vessel under construction to support recoverable launch operations [58].

2.10. Funding the Chinese Private Space Ecosystem

As with all commercial operations, particularly startups, there is no business without funding. Precise data on investment in Chinese space companies are still not centrally collected in the way they are in North America and Europe, and figures vary considerably depending on the parameter used, in particular whether they include state guidance fund injections and whether they rely on Chinese domestic databases or international trackers, which systematically under-report Chinese state backed deals [59]. With that caution, a consistent picture emerges.

Press reports that Chinese commercial space companies are estimated to have raised approximately US\$310 million to US\$336 million in 2018. By 2021 the sector recorded 35 disclosed financing events totaling approximately 6.45 billion yuan, or roughly US\$1 billion [60]. After a decline in 2023, investment reached record levels. The most comprehensive figures for 2024 place total disclosed funding at roughly 20 to 21 billion yuan, or approximately US\$2.8 to 2.9 billion [59]. In 2025 annual financing reached 18.6 billion yuan, approximately US\$2.67 billion, up 32 percent year on year [36]. In nominal terms the annual total is now roughly five to six times the 2018 level, and of a fundamentally different scale, driven primarily by provincial and municipal government guidance funds and by capital related to the megaconstellations.

The individual funding rounds illustrate the magnitude involved. In February 2024, Shanghai Spacecom, the operator of the Qianfan constellation, raised 6.7 billion yuan, approximately US\$937 million, the largest single disclosed round in the history of the Chinese commercial space sector at that point, led by a national level state fund [61]. In February 2026, iSpace raised 5.037 billion yuan, approximately US\$729 million, the largest single round by a launch startup, surpassing a 2.4 billion yuan round by Galactic Energy in September 2025 and a 2.5 billion yuan round by Space Pioneer in October 2025 [48]. LandSpace received a 1.35 billion yuan injection from two national funds in December 2024 [62]. The five private rocket companies with the clearest path to public listing, namely LandSpace, Space Pioneer, CAS Space, iSpace and Galactic Energy, are collectively referred to as the Five Little Dragons, and their combined valuation exceeded 100 billion yuan by early 2026 [49]. The magnitude of funding is graphically represented in Figure 3.



Source: Orbital Gateway Consulting (2026). Both axes use seven gridlines so tick positions align.

Figure 3. Disclosed funding and number of funding rounds per year in the Chinese space industry, 2014–2026 * representing data available through 10 June 2026 (Orbital Gateway Consulting, 2026).

The structure of this capital is distinct. State capital operates through central government direct funds, provincial and municipal guidance funds, the venture arms of the Chinese Academy of Sciences and the state owned space conglomerates, and credit lines from state banks, often combined within a single round. One analysis of a hundred company dataset found that 48 percent of funding rounds involved direct government sources and 50 percent involved state linked venture investors, with only about a quarter of firms disclosing no state linked funding at all [59]. In December 2025 the National Development and Reform Commission and the Ministry of Finance launched a national venture capital guidance fund with 100 billion yuan in central seed capital and a target of 1 trillion yuan, designed as patient capital over a twenty year horizon, with aerospace named as a target sector [27]. The result is that private sources accounted for only about 20 percent of total sector investment in 2025, with local government the largest single component [34].

2.11. Public Markets

A further development is the emergence of an initial public offering pipeline. In July 2025 the China Securities Regulatory Commission reinstated a listing standard on the Shanghai Stock Exchange's STAR Market that specifically accommodates commercial space enterprises with an estimated market value above a threshold and a state approved core business, even where the company is not yet profitable [63]. This policy change opened the public markets to companies that would otherwise have been excluded by profitability requirements.

The response was rapid. LandSpace filed for guidance in July 2025 and had its formal application accepted by the Shanghai Stock Exchange on 31 December 2025, targeting a raise of 7.5 billion yuan, approximately US\$1.04 billion, to fund production capacity and reusable rocket development [64]. By early 2026, Space Pioneer, CAS Space, iSpace, Galactic Energy and MinoSpace were all at various stages of the listing process, and GalaxySpace filed for listing guidance in March 2026 [65,66]. Not all attempts have succeeded. Chang Guang Satellite withdrew its STAR Market application in December 2024 after disclosing cumulative losses [67]. The overall picture, however, is of a sector beginning to access public capital at scale for the first time.

