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SUPARCO Gearing up Strategic Role Against India

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Introduction

“The Space & Upper Atmosphere Research Commission” (SUPARCO) is the national space agency of Pakistan. It was formed in 1961 as a research committee, under the leadership of two Nobel laureates, Abdus Salam and Ishrat Usmani. It was promoted to a federal independent commission in 1981.¹ SUPARCO is based in Karachi. It is responsible for running the National Space Program, handling Pakistan’s space activities under the National Command Authority (NCA), and managing its satellite communications and atmospheric research.²

Significance of SUPARCO for Pakistan

SUPARCO plays a vital role for Pakistan as it contributes to the social, economic, scientific, and strategic development of Pakistan. In view of its strategic objectives, it is important to understand its functions, advantages, and challenges. SUPARCO operates Earth observation and remote sensing satellites, which include the “Pakistan Remote Sensing System (PRSS-1),” and the domestically developed “Pakistan Technology Evaluation Satellite (PakTES-1A).”³ These satellites assist in precision agriculture, monitor glacial melt, aid in managing interprovincial water disputes, and support disaster response efforts related to floods and heavy rainfall.⁴ SUPARCO’s satellites also facilitate monitoring and assessment of risk-related issues along the China-Pakistan Economic Corridor (CPEC).

SUPARCO oversees the “Space Programme 2040,” launched in 2011. NCA approved it to accomplish Pakistan’s long-term roadmap for strategic objectives. It was renamed “Space Vision 2047,” which aims to launch geostationary and low Earth orbit satellites.⁵ The first Pakistani astronaut is scheduled to travel to the Tiangong Space Station on the Shenzhou 24 mission in late 2026. Through an agreement between Pakistan and the China Manned Space Agency (CMSA), Pakistani astronauts are receiving advanced training.⁶

In October 2025, Pakistan launched its first hyperspectral imaging satellite, HS-1, from China. This development is likely to enhance Pakistan’s capability in the monitoring and mapping of the environment and natural resources.⁷

Why SUPARCO is in the News?

After almost 60 years of sluggish progress in the space domain, SUPARCO has launched six satellites in just 16 months. This recent surge is not gradual, but rather abrupt, when compared to the number of satellites launched during the past sixty years since the foundation of SUPARCO.

This is not a future scenario that we are facing but a scenario that has happened before. During Operation *Sindoor*, Pakistan had tapped into the surveillance void between India and China by accessing the Chinese intelligence reports related to Indian deployments. This would have otherwise remained unknown.

The key change, since then, is related to the ownership model. China has already offered surveillance during crisis times to Pakistan in the past. China is now assisting Pakistan in creating its own autonomous surveillance system that can be integrated into the Chinese network and work on its own in real-time. For crisis stability, a distinction is important for sustaining operations. 'Third-party control of surveillance' means that the capability can be pulled at any time; while 'sovereign control of surveillance' means it is under the control of the nation, with the required degree of autonomy.⁸

Strengths and Weaknesses of SUPARCO

SUPARCO began operations with the launch of the Rehbar-I sounding rocket in 1962, making Pakistan the fourth Asian country to go into space. SUPARCO's functioning has suffered for a long time due to a number of institutional challenges. A few of them are.⁹

(a) Funding Challenges: SUPARCO is struggling with funding issues, and this has been impacting its operations as well as the progress of various projects. In 2023, for instance, the budget allocation was approximately USD 24 million only for SUPARCO, whereas the budgets for the Indian Space Research Organisation (ISRO) in India, China, and the National Aeronautics and Space Administration (NASA) were approximately more than USD 1.9 billion, USD 20 billion and USD 79 billion, respectively.¹⁰

(b) Administrative Challenges: Additionally, SUPARCO has faced many administrative or political hurdles. In the 1980s and even today, political uncertainty, the changing focus of the government and the growing emphasis on missile and nuclear programmes pushed many top scientists from the space programme into missile and nuclear programmes under the control of the Pakistan Atomic Energy Commission (PAEC) and the Khan Research Laboratories (KRL).

