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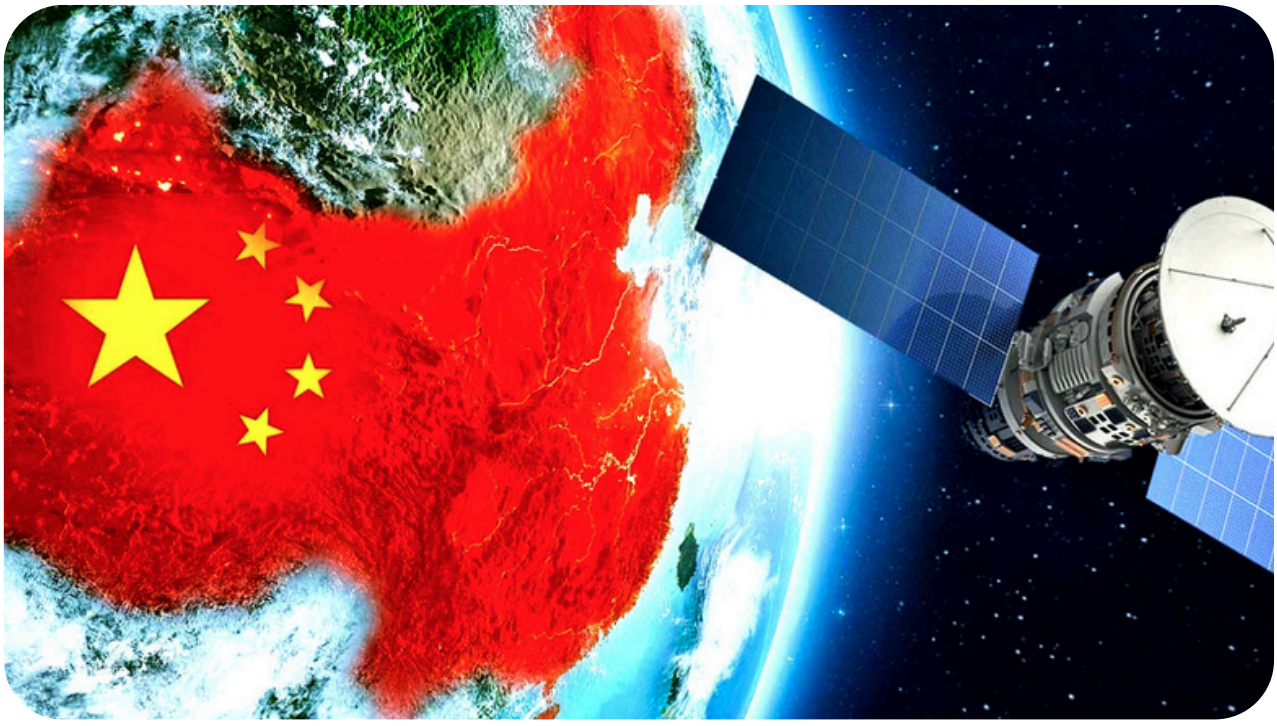
Case study

ORBITAL WARFARE
CHINA REFINES ITS WEAPONS



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Aldoria collects, processes and exploits space situational awareness data to protect strategic assets in space. By actively monitoring space debris and satellites, Aldoria helps its institutional, military and commercial customers avoid threats and adjust orbital trajectories.

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SUMMARY

INTRODUCTION

Space is a field where geopolitical ambitions, economic stakes, historical heritage and technological advances are all intertwined. China, in its quest for supremacy in this sector, is deploying a methodical strategy that draws as much on its past as on a resolutely forward-looking vision.

Its ascent into space is part of a dynamic in which control of orbits is becoming a lever of power, a tool of sovereignty and a means of imposing its presence on the international stage.

Historically, China has always positioned itself as a civilisation with an acute understanding of power cycles. From the Silk Road to the construction of the Great Wall, every strategic advance was aimed at guaranteeing territorial, commercial and military control. Today, the same logic applies to space. Beijing sees space not simply as a field for scientific exploration, but as a field for confrontation and the projection of power. Mastering orbital technologies is part of this thousand-year-old tradition of consolidating strategic autonomy, reinforced by a desire to break away from Western domination. In the 1950s[1], under the impetus of Mao Zedong and in reaction to Soviet and American advances, China launched its space programme with limited resources but unwavering determination. Far from simply catching up, China is developing a distinct programme based on industrial and technological autonomy.

1. W.W. Norton, "*How China Entered the Space Race*", Wired, 13 april 2015

Economically, space is a vector of expansion for China, which sees it as a means of increasing its global influence. The Belt and Road Initiative (BRI)[2] is accompanied by a satellite offer that is attractive to many emerging countries. Beijing is developing an integrated space industry, with state-owned companies such as CASC (China Aerospace Science and Technology Corporation) and CAST (China Association for Science and Technology) working alongside private players who benefit from massive state support. Standardisation efforts and large-scale production capacity are enabling China to flood the market with competitive solutions. The launch of constellations of observation and communication satellites illustrates this ambition for New Space domination, with an approach that combines infrastructure and soft power. The construction of ground stations in Africa and Latin America is evidence of this methodical expansion, aimed at reducing dependence on Western systems and creating a parallel network of space connectivity.

Technologically, China is no longer content to follow, it is setting its own pace. The landing on the dark side of the Moon, the development of nuclear fusion engines for deep space exploration and the construction of the Tiangong space station are all milestones that signal its ability to innovate independently. Beijing is investing massively in artificial intelligence and quantum sensors to give its satellites advanced decision-making autonomy, giving it a major strategic advantage. In the information war, surveillance from orbit is becoming a first-rate tool, and Chinese satellites, coupled with cyber-espionage capabilities, are reinforcing the doctrine of global control of strategic flows. The militarisation of space only confirms this desire to lock down access to critical infrastructures and ensure supremacy in the event of conflict.

> *The pace with which they put counterspace capabilities into play is mind-boggling. [...] The volume of threats, the diversity of threats that [China] is presenting is a particular challenge.*
>
> **U.S. Space Force chief General B. Chance Saltzman**[3]

This dynamic places space at the centre of tensions between China and the United States, who see this rise in power as a threat to their hegemony. American efforts over the last ten years to revive a competitive space industry and counter Chinese (and Russian) advances reflect fears of a shift in technological leadership. The placing in orbit of satellites dedicated to surveillance and anti-satellite operations illustrates the desire of the two powers to position themselves for a future in which space will no longer be just a domain for exploration, but a theatre of confrontation.

