



January 2022

INDIA'S NEW AIR DEFENDERS

THE S-400 TRIUMF AIR DEFENCE MISSILE SYSTEM

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The S-400 is a long-range surface-to-air missile (LR-SAM) system developed by Almaz Central Design Bureau called Triumf (Russian for Triumph). Since 2007, the Russian Armed Forces as well as international operators have been using it. S-400 missile systems have been in the news consistently as India plans to buy them from Russia. But the United States opposes the move.

The acquisition of the S-400 became significant with regard to local steadiness. In the repercussions of last year's encounters between the Indian Army and People's Liberation Army (PLA) troops in Ladakh, Beijing requested the development of protection and military foundation, including its own S-400 squadron along the Line of Actual Control (LAC). This undermines IAF resources in the struggle, consequently, causing a strategic crisscross.

The S-400 system was under development in the late 1980s, towards the end of the Cold War. In January 1993, the Russian Air Force announced the S-400 system. On 12 February 1999, the first successful tests were conducted, and the system was to be installed in the Russian Army in 2001. The chief engineer on the S-400 project was Dr Alexander Lemanskiy of Almaz-Antey. In 2003, it became evident that the missile system was not yet ready for deployment, and new design methods were implemented. The missile system was completed in February 2004, and the upgraded 48N6DM missile was successfully launched on April 4. The system was approved for service in 2007 and has been in operation ever since.

Functioning of S-400

The S-400 Missile System has an integrated, multifunction radar capable of recognizing and focusing on targets independently. Moreover, it includes anti-air missile launchers, as well as order and control missiles. It offers layered protection by terminating the accompanying rockets.

- 48N6DM: Capable of annihilating airborne targets up to 250 km
- 40N6: Claimed to arrive at a distance of 400 km, it utilises dynamic radar homing to catch air focuses at significant stretches.

- 9M96E: This rocket can strike moving targets like contender aircraft with incredible exactness.
- 9M96E2: A medium-range air to air missile variation of the 9M96E, it is slipped for direct effect. Both the variations of the 9M96 missiles are 102 km.

Additionally, the framework permits the exchange of information with other safeguard frameworks, for example, SA-12, SA-23, and S-300. At a distance of 600km, the radar can identify and track aircraft, helicopters, cruise missiles, drones, and ballistic missiles. A range of up to 300 targets can be tracked simultaneously.

Characteristics of the S-400

Max. target speed	Detection Range	Number of targets simultaneously (full system)	Guided missiles launched (at a time)	Signals readiness for operation	Activation and ready operation by the signal from standby	Interval in major overhauls (hours)
4.8 km/s	600km	80	160	5 Minutes	35 Seconds	10,000

India and S-400

Air Chief Marshal BS Dhanoa, the former chief of the Indian Air Force (IAF), described the purchase of the Russian S-400 missile systems to boost the capability of IAF. It is universally recognized that the S-400 "Triumf" missile systems are one of the most sophisticated platforms and

serve as a force multiplier. Likewise, this missile system is in the news because the United States (US) has been forcing India to curtail the Russian agreement by compromising one-sided sanctions. It is doing this despite facing resistance from its council and industry.

The missile defence framework bargain went under the foreboding shadows of authorization from the United States which had given numerous approvals on Russian firms. The United States had presented the Countering American Adversaries through the Sanctions Act (CAATSA) to complete political and monetary bans on firms and countries engaged in business with Russia, Iran, and North Korea. The demonstration was particularly obtained to keep Russia from acquiring guard bargains from the significant protection abilities on the planet. Notwithstanding, Turkey, a NATO member, ignored the dangers of the Trump administration by obtaining the S-400 rockets framework.

Strategic Implications:

India remembers its western neighbour as it lays these frameworks. Pakistan needs 'essential profundity' considering that the aeronautical distance between Peshawar and Lahore is around 385 km, making it well within the S-400's radar and terminating range. These frameworks sent by the Indian Air Force could lead to identifying and examining airborne developments in China and Pakistan.

Each of the five units will be deployed to handle the threat from China. The two nations have been securing a serious stalemate for the past two years along the Line of Actual Control (LAC) - the accepted line among China and India in the region of Ladakh in the contested Himalayan locale of Jammu and Kashmir. Tensions took off in June 2020 after around 20 Indian and 4 Chinese troopers were killed in a boundary conflict in the area. However, the circumstances became peaceful after a few rounds of talks. The different sides are yet to arrive at a solution and have expanded military organisations along the boundary.

There could be a few reasons behind the dissatisfaction of the USA. To begin with, the US needs India to wean off its customary dependence on Russian defence frameworks. In the long run,

Russia has been India's biggest defence ally, but as India moves closer to the US, their relationship is changing; imports from the US have gone up, generally at the expense of Russian imports.

