

Indian Tejas Mk2 Poised to Enter Advanced Fighter Class with Indigenous Systems



The development of India's Tejas Mk2 fighter jet is moving forward with a strong emphasis on indigenous avionics and systems, a key factor in elevating the aircraft to a true 4.5+ generation combat platform. Hindustan Aeronautics Limited (HAL) is leading the charge in developing a suite of advanced onboard electronics and software, which are essential for the jet's performance and mission effectiveness. This focus on self-reliance is a cornerstone of the "Aatmnirbhar Bharat" (Self-Reliant India) initiative and aims to reduce dependency on foreign suppliers for critical defense technology.

The Tejas Mk2 is designed to be a significant upgrade over its predecessors, the Tejas Mk1 and Mk1A. It is a heavier, more powerful multi-role fighter with a longer fuselage, a more potent General Electric F414 engine, and a greater payload capacity. To support these enhancements, HAL is developing several indigenous systems. A key component is the integrated Environment Control & Fuel Monitoring System-Electronic Unit (ECFM-EU). This unit will manage the pilot's life support and the aircraft's complex fuel system, ensuring safety and extending mission endurance.

Other systems being developed in-house include a new Radio Altimeter (RAM) for precise altitude measurement during low-level flight and landing and a Tactical Air Navigation System (TACAN) for secure, military-grade directional and distance data. The aircraft will also feature a new digital flight control computer, a unified Electronic Warfare (EW) Suite for improved

survivability, and a variant of the indigenous Uttam Active Electronically Scanned Array (AESA) radar. These technologies are crucial for a modern fighter to operate in a complex and contested airspace.

According to an official with the Defence Research and Development Organisation (DRDO), the Tejas Mk2's development is a pivotal step in India's journey toward creating a strong, domestic aerospace industry. The aircraft is designed to replace aging platforms like the Jaguar and Mirage 2000 in the Indian Air Force (IAF) and fill a critical gap between the Tejas Mk1A and the future fifth-generation stealth fighter, the Advanced Medium Combat Aircraft (AMCA). The first prototype is on track to be rolled out by late 2025 or early 2026, with the first flight to follow shortly after. The Tejas Mk2, with its advanced indigenous systems, is set to be a formidable asset for the IAF, representing India's growing industrial and technological prowess in the defense sector.