The era when space was seen as an international sanctuary is over. China has turned it into a pillar of its power policy, combining innovation, strategic projection and hegemonic ambition. In this new space order, the boundary between civil and military is gradually disappearing, and the race for critical orbital infrastructures is redefining the global balance of power.

2. *La Ceinture et la Route : la "communauté de destin" chinoise pour l'Asie du Sud-Est ?*, Sophie Boisseau du Rocher IFRI, june 2020
3. Joshua Posaner, *China's 'mind-boggling' space capabilities worry US, says Space Force chief*, Politico, 31 october 2024

CHINA'S ANTI-SATELLITE CAPABILITIES

Recent reports from the US Department of Defense and the Secure World Foundation highlight the acceleration of Chinese efforts to militarise space. Beijing has officially declared space to be a 'combat domain' and has incorporated this dimension into its military reforms and strategic doctrine. This evolution is accompanied by a sustained development of dual technologies that can be used for anti-satellite operations, including electronic warfare, communications jamming, cyber attacks, as well as anti-satellite systems (ASAT) capable of neutralising adversary infrastructures.

Official Chinese statements emphasise the defensive nature of these programmes, claiming that China is acting to 'protect its legitimate interests in space'. However, the tests of anti-satellite weapons, proximity satellites capable of inspecting and potentially neutralising opposing spacecraft, and the development of mega-constellations to rival Starlink, demonstrate a much more ambitious strategy. It is no longer just a question of ensuring China's space sovereignty, but of structuring an orbital environment favourable to its military and economic interests.

A STRATEGY OF CONTROL AND CONTESTATION

Analysis of China's space capabilities cannot be limited to technological aspects. It must also be seen in the wider context of strategic competition, where space is becoming an essential vector of power. Chinese military doctrine has adapted to the new realities of space conflict by implementing a two-pronged approach:

- Deterrence and resilience: Beijing is banking on the multiplication of its strategic space assets and the redundancy of its systems to limit its vulnerability in the event of conflict. The proliferation of communication and navigation satellites, the extension of the Beidou network and the commissioning of surveillance satellites in geostationary orbit illustrate this desire to guarantee a constant presence in space.

- Neutralisation and domination: China has developed a wide range of soft-kill and hard-kill capabilities, from cyber-attacks and electromagnetic jamming to kinetic ASATs and satellites capable of capture and deactivation operations. The aim is clear: to make space hostile to adversaries while maintaining its own operational capabilities.

China's space programme is also part of a wider drive to challenge international space management norms. While the United States and its allies are attempting to impose a binding regulatory framework via the Artemis Agreement and other initiatives, China is pursuing an alternative space diplomacy by signing bilateral agreements and developing strategic partnerships, notably with Russia and several emerging nations. The expansion of Chinese ground stations in Africa and South America[4] illustrates this strategy to create a space ecosystem that is independent and in competition with the Western model.

RAPIDLY EVOLVING CAPABILITIES

One of the most striking features of China's rise to power in space is the speed of its expansion. In 2000, China had just ten operational military satellites. By 1 January 2025, it was operating a fleet of more than 930 satellites, covering all strategic requirements: reconnaissance, communications, navigation, early warning and electronic warfare. The Yaogan programme, which includes advanced observation satellites, and the Qianfan constellation, designed to provide a Chinese alternative to Starlink, bear witness to this ambition for total autonomy in space.

QIANFAN-18 (NORAD 60396) 2 April 2025 at 8.13pm (© Aldoria)

4. *Eyes on the Skies : China's Growing Space Footprint in South America*, CSIS, 4 october 2022

The incorporation of cutting-edge technologies in China's new satellites, including electric propulsion, artificial intelligence and hyper-spectral sensors, confirms that China is not just catching up. It is innovating and adapting its strategies to circumvent the vulnerabilities of space, in particular by developing advanced surveillance capabilities in high orbit. The entry into service of Yaogan-41, a geostationary satellite capable of continuous surveillance of the Pacific and Indo-Pacific, illustrates this trend towards greater control of strategic zones from space.

A NEW BALANCE OF POWER IN ORBIT

The balance of power in space between the United States and China is no longer limited to a simple technological rivalry. It is now a struggle for operational supremacy, with each player trying to anticipate the other's movements and reduce its dependence on opposing infrastructures. The American initiative to deploy constellations, designed to prevent a Chinese attack from neutralising American communications and navigation systems in one fell swoop, shows that Washington has fully grasped this new reality. For its part, Beijing is adapting its doctrine by envisaging targeted strikes on US critical infrastructures, in particular GPS and SBIRS early warning satellites.

As a result, the concept of a first strike from space (Space Pearl Harbor), which has long been theoretical, is becoming a plausible strategic hypothesis. The balance between deterrence and aggression in orbit is becoming increasingly unstable, notably because of the difficulty of attributing certain space attacks (jamming, cyber attacks, deployment of orbital drones). The proliferation of soft-kill capabilities and the emergence of new doctrines for using space as a battlefield mean that space defence and surveillance strategies need to be constantly reassessed.

