

# MP-IDSA *Commentary*

## **NASM-SR and the Evolution of India's Indigenous Maritime Strike Capability**

*Rahul Wankhede*

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### **S***ummary*

Naval Anti-Ship Missile–Short Range (NASM-SR) represents an indigenous effort to equip smaller aerial platforms with stand-off maritime strike capability.

## Introduction

Modern naval warfare involves diverse targets ranging from large surface combatants such as destroyers or aircraft carriers to small patrol vessels and asymmetric drone-swarm threats. For nearly two decades, India’s maritime strike capability has been closely associated with a single weapon system: the supersonic BrahMos cruise missile. Its speed, range and destructive potential have made it one of the most formidable anti-ship missiles currently in service.

The prominence of the BrahMos missile in India’s maritime strike doctrine has been well established through Operation Sindoor and numerous successful test firings.<sup>1</sup> With supersonic speed, high kinetic energy and mid-course correction capability, the missile provides India with a potent stand-off anti-ship and land-attack capability.<sup>2</sup> Its deployment across several surface combatants, road-mobile launchers and fighter aircraft has significantly enhanced India’s ability to conduct long-range precision strikes.

However, the operational environment in the maritime domain is increasingly characterised by a wider spectrum of targets and engagement scenarios. Another limitation of the BrahMos arises from platform integration constraints. BrahMos is primarily designed for deployment from large surface combatants or aircraft with sufficient payload capacity.<sup>3</sup> Smaller naval platforms, as well as shipborne helicopters that play a critical role in maritime surveillance and anti-submarine warfare operations, cannot carry the BrahMos. Moreover, employing a large and expensive supersonic missile like BrahMos against every target is neither operationally efficient nor economically sustainable.

Recent developments suggest that India is beginning to address this aspect through indigenous solutions. In February 2025, the Defence Research and Development Organisation (DRDO) and the Indian Navy successfully conducted flight trials of the Naval Anti-Ship Missile-Short Range (NASM-SR), an indigenous helicopter-launched anti-ship missile. A successful salvo launch followed this in April 2026. While lightweight anti-ship missile systems of this category already exist internationally, the NASM-SR is significant because it represents an indigenous effort to equip

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<sup>1</sup> [“Every Inch of Pakistan’s Territory is Now Within the Reach of BrahMos: Shri Rajnath Singh”](#), Press Information Bureau, Ministry of Defence, Government of India, 18 October 2025; [“BrahMos Led the Offensive: DRDO Chief Reveals Weapons Behind Operation Sindoor Details”](#), *The Times of India*, 9 August 2025.

<sup>2</sup> Rahul Wankhede, [“India’s Defence Exports: Unravelling the Potential of the BrahMos Missile”](#), *Journal of the United Service Institution of India*, Vol. CLIV, No. 638, October–December 2024, pp. 651–659.

<sup>3</sup> [“BrahMos Develops Anti-aircraft Carrier Variant of the Missile”](#), BrahMos Aerospace, 31 March 2012.

smaller aerial platforms with stand-off maritime strike capability. It also reflects indigenous expertise in seekers, guidance systems and missile integration technologies.

## **NASM-SR Capabilities, Operational Significance**

The NASM-SR incorporates several features that support flexible targeting in complex maritime environments. These include an indigenous infrared imaging (IIR) seeker, midcourse guidance supported by inertial navigation, and a two-way datalink enabling man-in-the-loop target selection.<sup>4</sup> The IIR seeker is usually more difficult to jam than radar seekers.<sup>5</sup> These capabilities allow operators to identify a probable target zone before launching the missile. The missile sends live seeker imagery back to the helicopter via a two-way datalink, allowing the pilot to change the target during flight.<sup>6</sup> This capability is particularly useful in contested littoral waters where multiple vessels may be present, and IFF (Identifying Friend or Foe) is challenging. During the February 2025 test, the missile was fired in a sea-skimming mode that minimises the enemy's detection time as it flies closer to the water's surface.<sup>7</sup>

The April 2026 salvo launch of the NASM-SR further strengthens the case for its operational relevance.<sup>8</sup> It will allow naval helicopters and, potentially, Indian naval UAVs to engage multiple targets or improve the probability of kill against a single target through salvo firing. The demonstrated waterline hit capability also indicates a focus on maximising damage. Critical systems such as engines, fuel tanks and ammunition magazines are usually located deep within the hull for protection. A waterline strike can bypass the ship's upper armour to hit these core components directly. This is often more lethal than hitting the superstructure because a hole at the waterline causes rapid flooding of the ship.<sup>9</sup> Rapid flooding can overcome buoyancy, causing the vessel to sink.<sup>10</sup> Additionally, the observed launch profile

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<sup>4</sup> [“DRDO and Indian Navy Successfully Conduct Flight-trials of First-of-its-kind Naval Anti-Ship Missile”](#), Press Information Bureau, Ministry of Defence, Government of India, 26 February 2025.

