

## CONTEXTUALISING CHINA'S MISSILE DEFENCE DEVELOPMENTS

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(Views expressed in the brief are those of the author, and do not represent those of ISSI)



**On June 19, 2022, China successfully conducted an anti-ballistic missile test. The Chinese Defence Ministry said that it was a land-based mid-course missile, which was part of the country's efforts to strengthen its defensive capabilities. The Defence Ministry stated that "This test was defensive and not aimed at any country."<sup>1</sup> This is the sixth such test China has conducted in the last decade or so. It is important to look at what missile defence system China is developing. What are the drivers behind China's pursuit of missile defence capability and what are its implications?**

Many states have pursued missile defence systems since the US withdrew from the 1972 Anti-Ballistic Missile Treaty in 2002.<sup>2</sup> Both Russia and China repeatedly expressed concerns over the US pursuit of missile defence. However, the US has not been interested in limiting its missile defence capabilities or addressing Russian and Chinese concerns. Thus, Russia has been developing offensive missiles and hypersonic missiles that can defeat BMD systems. China has also been working on missile defence systems as well as upgrading its missile forces. It seems China is planning to build a multilayered missile defence system. With increased tensions with the US in the last few years,

<sup>1</sup> "China Tests Missile Interception System," Al Jazeera, June 20, 2022, <https://www.aljazeera.com/news/2022/6/20/china-tests-missile-interception-system>

<sup>2</sup> The Anti-Ballistic Missile Treaty (ABM) was signed between the United States and the Soviet Union and placed limitation on anti-ballistic missile systems. This was thought to preserve deterrence by maintaining vulnerability of both sides to ballistic missile attack.

China fears that the US could launch the first strike on its limited nuclear arsenal and absorb any counter Chinese attack through its missile defence capabilities.<sup>3</sup>

China has conducted several missile interception tests since 2010. Other tests were conducted in 2013, 2017 and 2018. The most recent test was in February 2021. The June 2022 test is likely to be an HQ-19 system, which is designed to intercept medium-range ballistic missiles. It has a range of 1,000-3,000 km.<sup>4</sup> It is designed to intercept missiles in the midcourse phase in the exo-atmosphere. It is similar to the Terminal High Altitude Area Defense (THAAD) system developed by the US. Other interceptor missiles HQ-26 (the counterpart of the US SM-3 system) and HQ-29 (the counterpart of the US system Patriot Advanced Capability – 3), are also being built. KT series of anti-ballistic missiles and also have adopted limited anti-ballistic capabilities on the HQ-9, KS series, and HQ-16.<sup>5</sup> China's missile defence capabilities are focused on regional threats and the ability to counter short and medium range missiles but also appear to be developing towards countering long-range missiles.

China also has ballistic missile defence capabilities acquired from Russia. These include the S-300 and S-400 systems, which are also capable of intercepting medium-range ballistic missiles. China has four versions of the S-300 in service, the PMU, PMU1 and PMU2 and its naval version.<sup>6</sup>

### **Chinese Ballistic Missile Defence Systems**

S-300 SAM	Can Counter MRBMs China Purchased it in 2010
S-400	Can counter MRBMs of 3500 km China Purchased it in 2014 First Regiment arrived in 2018
HQ-19	Capability against MRBMs Still being developed. Effective against MRBMs and IRBMs, future potential against ICBMs
Mid Course Interception	Good initial capability against IRBMs. Upgradable to intercept ICBMs and SLBMs potentially

**Source:** "Chinese and Russian Missile Defense: Strategies and Capabilities, Factsheet," July 28, 2020, [https://media.defense.gov/2020/Jul/28/2002466237/-1/-1/1/CHINESE\\_RUSSIAN\\_MISSILE\\_DEFENSE\\_FACT\\_SHEET.PDF](https://media.defense.gov/2020/Jul/28/2002466237/-1/-1/1/CHINESE_RUSSIAN_MISSILE_DEFENSE_FACT_SHEET.PDF)

<sup>3</sup> Li Bin, "China's Attitudes toward Missile Defence and its Limitation," *Bulletin of the Atomic Scientists* 74, issue 4: Special issue: Missile Defense, around the world and, perhaps, in space (2018).