STRATEGIC EXPANSION OF CHINA'S SATELLITE CAPACITY

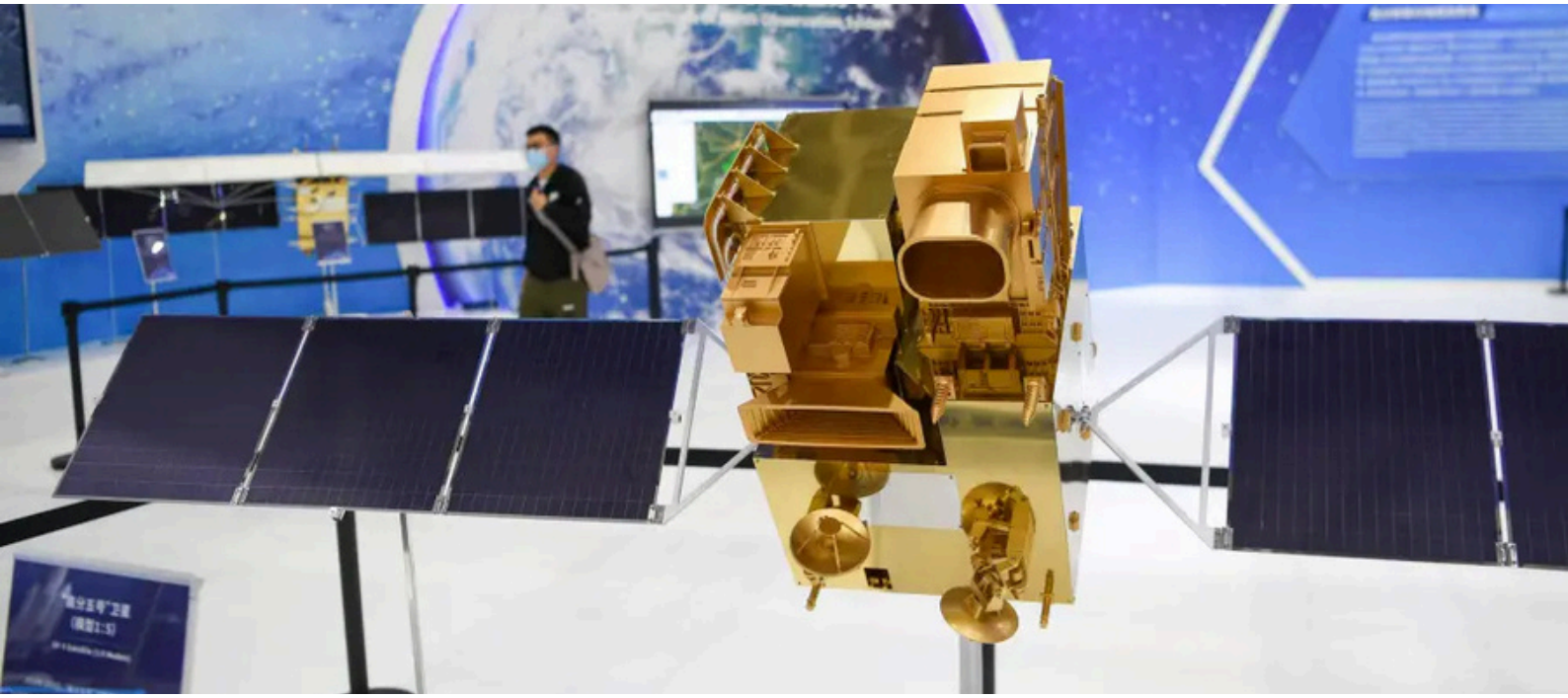
The development of China's space capabilities is based on a methodical and ambitious strategy, integrating civil, military and dual-use satellites within a coordinated development framework. Since the early 2000s, China has considerably strengthened its orbital presence, with around 930 active satellites by 1 January 2025, making it the second largest constellation after the United States.

The main objective of this expansion is to guarantee China's technological sovereignty in space, while strengthening its capacity for surveillance, communication and intervention in the space environment. The Chinese government has invested heavily in the design and deployment of dual-use satellites, facilitating the integration of military and civilian needs.

Chinese satellites fall into several categories:

- Surveillance and reconnaissance: Yaogan, Gaofen, Ludi Tance, Jilin, Tianhui
- Navigation and positioning: Beidou
- Strategic communications: TJS, Zhongxing, Apstar
- Early warning and electronic intelligence: TJS, Shijan
- Space warfare capabilities: Shijian, Shiyan, TJS

This increase in power meets a dual need: to protect China's space infrastructure while developing proactive counter-espionage capabilities in the event of conflict with an opposing power.



Model of the Gaofen-5 satellite (© IMAGO / Xinhua)

THE MAIN EXPERIMENTAL AND MILITARY SATELLITE PROGRAMMES

SHIYAN PROGRAMME

Shiyan satellites play a crucial role in testing new space technologies applied to defence. These platforms are used to test advanced systems, including propulsion, remote sensing and orbital manipulation.

- Shiyan-7 (SY-7): Suspected of conducting RPO (Rendezvous and Proximity Operations), indicating surveillance and intercept capabilities.
- Shiyan-12 01 & 02: Deployed for surveillance missions in GEO, suggesting a potential role as orbital patrol craft.

A study of their trajectories and interactions with other satellites suggests that Beijing is very interested in capturing and neutralising enemy satellites.

SHIJIAN (SJ) PROGRAMME

The Shijian satellites are used to validate the technologies developed on the Shiyan, by integrating them into an operational framework. These satellites are increasingly capable of interacting with other objects in orbit, raising questions about their military potential.

- Shijian-17 (SJ-17): Observed performing proximity manoeuvres with US satellites, illustrating a growing active reconnaissance and potentially jamming capability.
- Shijian-21 (SJ-21): Demonstrated a capability to capture and reposition inactive satellites, which could be applied to operations to neutralise opposing satellites.

These developments suggest a doctrine of orbital warfare in which China could disable enemy satellites without resorting to kinetic destruction.

TJS PROGRAMME

The TJS (Tongxin Jishu Shiyan) programme brings together advanced satellites dedicated to military communications, jamming and electromagnetic surveillance.

- TJS-3 & TJS-9: Suspected electronic warfare satellites, capable of jamming enemy signals and disrupting space communications.
- TJS-5 & TJS-7: Early warning satellites, playing an essential role in detecting ballistic missile launches.

ORBITAL SPACE SURVEILLANCE AND INTERDICTION

The Chinese army is also seeking to strengthen its active surveillance capability in space. Several satellites are being used to track objects in orbit and detect enemy manoeuvres:

- In Low Earth Orbit (LEO): Yaogan, Gaofen and Ludi Tance provide strategic observation of opposing military bases and sensitive deployment zones.
- In geostationary orbit (GEO): SJ-23, SY-12 01 & 02 carry out orbital patrols, identifying foreign satellites and potentially disrupting or neutralising them in the event of a crisis.

This advanced orbital surveillance capability strengthens China's deterrent posture and would enable rapid action in the event of a space conflict.

THE RISE OF CHINESE MEGACONSTELLATIONS

China has launched several initiatives aimed at deploying massive constellations of satellites in low earth orbit (LEO). These projects are part of a drive for digital sovereignty and militarisation:

- Qianfan (Spacesail): Constellation of 14,000 satellites, designed to compete with Starlink and provide an independent and secure communications network.
- Guowang: A 13,000-satellite government project designed to control strategic communications and deny adversaries access to space.

These programmes enable China to :

1. Reduce its dependence on Western infrastructures and guarantee a resilient communications capability in the event of conflict.
2. Develop a global military architecture, facilitating weapons guidance, intelligence and jamming operations.

The fact that these initiatives are directly supported by the Chinese state heightens fears that they could be used for military purposes and mass surveillance.

An analysis of Chinese satellite programmes reveals a clear desire to militarise space. China is not content simply to catch up with the United States; it is actively deploying systems capable of disrupting, neutralising and monitoring adversary infrastructures. The growing integration of surveillance, interdiction and electronic warfare capabilities confirms that Beijing is positioning itself as a major player in the orbital warfare of the future. This development heralds an era of heightened strategic confrontation.