As reported in March 2021 by the Stockholm International Peace Research Institute on patterns in worldwide arms transfers, while India's arms imports declined by over 1/3 between 2011-15 and 2016-20, Russia remained India's largest arms supplier in 2011-15 and the next half-decade from 2016-20. "However, Russia's conveyances dropped by 53% from 2011-15 to 2016-20, and its share of total Indian arms imports declined from 70% to 49%. Between 2011 and 2015, the USA was India's second-largest arms provider, but in the second half, imports of arms from the USA have decreased by 46%, making the USA India's fourth-largest arms provider.

In any case, the bigger reason for worries about the arrangement for Indo-American relationship lies in a 2017 law passed by the US named Countering America's Adversaries through Sanctions Act (CAATSA), whose goal is to counter American foes; Iran, Russia, and North Korea through corrective measures. Title II of the Act manages sanctions in Russian interests, including its guard industry. The Act enables the US President to force something like five of the 12 recorded sanctions referenced in Section 235 on people who participate in a "Significant exchange" with Russian defence and intelligence sectors. The US forced approvals on Turkey, a longstanding NATO partner, in December 2020 over its acquisition of the framework.

Along with all the factors, the S-400 air defence system is currently the most technologically advanced system. Moreover, it is profitable as it costs half of its Western counterparts, such as Lockheed Martin's Terminal High Altitude Air Defence (THAAD). Also, it is capable of distinguishing NATO secret fighters like the F-22 and F-35 and destroying them even before they take off by firing rockets four meters above the ground. The United States might be chafed at these factors as the S-400 administrator incorporates a NATO-member Turkey and a rising hegemon, China, whose ascent cannot be described as tranquil. The US faced opposition from members of the US Senate and the US-India business council by citing that the US and India have had strategic ties for over a decade, and their bilateral trade has crossed \$20 billion and is only expected to increase. Both countries need to be together to counter their common rival - China.

India's External Affairs Ministry reacted that "India and the US have a comprehensive global strategic association" and "India has an extraordinary and special vital partnership with Russia".

The service said, "India has consistently sought after a free international policy. This additionally applies to our defence acquisitions and supplies which are directed by our national interests." Indian authorities have begun deploying the Russian S-400 Triumf advanced surface-to-air missile defence system. The first unit is expected to be operational in April.

Impact of the Indian S-400 on Pakistan:

The S-400 can engage hostile airborne platforms within 200 kilometres, making it a highly effective weapon system. Furthermore, it can engage hostile aircraft well within its territory, making it a powerful weapon system. The impact of the Indian S-400 on Pakistan can be viewed at three distinct times: during peacetime, after incursions like Balakot, and when war is declared.

Pakistan will likely have to deal with the consequences of India's induction of S-400s even during times of peace. Operationally, The Pakistan Air Force's (PAF) aerial raids against Indian targets would be incredibly challenging and expensive if deployed along with the French Rafale and support elements such as aerial refuellers and spoofers. Lessons from the Uri and Pulwama attacks indicate that the Indian government has been quite active and aggressive in defending its frontier while safeguarding its national interests.

India and Pakistan are unlikely to engage in a full-scale war because of their nuclear arsenals. The S-400 system in India is also capable of shooting down Pakistan Air Force (PAF) fighter planes and support platforms as well inside Pakistan in such a scenario, besides providing a strong defensive shield to many Indian Vulnerable Areas and Vulnerable Points (VAPs). PAF operations would be restricted even within its territory during the conflict. Moreover, a reasonably utilized S-400 alongside the Indian Airborne Early Warning and Control (AWAC) stages can focus on the P.A.F interceptors conveyed to counter the Indian Air Force assaults on its VAs and VPs.

QUAD Dynamics

Using the S-400 is India's decision and should not be influenced directly or indirectly by any external power, as it knows what is well suited for the country itself. The fact here stands strong that the installation will bolster India's position at a global level. Instead, the U.S should encourage India in taking up defence deals and strengthen security cooperation with Washington by providing incentives that will further enhance the multifaceted nature of the US-India strategic partnership.

Looking from the perspective of the QUAD, the India-Russia S400 contract is contributing to the combined ability of the QUAD states to counter China. Though there are some disagreements from the US, it is safe to predict that Japan-India-Australia trilateral relations will not be hampered. If in the future, New Delhi carries out a Russian defence deal with Tokyo, Japan likely wouldn't accept it based on its current relations with Russia. The S-400 provides a safe pathway for India to move forward as geopolitical tensions may reduce to an extent and India could focus more on strengthening itself.

Conclusion

Deploying the S-400 around the territorial and maritime borders makes India a strategic opponent, further helping in counterbalancing China alongside Pakistan. Through the deployment, India will be able to keep its foes in check and refrain from taking abrupt actions. S-400 will further strengthen India's position in the Indo-Pacific region and complement its military capabilities in South Asia and this multi-dimensional world.

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