

India's 'Project Kusha' Aims to Create a Hypersonic Air Defense Shield



The Defence Research and Development Organisation (DRDO) is spearheading a new, ambitious initiative, "Project Kusha," which aims to create an indigenous, long-range air defense system for the Indian Air Force (IAF) and Indian Navy. This project, which was cleared by the Cabinet Committee on Security in May 2022, is designed to provide India with a multi-layered defense against a wide range of aerial threats, including cruise missiles, stealth fighter jets, drones, and even hypersonic weapons. The system is expected to feature three variants of interceptor missiles, with a planned induction timeline between 2028 and 2030.

Project Kusha, also known as the Extended Range Air Defence System (ERADS), is a critical part of India's "Aatmnirbhar Bharat" (Self-Reliant India) initiative. The program is being developed to reduce the country's reliance on foreign military systems and strengthen its domestic defense manufacturing capabilities. While India currently operates the Russian-made S-400 Triumf system, Project Kusha is being developed as a "Make-in-India" alternative that can bridge the gap in its air defense architecture.

The core of the system will be three different interceptor missiles, designated M1, M2, and M3, each with a different range. The M1 is designed to engage threats up to 150 km away, the M2 will cover a range of 250 km, and the M3 will be capable of intercepting targets at distances of up to 400 km. These missiles are designed to have a high single-shot kill probability, with a success rate of over 80% and a probability of not less than 90% in salvo launch mode. The system is also expected to be integrated with the Indian Air Force's Integrated Air Command

and Control System (IACCS), a fully-automated air defense network that combines multiple military and civilian radars for efficient and reliable defense.

This indigenous development effort is a testament to India's growing technological prowess and its strategic commitment to safeguarding its skies. The program, which is being executed by the DRDO in partnership with Bharat Electronics Limited (BEL), has an estimated budget of ₹21,700 crore (approximately \$2.6 billion) for the procurement of five IAF squadrons. This initiative will not only enhance India's military readiness but also position the country as a significant player in the global defense technology market, potentially with export opportunities for the future.