ANALYSIS OF THE OPERATIONAL CAPABILITIES OF CHINESE SATELLITES IN ORBIT

SATELLITE ACTIVITY IN GEO

Satellites in GEO, at an altitude of around 36,000km, play a key role in space control strategies. China has built up a fleet of satellites capable of complex tracking, interception and orbital manipulation operations.

Satellite	RPO	Coordinated manoeuvres	ASAT potential
SJ-17	YES	YES	Strong
SJ-20	YES	NO	Restrained
SJ-21	YES	YES	Strong
SJ-23	NO	YES	Strong
TSJ-3	YES	YES	Strong
TSJ-9	NO	YES	Restrained
SY-12 01	YES	YES	Strong
SY-12 02	YES	YES	Strong

MANOEUVRING AND INSPECTION SATELLITES IN GEO

Some Chinese satellites in GEO have demonstrated advanced manoeuvring and orbital closing capabilities, suggesting real-life tests of techniques for capturing, jamming or destroying enemy satellites.

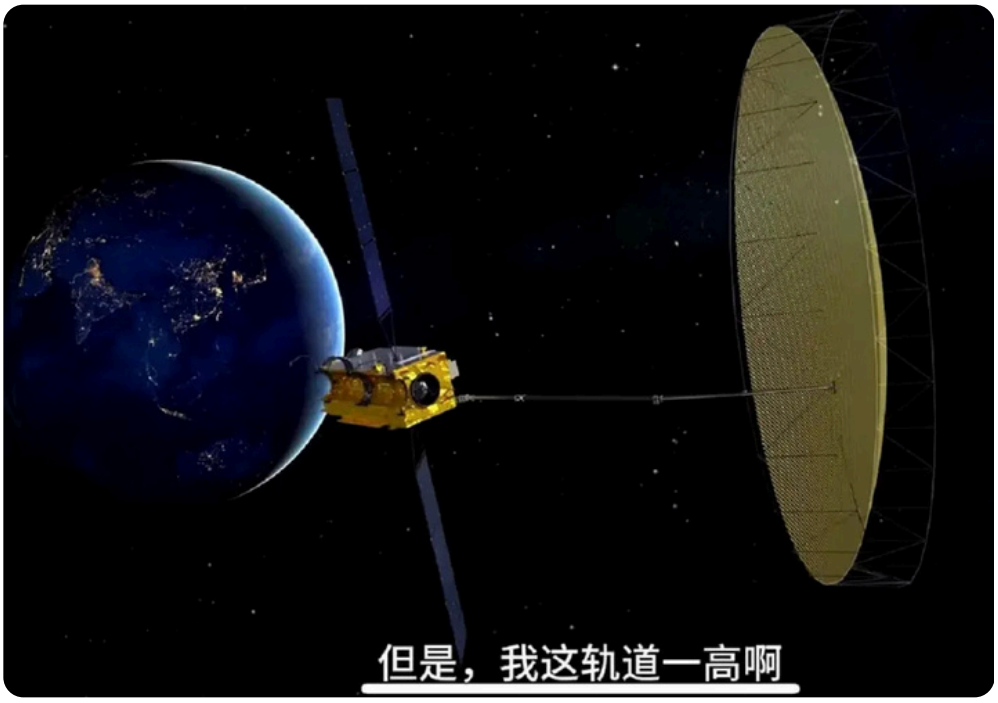
Shijian-21 (SJ-21) demonstrated a capability for capturing and repositioning objects in orbit, which could indicate a potential for neutralising enemy satellites by moving them out of orbit.

SJ-17 and TJS-3 have performed proximity manoeuvres with foreign satellites, a practice reminiscent of space surveillance and intelligence operations conducted by the United States and Russia.

SURVEILLANCE AND SPACE RECONNAISSANCE IN LEO

The Yaogan, Gaofen and Ludi Tance satellites are used for ground and orbital surveillance. They play an essential role in monitoring enemy infrastructures and military intelligence:

- Yaogan-41, launched in 2023, has improved optical resolution to 2.5 metres, enabling it to identify objects the size of a car. It offers persistent coverage of the Pacific and Indian oceans.
- Gaofen-13-02 is capable of tracking the movements of opposing naval fleets in real time.
- Ludi-Tance-4 is a synthetic aperture radar (SAR) satellite operating in GEO, the first of its kind. It is capable of monitoring targets through clouds and at night.



The Ludi Tance-4 high-resolution SAR radar satellite (© CAST)

NAVIGATION AND ELECTRONIC WARFARE IN MEO

The Beidou satellites are China's navigation system, an alternative to the American GPS. The Beidou-3 constellation provides global coverage and is integrated into China's military systems for missile guidance, troop positioning and synchronisation of operations.

There are indications that some Beidou satellites may be equipped with jamming and cyber attack capabilities, particularly against the US GPS and other Western navigation systems.

SUSPICIOUS MANOEUVRES AND STRATEGIC IMPLICATIONS

Since 2010, China has been conducting RPO operations in space, demonstrating its growing capabilities in orbital manoeuvres and satellite interactions. The first demonstrations took place in LEO with the SJ-12 satellite, followed in 2013 by SJ-15 and SY-7, illustrating China's first experiments in approaching and inspecting satellites in orbit.

