

DRDO Gears Up for Truck-Mounted VL-SRSAM Trials After Naval Successes



Following a series of successful naval trials, India's Defence Research and Development Organisation (DRDO) is now preparing for crucial tests of a truck-mounted variant of its Vertical Launch Short-Range Surface-to-Air Missile (VL-SRSAM). This development, anticipated to begin in late 2025 or early 2026, aims to provide the Indian Army and Indian Air Force with a highly mobile and potent land-based air defense system, bolstering the nation's indigenous defense capabilities.

The VL-SRSAM system is an advanced adaptation of the indigenous Astra Mk-1 beyond-visual-range air-to-air missile. While initially conceived to replace the aging Israeli-made Barak-1 point defense missile systems on Indian Navy warships, its effectiveness in naval trials has paved the way for broader applications. A notable trial in June 2022 from an Indian Navy ship off the coast of Odisha successfully demonstrated its ability to intercept fast-moving, low-flying aerial targets with pinpoint accuracy, a capability further proven in tests as recent as March 2025. These trials, conducted at the Integrated Test Range (ITR) in Chandipur, validated the missile's agility, reliability, and integration with its weapon control system.

For its land-based role, the VL-SRSAM system will be mounted on a high-mobility 8x8 truck. This configuration is designed for rapid deployment and swift repositioning, making it ideal for protecting frontline airbases, critical infrastructure, and mobile military assets from a variety of aerial threats. The system's operational flexibility is further enhanced by its transportability via military aircraft, including the C-130J Super Hercules and Il-76.

Technologically, the VL-SRSAM is equipped with an indigenous Radio Frequency (RF) seeker and a multi-function radar, leveraging technologies from the Astra program. It incorporates features like lock-on-before-launch (LOBL) and lock-on-after-launch (LOAL) capabilities with mid-course updates via datalink. With a range of approximately 50 kilometers (extendable to 80 km with future Astra Mk2 derivatives), it is designed to neutralize diverse aerial threats, including fighter jets, drones, helicopters, and precision-guided munitions.

A key strength of the truck-mounted VL-SRSAM will be its seamless integration into India's comprehensive, multi-layered air defense network. It is designed to link with the Indian Air Force's Integrated Air Command and Control System (IACCS) and the Indian Army's 'Project Akashteer' control and reporting systems. In this role, it is expected to fill a crucial gap, complementing existing systems like the Akash missile and providing protective cover for larger assets such as S-400 squadrons. The ongoing collaboration between DRDO and public sector defense firms, including Bharat Dynamics Limited (BDL) for missile production and Bharat Electronics Limited (BEL) for radar and control systems, highlights India's commitment to self-reliance in advanced defense technologies. The upcoming trials will focus on validating the system's performance and its seamless integration with the radar grids of the armed forces, marking a significant step toward enhanced national security.