<sup>5</sup> V.K. Saraswat, [“Missile Technologies and Future Trends”](#), *Journal of Aerospace Sciences and Technologies*, Vol. 61, No. 1, February 2009, pp. 12–21; William Kaplan, [“IR Imaging Seekers May be Very Resistant to Laser Jamming”](#), *SPIE*, 15 October 2014.

<sup>6</sup> [“DRDO and Indian Navy Successfully Conduct Flight-trials of First-of-its-kind Naval Anti-Ship Missile”](#), no. 4.

<sup>7</sup> Mayank Singh, [“Indian Navy Successfully Tests First-of-its-kind NASM-SR Missile with in-flight Retargeting”](#), *The New Indian Express*, 26 February 2025.

<sup>8</sup> [“DRDO & Indian Navy Successfully Conduct Maiden Salvo Launch of Naval Anti-ship Missile-Short Range”](#), Press Information Bureau, Ministry of Defence, Government of India, 29 April 2026.

<sup>9</sup> Author’s interviews with Captain Anurag Bisen (Retd) and Captain Sudhir Kandhari (Retd), 1 May 2026, personal communication.

<sup>10</sup> Terry Johnson, [“Damage Control: Saving the Boat When It Floods”](#), *Pacific Fishing*, February 1999.

indicates that the missile is released before engine ignition, suggesting reduced stress and a safe separation mechanism for helicopter operations.<sup>11</sup>

Taken together, these developments reinforce the role of NASM-SR not merely as a supplementary weapon, but as an enabler of distributed and tactically adaptable maritime strike options within the evolving operational framework of the Indian Navy. It will enable smaller aerial platforms to contribute directly to the surface-strike mission, rather than serving only as supporting assets.

## **Industrial and Technological Significance**

The significance of NASM-SR also extends beyond its immediate operational role. As per reports, the missile’s development involved the DRDO and its laboratories along with start-ups, MSMEs and private development-cum-production companies.<sup>12</sup> This reflects the ongoing shift in India’s defence innovation model from a predominantly public-sector-driven framework to a broader defence-industrial base.

Specialised sub-systems for the NASM-SR are being designed and manufactured by these companies.<sup>13</sup> By integrating smaller technology firms, the end-user and private manufacturers during the development stage itself, programmes like NASM-SR can help build niche capabilities. This includes areas such as seeker electronics, guidance systems, control actuation and composite structures. Over time, this approach has the potential to expand the supplier network supporting indigenous missile development and improve the transition from prototype development to series production. In this context, the development of NASM-SR not only contributes to operational naval capabilities but also illustrates the evolving role of industry participation in India’s defence research and production architecture.

Technologically, the NASM-SR does not represent a wholly novel category of anti-ship weaponry. Comparable lightweight helicopter-launched anti-ship missile systems featuring sea-skimming profiles, imaging infrared seekers, and man-in-the-loop guidance already exist internationally. These include the Anglo-French Sea Venom/ANL and the AGM-119 Penguin.<sup>14</sup>

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<sup>11</sup> [“Successful Launch of the Naval Anti-Ship Missile–Short Range \(NASM-SR\)”](#), YouTube Video, Ministry of Defence, Government of India, 29 April 2026.

<sup>12</sup> Subhadra Srivastava, [“What is India’s NASM-SR Missile? A Look at the Accuracy & Lethality of this Indigenous Sea-skimming Anti-ship Weapon”](#), *WION*, 1 May 2026.

<sup>13</sup> *Ibid.*

<sup>14</sup> [“MBDA’s Sea Venom Evolves Family of Weapons”](#), *Naval News*, 10 September 2025; [“Penguin Anti Ship Missiles”](#), *Naval Technology*, 2 January 2014.

For India, the real advantage lies in developing a similar system indigenously rather than importing one, along with input tech like the IIR seeker and man-in-the-loop targeting, which closes a crucial capability gap for the Indian Navy. This can potentially contribute to the maturation of indigenous seeker technologies supporting the development of a wider range of existing and future missile systems across multiple operational domains.