INTERACTIONS BETWEEN CHINESE GEO SATELLITES

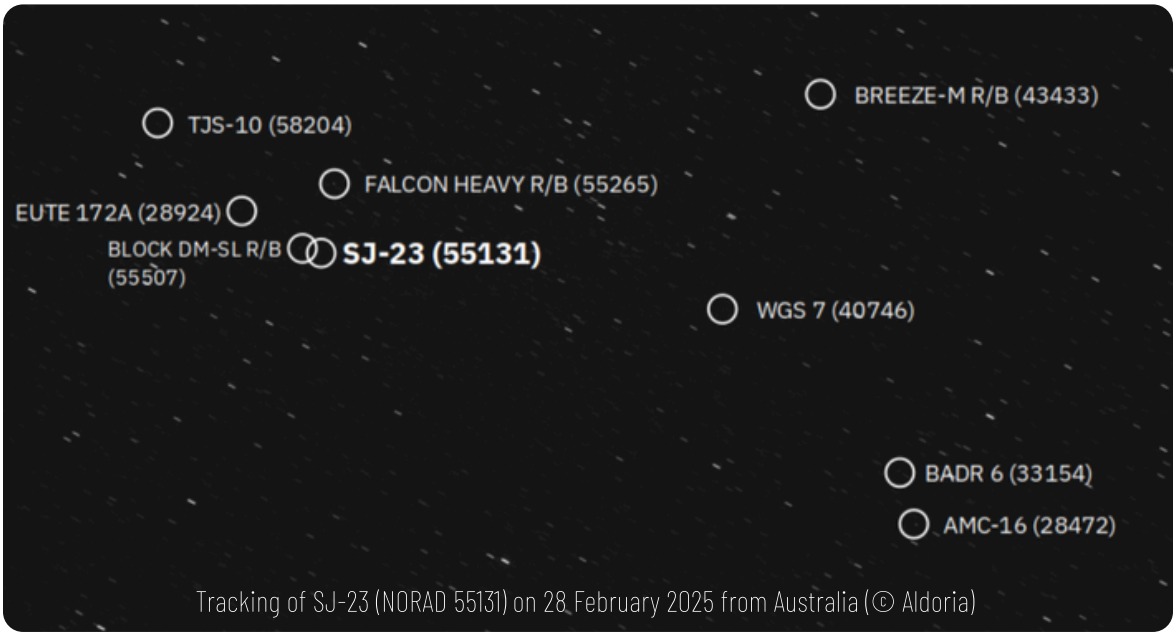
Satellite	SJ-17	SJ-20	SJ-21	SJ-23	TSJ-3	TSJ-9	TSJ-10	SY-12 01	SY-12 02
SJ-17		RPO		D	D				
SJ-20	RPO		D		RPO				
SJ-21		D							D
SJ-23	D							D	D
TSJ-3	D	RPO				RPO	RPO	D	
TSJ-9					RPO				
TSJ-10					RPO				
SY-12 01				D	D				D
SY-12 02			D	D				D	

RPO : Rendez-vous & Proximity Operations **D** : Phased or coordinated drift between satellites

In GEO, these capabilities have been refined and made more complex. In 2017, SJ-17 carried out several RPO operations with different satellites in the ChinaSat communications constellation. These manoeuvres demonstrate not only an inspection capability, but also the ability to circumnavigate in the GEO environment, a major asset for the surveillance and management of strategic orbits. In 2019, the TJS-3 satellite will perform an intriguing operation by detaching from its orbital insertion module[5] (Apogee Kick Motor, AKM). Contrary to expectations, the AKM does not drift passively, but performs autonomous manoeuvres and maintains a stable position close to TJS-3. This observation suggests that it is not a simple insertion module, but a functional satellite, potentially dedicated to surveillance operations or technological experimentation.

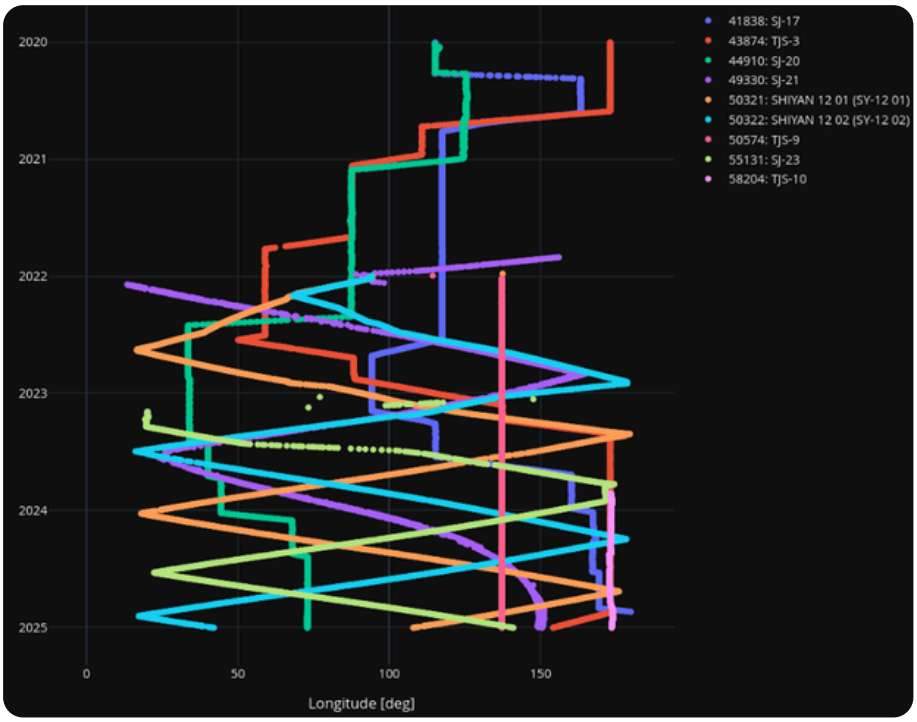
The year 2022 marks a significant step forward with the operation carried out by SJ-21. This satellite docks with the Beidou-2 G2 and tows it well beyond the regulatory graveyard orbit[6], repositioning it more than 3,000km above the GEO orbit before returning to its own orbital plane. This towing capability illustrates advanced mastery of orbital manoeuvres and opens the way to strategic applications, both for space debris management and for possible neutralisation operations on opposing satellites.

5. Victoria Samson, *Chinese Military and Intelligence Rendezvous and Proximity Operations*, World Secure Foundation, December 2024
6. *Andrew Jones, China's Shijian-21 towed dead satellite to a high graveyard orbit*, SpaceNews, 27 january 2022



Tracking of SJ-23 (NORAD 55131) on 28 February 2025 from Australia (© Aldoria)

Since 2023, China has further strengthened its presence in GEO with the coordinated entry into service of three satellites, SJ-23, SY-12 01 and SY-12 02[7], operating in joint patrol for orbital surveillance. These satellites move synchronously, regularly scanning different areas of the GEO orbit. In this context, the recent launch of SJ-25 into a coplanar orbit with SJ-21 raises questions about its mission. A possible RPO with SJ-21 or a reorbit manoeuvre cannot be ruled out, reinforcing the hypothesis of a systematic campaign of advanced experiments in orbit.