<sup>4</sup> "China Flight-Tests Missile Interceptors," *Arms Control Today*, April 2021, <https://www.armscontrol.org/act/2021-04/news-briefs/china-flight-tests-missile-interceptors>

<sup>5</sup> "HQ-19 Anti-Ballistic Missile Interceptor," <https://www.globalsecurity.org/space/world/china/hq-19.htm>

<sup>6</sup> Franz-Stefan Gady, "Chinese PLA Personnel Complete Training for S-400 Air Defense System in Russia," *The Diplomat*, July 31, 2019, <https://thediplomat.com/2019/07/chinese-pla-personnel-completes-training-for-s-400-air-defense-system-in-russia/>

China and Russia have repeatedly expressed concern and opposition to the US deployment of the THAAD, anti-missile system in South Korea.<sup>7</sup> However, THAAD has been deployed in South Korea since March 2017. The US claims that THAAD deployment in South Korea is a defensive measure meant to protect against North Korean missiles and is not meant to counter Chinese missiles. However, China has expressed concern against THAAD deployment since the advanced radar system it uses can also monitor China's military activities.<sup>8</sup>

Accelerated Chinese efforts towards missile defence capabilities also come amid increased hostilities with the US. In May 2022, China criticised the US for deploying medium-range ballistic missiles in the Asia Pacific region, saying it made a “gravely negative impact” on international arms control.<sup>9</sup> It is also a time of heightened tensions in the region with several short-range missile tests by North Korea and possibly one test of an Intercontinental Ballistic Missile (ICBM). North Korea may also be preparing for another nuclear test since there is renewed activity at its main nuclear test site. With the heightened threat from North Korea the newly elected South Korean President, Yoon Suk Yeol, has vowed to take a tougher stance on North Korea. He has also suggested the country would seek to deploy a second ballistic missile defence system.

China is also threatened by another US ally that has fielded missile defence systems. Japan has been operating a multilayer US-origin ballistic missile defence system. Aegis-equipped warships that provide defense against an incoming missile, meant to intercept the missile in its midcourse trajectory. It also Patriot Advanced Capability-3 (PAC-3) systems, which are mobile and protect cities and military bases and cities. The PAC-3 is meant to intercept incoming missiles at the terminal phase.<sup>10</sup> Japan also fields the SM-3 and has plans to add a land-based Aegis system and additional sea-based capabilities. Both China and Russia have expressed concern over Japanese missile defence deployments and have called it an expansion of US missile defences in the Asia-Pacific region.

India is another Chinese neighbour with hostile relations that has been pursuing missile defence systems. The Indian missile defence system consists of the indigenous Prithvi Advanced Air (PAD) system for exo-atmospheric interception and Advanced Air Defence (AAD) endo-atmospheric

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<sup>7</sup> “Thaad: US begins Deploying Missile Defence System in South Korea,” *BBC News*, March 7, 2017, <https://www.bbc.com/news/world-asia-39188826>

<sup>8</sup> “China Flight-Tests Missile Interceptors,” *Arms Control Today*.

<sup>9</sup> “China Claims Successful Anti-ballistic Missile Interceptor Test,” *CNN News*, June 20, 2022, <https://edition.cnn.com/2022/06/19/china/china-anti-ballistic-missile-test-intl-hnk/index.html>

<sup>10</sup> Monica Montgomery “Japan Expands Ballistic Missile Defenses,” *Arms Control Today*, September 2018, <https://www.armscontrol.org/act/2018-09/news/japan-expands-ballistic-missile-defenses>.

interception.<sup>11</sup> The former is a mid-course interception and the later is a terminal phase interception. India is also acquiring five S-400 systems from Russia of which two are already operational. This gave India enough capabilities to protect key cities and counterforce targets against an incoming missile attack.

China's missile defence pursuit is not only motivated by the US missile defence deployments, its increasing presence in the Asia Pacific and the South China Sea and a network of missile defence deployments in US ally states like South Korea and Japan but also driven by increasingly sophisticated missile technology around the world accompanied by a breakdown of global non-proliferation. The last two decades have increasingly seen a resurgence of great power competition, a renewed pursuit of nuclear weapons, pursuit of sophisticated missile and major weapons systems that have brought back the era of arms races and a move away from arms control and disarmament. This is detrimental to regional and global security and takes resources away from human development. It ultimately does not bring security to anyone.

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<sup>11</sup> For more information on Indian missile defence capabilities see Ghazala Yasmin Jalil, "Indian Missile Defence Development: Implications for Deterrence Stability in South Asia," *Strategic Studies* 35, no. 2 (2016).