

Retired Kiran MkII Trainers Find New Purpose as Drone Motherships for India's CATS Program



Hindustan Aeronautics Limited (HAL) is poised to usher in a new era of air combat by repurposing its retired HJT-16 Kiran MkII intermediate jet trainers into Optionally Manned Combat Aircraft (OMCA) for its ambitious Combat Air Teaming System (CATS) program. This innovative move will see the venerable trainers serve as a "mothership" for the CATS Warrior Unmanned Combat Aerial Vehicle (UCAV), facilitating Manned-Unmanned Teaming (MUM-T) operations for the Indian Air Force (IAF).

The Kiran MkII, a two-seater jet trainer that was a mainstay of IAF pilot training until its planned retirement from active service, is being given a new lease on life. HAL stopped production of the Kiran in 1989, but its robust design and availability make it an ideal testbed for the complex MUM-T concept. This involves a human pilot in a manned aircraft coordinating and controlling autonomous or semi-autonomous drones to enhance situational awareness, reduce risk to human life, and optimize mission effectiveness in complex combat environments.

The transformation involves equipping Kiran's second cockpit, traditionally used by a flight instructor, with advanced command-and-control systems. These upgrades include secure communication links, artificial intelligence (AI)-based mission software, and sophisticated mission computers, developed collaboratively by HAL's Saraswathi Radar Development Centre (SLDRC) and the Defence Research and Development Organisation's (DRDO) Centre for Artificial Intelligence and Robotics (CAIR). The modified aircraft, referred to as CATS-OMCA or "Unmanned Kiran," will be capable of both autonomous and remote-controlled flight.

The first successful flight of the "Unmanned Kiran" took place on January 27, 2025. A crucial second test flight is scheduled for early 2026, which will specifically focus on validating the seamless data link and communication between the mothership and the CATS Warrior drone. This will pave the way for the CATS Warrior UCAV's maiden flight, anticipated in late 2026. The CATS Warrior itself has seen significant progress, with a successful engine ground run in January 2025 and taxi trials planned in the near future.

This strategic repurposing of existing assets shows India's commitment to indigenous defense development under the "Atmanirbhar Bharat" (self-reliant India) initiative. By leveraging proven platforms like the Kiran, HAL is accelerating the testing and deployment of advanced unmanned systems, aiming to significantly enhance the IAF's combat capabilities while reducing development costs and timelines. The successful integration of these technologies will be a crucial step in preparing India's air force for the future of aerial warfare.