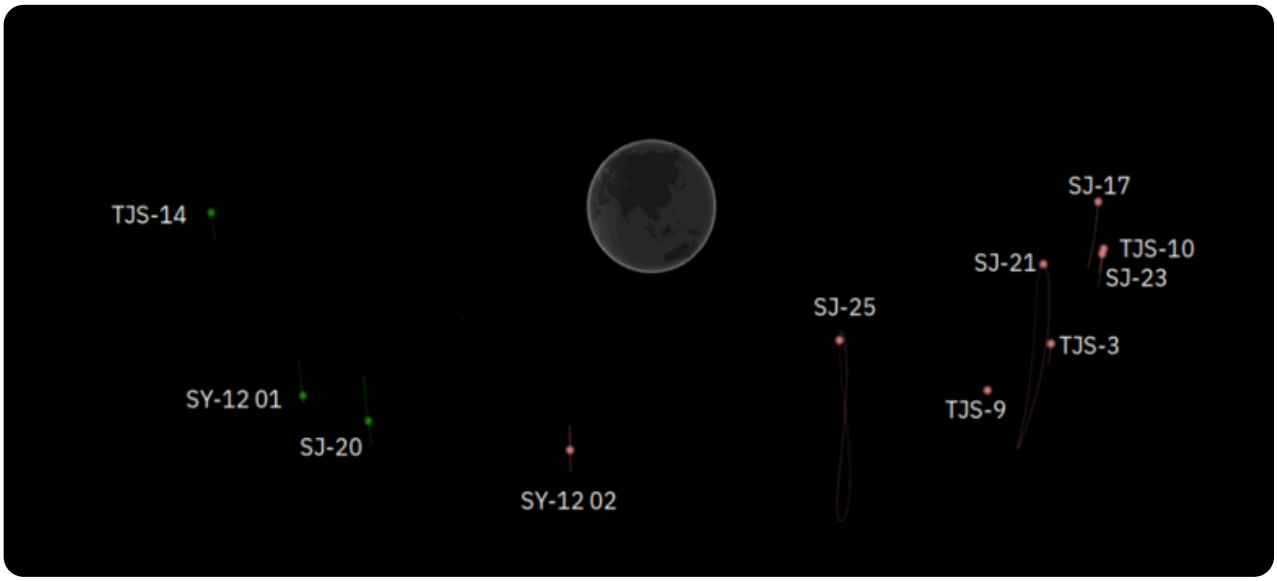


Evolution of the longitude of Chinese GEO satellites involved in tests technology in orbit since 2020 (© Aldoria)

Observation of the interactions between the SJ, TJS and SY families of satellites in GEO reveals a recurring pattern of behaviour: since 2017, most of them have carried out RPO operations or joint inspection and surveillance missions. The evolution of their orbital longitude over time highlights coordinated drift patterns, either for strategic relocations or for targeted surveillance of specific objects in orbit.

A detailed analysis of the trajectories shows that some satellites adopt a stationary attitude, while others execute well-defined longitude drifts, demonstrating a high degree of coordination.

7. Gunter's Space Page, Shiyan 12-01, 02



Position of Chinese GEO satellites involved in in-orbit technological tests, as at 3 March 2025 (© Aldoria)

Finally, the synthesis of interactions between Chinese satellites in GEO highlights a coordinated network of orbital cooperation, where each satellite seems to play a precise role in a continuous monitoring and experimentation scheme. The increasing integration of satellites capable of advanced maneuvers into China's space architecture underlines an ambitious strategy aimed at establishing greater control of the orbital environment and developing dual-use capabilities.

TOWARDS "SPACE DOGFIGHT"?[8]

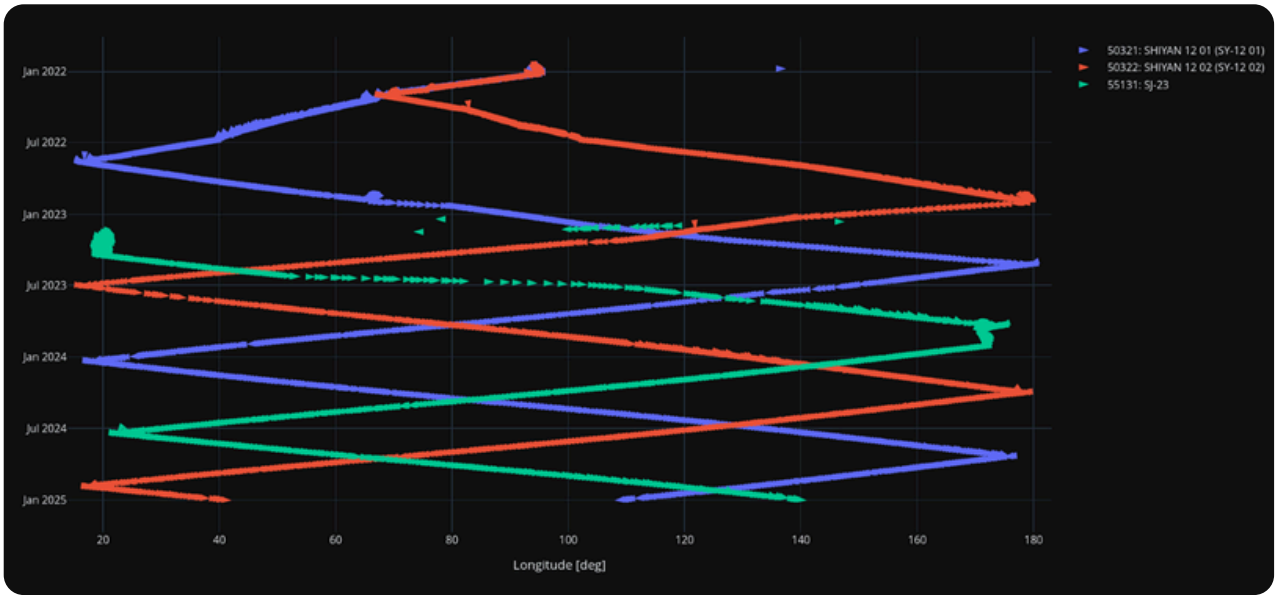
In 2024, China conducted an unprecedented demonstration of coordinated maneuvers between five experimental satellites, involving SY-24C and SJ-6 05A/B, observed from Earth by commercial sensors. This synchronized sequence of RPOs in LEO marks an increase in complexity in the implementation of Chinese orbital tactics. General Michael Guetlein, US Vice Chief of Space Operations, described the operation as "*dogfighting in space*", emphasizing Beijing's ability to simulate orbital combat between autonomous platforms.

Far from a science-fiction-style high-velocity kinetic confrontation, these exercises reveal a strategy of gradual interdiction, where the ability to track, approach, disorient or neutralize an opposing satellite becomes a political and operational lever. These demonstrations are part of a broader doctrine of space control, in which China, like the United States, now seems to be integrating control of the orbital domain as a pillar of its strategic posture. The multiplication of these tests reflects the erosion of the technological barrier between "*near-peers*"[9], and underlines the need for space powers to strengthen their resilience and doctrinal anticipation.