(c) Planning Gaps: Out of the available 1,800 geostationary orbital slots, 573 slots have been used by satellites, as reported on January 02, 2026.¹¹ The other slots that feed the main markets have already been filled by countries and private companies for their satellite operations. Satellites are being developed and awaiting deployment for these positions.¹² The failure to meet deadlines and commit adequate funds to build Pakistani satellites caused the loss of critical geostationary orbital slots, like 38°E and 41°E, during the 1990s.¹³ Those

38°E and 41°E longitudes are significant as some of the limited fibre-connected regions are the most conflict-prone parts of the world. Countries are given the allotted slots on a 'first come, first served' basis by the International Telecommunication Union (ITU). Once a nation doesn't send a satellite into its assigned slot in the allotted time, it could lose the right to that slot. This drop in position can impact the country's ability to provide sovereign satellite services in its own space and potentially threaten the country's sovereignty and/or position relative to other countries or companies. For Pakistan, this was complicated by the bureaucracy, which made it difficult to progress due to a shortage of financial resources and a major "technological denial" of essential equipment, which severely impacted Pakistan's ability to keep pace with the ITU's tight schedule to deploy.¹⁴

Disruption of the 38°E longitude would result in the loss of communications for more than 15 countries. A recent series of conflicts in the Middle East has always been accompanied by the employment of cyber-attacks and jamming against these two longitudes. The inability to plan forced Pakistan to look for external assistance.

(d) Operational Gaps: The second experimental satellite (Badr-B), which was launched by SUPRACO in the year 2001, was lost in deep space after twenty years, due to communication failures in its operation, despite a five-year designed life. Unlike India, Pakistan does not have any indigenous satellite launch vehicles (SLVs). As a result, it has to rely heavily on other countries, particularly China, for the launching of its satellites.

The Pakistan Space Programme is in dire need to fill these gaps in its operations since it does not have plans for the procurement of corresponding resources and limited know-how.

Implications for Indian Strategic Objectives

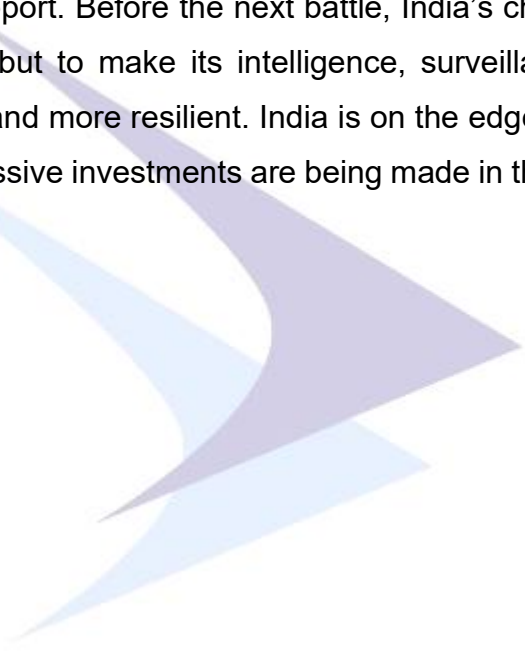
The recent expansion of SUPARCO's capabilities, with the support and assistance of China, has significant implications for Indian defence and space strategies, thereby raising strategic importance.

In the military standoff between India and Pakistan, in May 2025 Pakistani forces tried to tailor military operations in real time with the help of inputs from Chinese satellites. But this could not degrade Indian operations. Now Pakistan is trying to bridge the capacity gaps. Pakistan has fused its satellite intelligence capabilities with Link-17 and other terrestrial communication technologies. Relevant slots are critical for national telecommunications, television broadcasting and crucial military communications for a nation like Pakistan. This may not constrain Pakistan's capabilities in the long run, but warns India to take necessary steps to manage the ill effects of such developments.¹⁵

The development of Pakistan's space-based capabilities will provide Pakistan more bandwidth to counter Indian military capabilities. Pakistan is trying to develop a "full-spectrum" deterrent approach. China's excellence in space technology and the BeiDou satellite navigation system have improved the high precision of targeting weapons systems, such as Shaheen-III and Babur cruise missiles. China is actively cooperating with SUPARCO, including help for the launch of Pakistan's HS-1 Satellite and astronaut training. From a strategic perspective, the alliance also creates further challenges for India in space and the cyber sphere.

Conclusion

The satellite constellation of Pakistan is relatively small and has both civilian and military applications. SUPRACO is making efforts to enhance space-based capabilities with Chinese launch facilities, design help and real-time data sharing in times of crisis. Operation *Sindoor* was very much supported by real-time satellite support. Before the next battle, India's challenge is not to catch up with Pakistan's satellite program, but to make its intelligence, surveillance and reconnaissance capabilities state-of-the-art, faster and more resilient. India is on the edge of a turning point. Space continues to be militarised, and massive investments are being made in their offensive and counter-space capabilities.



Notes:-

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⁶ Rathore, n. 4.

⁷ "Pakistan launches China-backed 6 Earth-observation satellites in 16 months, now watching Indian territory," *The Business Today*, June 10, 2026, <https://www.businesstoday.in/science/story/pakistan-launches-china-backed-6-earth-observation-satellites-in-16-months-now-watching-indian-territory-535970-2026-06-10>. Accessed on June 30, 2026.

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¹⁵ Ibid.