## **Integration and Operational Challenges**

Despite the successful trials, the long-term operational significance of NASM-SR will depend not only on the missile’s performance but also on its successful integration across multiple platforms and sustained production scalability. Historically, several indigenous defence programmes have encountered delays during the integration, certification and operational deployment stages even after successful developmental testing.

Missile integration involves far more than attaching a weapon to a platform. Its effective operational deployment requires compatibility with onboard sensors, fire-control systems, avionics architecture, datalinks and mission software. Maritime climate and operating conditions are extremely demanding, requiring reliable systems, storage compatibility aboard naval vessels, and maintenance infrastructure before the system is inducted into service.

India’s experience with integrating indigenous missiles across different domains illustrates these challenges. Delays in integrating indigenous systems onto operational platforms have, in some cases, contributed to continued dependence on imported alternatives despite the availability of domestic programmes. Similar integration and certification complexities may emerge during the induction of NASM-SR across helicopters (indigenous and imported) of the Indian Navy, future UAVs or other naval platforms.

The aspect of production scalability represents another important challenge. Advanced seekers, guidance systems and miniaturised electronics used in missile systems require consistent manufacturing quality and dependable supply chains. This is also required to sustain serial production at scale and for prospective exports. This is often considerably more difficult than achieving successful prototype demonstrations or firing trials. Therefore, the long-term success of the NASM-SR will depend not only on technological achievement, but also on the Indian defence ecosystem’s ability to sustain integration, user confidence and industrial production over time.

## **Towards Greater Indigenous Depth in Maritime Strike Capability**

The development of the NASM-SR should therefore be viewed within the broader context of India’s ongoing effort to diversify and indigenise its maritime strike inventory. The concept of layered anti-ship missile architectures is not new. Different classes of missiles have historically been employed to engage targets across different operational ranges and threat environments. A layered missile architecture combines weapons of varying ranges, speeds and launch platforms.

What is more significant in the Indian context is the gradual attempt to indigenise multiple layers of maritime strike capability simultaneously. Within this framework, shorter-range missiles like NASM-SR operate in the tactical engagement layer, enabling helicopters and potentially other light platforms to engage surface targets at ranges up to 80 kilometres. Beyond the tactical layer, missiles such as the Dhanush, Klub-S/Kalibr, Exocet, etc., can provide extended reach to engage surface combatants and coastal targets while maintaining a relatively low cost per engagement. At the upper end of the spectrum, long-range systems such as the supersonic BrahMos, BrahMos-NG, BrahMos-II and the subsonic Nirbhay missiles remain the principal instruments for striking high-value adversary assets and infrastructure. Future developments within the same architecture include the indigenous Long-Range Anti-Ship Hypersonic Missile, which was first showcased at the 2026 Republic Day Parade.<sup>15</sup>

These will collectively contribute to a more diversified indigenous strike ecosystem over time.

For the Indian Navy, such a layered approach could offer several operational advantages. It will allow commanders to match weapon choices with the target value and engagement conditions, thereby improving both operational flexibility and cost efficiency. The emergence of a layered anti-ship missile inventory also aligns with broader shifts in contemporary naval warfare, particularly the growing emphasis on distributed lethality and networked maritime operations. Rather than concentrating offensive firepower on a limited number of heavily armed platforms, India can distribute strike capabilities across multiple platforms operating within a coordinated network. This is particularly relevant in the context of India’s naval operations across the vast Indian Ocean region.

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<sup>15</sup> [“Republic Day 2026: DRDO to Showcase Its Path-breaking Innovations at Kartavya Path & Bharat Parv”](#), Press Information Bureau, Ministry of Defence, Government of India, 22 January 2026; [“R-DAY: DRDO Unveils Long Range Anti-Ship Hypersonic MIssile”](#), *DD News*, 26 January 2026.

## **Conclusion**

The successful testing of the NASM-SR thus represents an important development in India’s evolving maritime strike capability. Its significance lies in the gradual expansion of India’s indigenous anti-ship missile ecosystem into categories that were previously dominated by foreign systems. More importantly, this programme reflects an effort to develop domestic expertise in seekers, guidance systems, datalinks and missile integration technologies. These will remain critical for future indigenous weapons development. At the same time, the programme’s sustainability will depend on whether India can overcome persistent challenges associated with platform integration, software upgrades, production scalability and operational deployment. The real test will lie in translating the technological demonstration into a reliable operational capability across multiple naval platforms.

## About the Author



**Mr. Rahul Wankhede** is Research Analyst at the Manohar Parrikar Institute for Defence Studies and Analyses, New Delhi.

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