8. Theresa Hitchens, *5 Chinese satellites practiced 'dogfighting' in space, Space Force says*, Breaking Defense, 18 march 2025
9. Eric Hernandez-Baquero, *Defending against near-peer adversaries requires a shift in collaboration between forces*, SpaceNews, 25 october 2022

SPACE SURVEILLANCE FROM SPACE

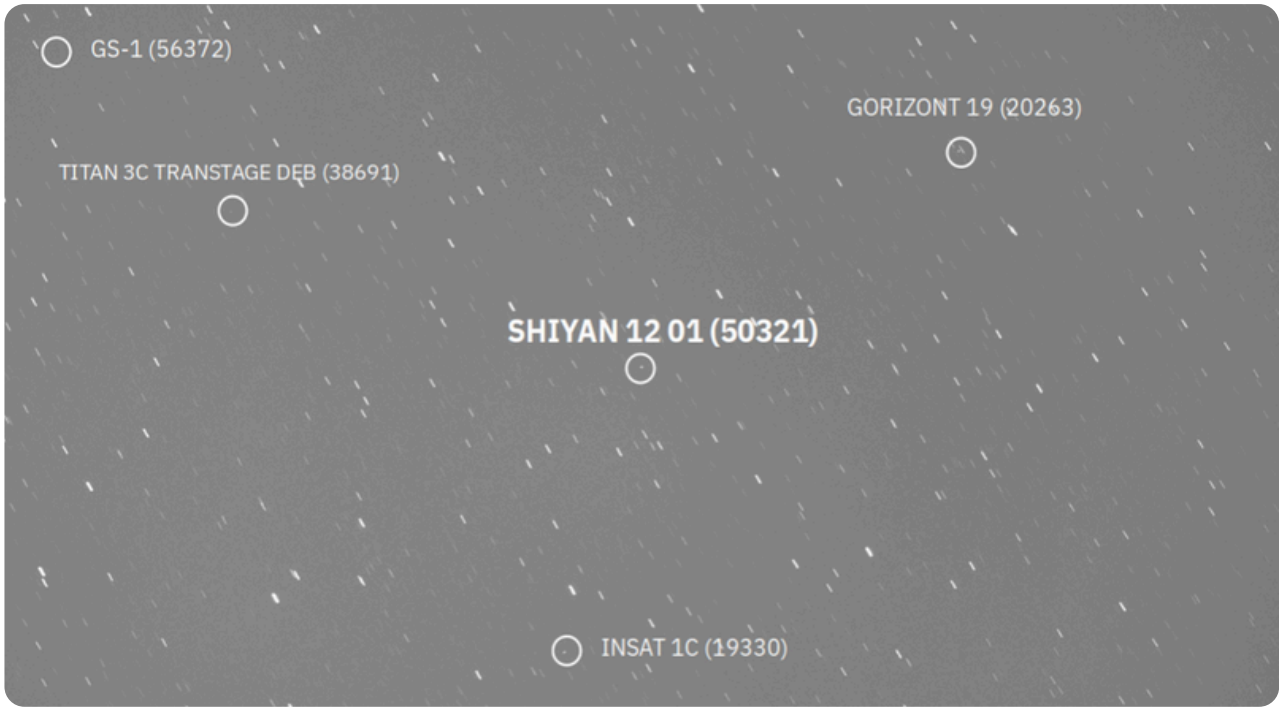
Space surveillance from space is an essential pillar of China's space system. It relies on a coherent combination of satellites positioned in low-Earth orbit and geostationary orbit, offering persistent observation capabilities and discrete tracking of orbital objects.



Longitude evolution of Chinese patrol satellites since 2022 (© Aldoria)

In low-Earth orbit, SY-6 series satellites are suspected of carrying out missions to analyze the space environment and monitor other objects in orbit. Placed on twilight sun-synchronous trajectories, they benefit from optimum illumination for GEO satellite observation. Their design incorporates ultra-absorbent coatings, considerably reducing light reflection and enabling the detection of targets with low optical signatures (a valuable feature for discreetly monitoring passive or stealth satellites).

In GEO, the system is reinforced by three patrol satellites: SJ-23, SY-12 01 and SY-12 02. These satellites operate in phases, continuously scanning the GEO half-belt between 18°E and 180°E. Their operating logic is based on regular revisits of the areas under surveillance: each satellite covers the eastern half of the GEO orbit over a period of five to six months, before maneuvering to reverse its direction of progress. This strategy enables targeted inspection of the same satellite up to five times a year.



Tracking of SY-12 01 (NORAD 50321) on March 2, 2025 from France (© Aldoria)

However, this system has a clear geographical focus: Chinese patrol operations do not cover the Western Hemisphere. This limitation is largely due to communication constraints with ground stations and the network of relay satellites. The Tianlian system, used for data transmission and management of LEO and manned satellites, mainly covers the area between 16.8°E and 177.1°E longitude. Outside this zone, control capability remains limited.

To overcome this constraint, China recently extended its geostationary presence over the Americas. The TJS-7 satellite, launched in 2022 and stationed at 100°W, was followed in 2024 by HG-03, positioned at 77°W. These satellites could rely on the ground infrastructure deployed by China in South America to ensure their operation. This deployment reflects a clear determination to extend China's space coverage to previously inaccessible strategic zones, thus reinforcing its global position in the orbital arena.

WORLD SECURE FOUNDATION'S 2025 REPORT: FOCUS ON CHINA'S SSA CAPABILITIES[10]

The World Secure Foundation's Global Counterspace Capabilities 2025 report makes one thing clear: China has crossed a strategic threshold in its mastery of orbital operations and space intelligence. While media attention is often focused on its denial-of-access capabilities and ASAT missiles, it is in the field of Space Situational Awareness that Beijing is showing the greatest technological and doctrinal maturity.

The sophistication of its architecture, combining electronically scanned radars, networks of optical telescopes, ground stations deployed on several continents, and satellites dedicated to inspection and close-air maneuvers, reflects a clear ambition: to monitor, understand, anticipate and potentially neutralize. The episode of five Chinese satellites conducting synchronized operations in low-Earth orbit - described by the US Space Force as orbital "*dogfighting*" - illustrates a level of autonomy and coordination never before achieved by any other player outside the USA.

The logic is systemic. The SSA is no longer a simple knowledge tool, but an operational multiplier for active deterrence, space superiority doctrine and preparation for high-intensity asymmetrical conflict. Beijing no longer conceals the fact that these technologies, including those embarked on the reusable Shenlong shuttle, are used as much for orbital logistics as for stealth inspection, or even the targeted paralysis of an opposing satellite.

For European countries, and France in particular, this observation calls for a strategic rethink: in space, China is no longer an emerging competitor, but a structuring peer. And in the SSA field, it is already building the backbone of a future orbital information hegemony.