An additional source of capital lies outside China. The anticipated initial public offering of SpaceX is expected to release capital that will look to redeploy within the sector, and the Chinese launch industry represents one of the few pools of comparable private launch assets at scale. This may, over time, draw additional investor attention to Chinese companies, subject to the geopolitical constraints discussed below.

2.12. Ownership

Ownership of private Chinese space companies is complex and rapidly evolving, and resembles western counterparts at various stages, including founders, venture capital, institutional shareholders, public markets and banks. Document 60 and the government's encouragement of private commercial space companies is in part a response to leverage private capital [68]. The distinctive feature of the Chinese model, as the funding discussion above makes clear, is the depth of state involvement in nominally private ownership. Government guidance funds, the venture arms of state owned enterprises, and provincial investment vehicles hold stakes across the sector, and the share of government linked capital has risen rather than fallen as the sector has matured. The categories of private and public are therefore less distinct in China than in the west, and any analysis of ownership must account for the pervasive presence of the state as an equity holder.

2.13. Market

The market for space services is growing globally as well as within China. Customers for private Chinese space companies include Chinese and foreign government agencies and universities, though most companies initially have a domestic customer base [69]. There remains a challenge from incumbents such as CASC, which retains preferential contracts and broad internal capabilities [70]. The dominant new source of demand is the national megaconstellation programs, which create a captive launch and manufacturing market for both the state owned conglomerates and the commercial providers.

Most companies aspire to a foreign customer base [71], although that opportunity may be limited by restrictions imposed by western governments. Several Chinese satellite firms, including Chang Guang Satellite and Spacety, were sanctioned by the United States in 2023 in connection with the supply of remote sensing data. The dual use character of the technology, combined with heightened geopolitical tension, constrains the international market for Chinese commercial space companies. For the time being, the growth opportunities for private Chinese companies are concentrated in domestic China and in nations friendly with China. Those friendly nations substantially overlap with the partner economies of the Belt and Road Initiative, which has long served as the framework through which China builds technological collaboration and commercial access across the Middle East, Central Asia and beyond [72].

3. Conclusions

China's approach to space is shaped by its dependence on outer space, including national security and foreign policy, and by the realities of its institutional arrangements [73]. Following its western competitors, the Chinese space industry has made a quantum jump from narrowly defined ballistic missiles to space docking and a mix of broad dual use technologies [74], an increasing number of which are delivered by private commercial companies. [75]. The trajectory of the sector over recent years has been one of confirmation and acceleration. Commercial space has been formally designated a strategic emerging industry and written into the 15th Five-Year Plan. The regulatory framework has been built out, culminating in a dedicated regulator and a sector specific action plan. Capital has

flowed into the sector at roughly five to six times the level of a few years earlier, a public market pipeline has opened, and the private companies have recorded a series of genuine firsts, including the world's first methane fuelled rocket to reach orbit. By 2025 the commercial sector accounted for the majority of China's launches and the overwhelming majority of its satellites placed in orbit.

The hybrid model chosen by China in which the state sets strategic objectives, supplies most of the capital, and creates demand through national megaconstellations, while nominally private companies supply speed and innovation. This model has produced genuine milestones and a sector that now accounts for the majority of Chinese launches, but it has also left the industry heavily dependent on the state.

This market is only going to grow. Extrapolating recent trends of capital flowing into the sector, space will feature as an important part of the Chinese economy in the years ahead. This is consistent with broader assessments of space as an emerging economic frontier [76]. One of the most relevant remaining challenges for our understanding of this market is the continued difficulty of tracking the global response of capital to the rapidly developing Chinese space resources ecosystem, and there remains significant research opportunity to shine a light on this capital flow.

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Use of AI and AI-Assisted Technologies

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