10. *Global Counterspace Capabilities Report*, World Secure Foundation, 2025

CONCLUSION

China is in the process of redefining the strategic balance in space, not with a bang, but with a method and vision that demand attention. Where other nations advance in the open, Beijing favors weak signals, discreet experimentation and seemingly innocuous technological demonstrations. Behind every satellite launch described as "*experimental*", behind every RPO maneuver, a long-term strategy is taking shape: to make space an autonomous lever of power, supported by a sovereign, resilient architecture capable of acting on the entire chain of intelligence, surveillance and interdiction.

What China has been patiently building over the past two decades is a complete space ecosystem, with military, economic and diplomatic ambitions. From LEO to GEO, via its own constellations under development, China is putting in place the instruments for a continuous, operational presence. The Shiyan, Shijian and TJS satellites, and more recently the Qianfan and Yaogan programs, are not anomalies in a civilian program; they are the pillars of a system designed to ensure China's mastery of its orbital environment, and beyond that, a strategic advantage in the event of a crisis.

What sets China apart is not just the quantity or pace of its launches, but the doctrinal coherence that underpins them. Official discourse remains committed to a peaceful vision of space, but the facts tell a different story: that of a state that anticipates conflictuality in space, developing capabilities for jamming, blinding and remote neutralization, while maintaining a gray zone between technological demonstration and capacity for action. China doesn't just want to defend itself in space; it wants to deter, dominate and perhaps even coerce.

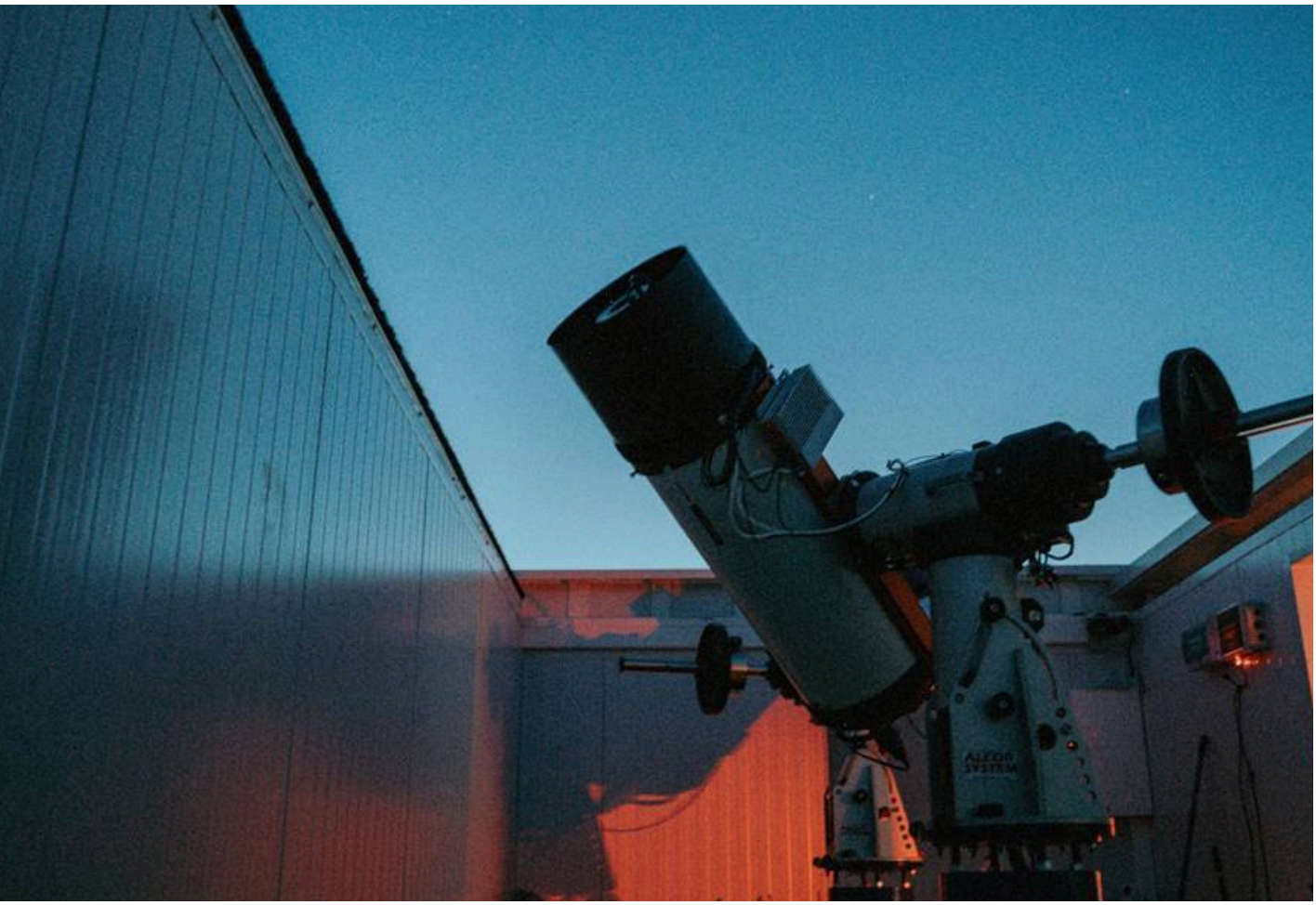
In response, Russia is adopting a more frontal approach. The activity of the Luch Olymp-2[11] spy satellite in GEO is a case in point. Moscow continues to test the limits, to provoke, to exist in the space theater as it does elsewhere: through intimidation and demonstration. But Russia, though experienced in the space field, seems to be held back by growing industrial and financial constraints linked to its war in Ukraine. Its approach, though feared, remains fragmentary, whereas China is developing strategic depth.

In this new space order, France, and through it Europe, has real assets: launch autonomy, scientific excellence, observation capability and a sovereign space doctrine embodied by the Space Command. But these are no longer enough. China's growing power demands a more structured, more ambitious response, one that goes beyond the logic of passive defense. We need to understand that space will no longer be a sanctuary; it is becoming a space for maneuver, influence and potential confrontation.

Beijing does not impose its vision by force, but by constancy. Its strategy is based on a double asymmetry: asymmetry of threshold, by playing on soft-kill capabilities, and asymmetry of perception, by maintaining a blurred distinction between civil and military. China is advancing in orbit in the same way as it does in the China Sea and Africa: by presence, anchoring and creating a technological fait accompli. If Europe fails to take the full measure of this transformation, it risks being relegated to the role of observer in a theater where it should be an actor.

For in this reconfiguration of space geopolitics, the rules are not yet set. China's rise to power is redrawing the boundary between deterrence and action. It's up to space democracies to work together to define the framework for an orbital balance based on transparency, resilience and responsibility.

11. *Russian satellite unusual close approach*, Aldoria, 2024



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