

## **DRDO ready with anti-terrorist vehicle technology**

*India is now ready with its indigenously developed Anti-terrorist Vehicles (ATV)  
that can withstand any kind of attacks during anti-terrorist operations in cities*

*By Hemant Kumar Rout*

Bhubaneswar: India is now ready with its indigenously developed Anti-terrorist Vehicles (ATV) that can withstand any kind of attacks during anti-terrorist operations in cities.

Developed by Vehicles Research and Development Establishment (VRDE), a laboratory of Defence Research and Development Organisation (DRDO), the ATV can carry three combatants equipped for operations.

The vehicle, weighing around three tonnes provides all-round protection from small arms and hand grenades. It can move around in a hostile environment especially in buildings, small gullies and constrained spaces of hideouts providing an edge to thwart attacks.

The DRDO has urged Indian Industries to submit proposals for Transfer of Technology (ToT). Industries interested for the technology will scale up production of the ATVs.

A senior official of the Ministry of Defence (MoD) said the ATV has been trial evaluated by the users and is ready for production. "Though the ATV technology is now available for three versions - tracked, wheeled and low-noise electric, the proposals have been sought for the tracked vehicle and DRDO has five licenses to offer to industries," he informed. The armoured vehicle was conceptualised in the aftermath of the 26/11 Mumbai terrorist attack. After years of research, the Ahmednagar-based VRDE has developed the agile, compact with weight and dimensional profile and highly manoeuvrable armoured vehicle adequately protected for a hostile environment.

The ATV has situational awareness provision and six firing ports. A top hatch in the vehicle helps security personnel to exit in an emergency. The vehicle can be employed in the corridors of hostile terrains where it is difficult to operate in a normal wheeled vehicle.

"The armoured vehicle has a very low turning circle diameter, which enables it to turn around itself within a limited space. It has all-round ballistic and blast protection, better firing capability and is equipped with varied requirements to carry out the counter-insurgency operation in urban areas," the official added.

The tracked version of ATV has already been tested ballistically and has also undergone a series of successful grenade trials.

### **Compact vehicle**

- Can accommodate 3 combatants
- 360 degrees revolving
- Can move on tracked as well as on tyre
- All round armour and bullet proof glass protection
- Blast protection
- Can climb step of 7" height

<http://www.newindianexpress.com/cities/bhubaneswar/2019/aug/22/drdo-ready-with-anti-terrorist-vehicle-technology-2022595.html>

# Long-awaited indigenous light combat aircraft Tejas Mk II targeted by 2022

*Sanctioned by the government in 2009, the Mk II will be equipped with state-of-the-art AESA radar with the indigenously developed air-to-air missile Astra, which has a range of 70km. The beyond visual range missile is currently being tested on the IAF's Su-30 MKI fighters*

*By Shishir Gupta*

The Aeronautical Development Agency (ADA) of the Defence Research and Development Organisation (DRDO) will unveil the Tejas Mark II with a heavier stand-off weapon capacity in the 75th year of India's independence, in 2022, and the long-awaited indigenous fighter, which will be manufactured by the state-owned Hindustan Aeronautics Ltd (HAL), will go into production by 2025-2026, two senior defence officials said on condition of anonymity.

DRDO's ADA finalised the design of the 17.5 ton Tejas Mark II (Mk-II) in December 2018, and is expected to lock in the design of the fifth generation twin-engine stealth fighter for Indian Air Force (IAF) by the end of the year. ADA officials said the Mk II will have the same weight as the Mirage, Jaguar and Grippen but with a heavier GE 414 engine. The qualitative requirements were frozen in late 2018, in full consultation and with the approval of the IAF, two years after the project was redesigned. The 4.5 generation fighter will go into production after the Tejas LCA (light combat aircraft) order of 123 aircraft to replace the air force's ageing MiG-21s is completed.

**THE NEW TEJAS**  
The long-awaited indigenous fighter Tejas Mk II, which will be manufactured by HAL, will go into production by 2025-2026

**17.5 ton**  
Tejas Mark II will be the same weight as the Mirage, Jaguar and Grippen

**ADDITIONS THE NEW GEN**

- Heavier stand-off weapon capacity
- State-of-the-art AESA radar
- Indigenously developed air-to-air missile Astra (with a range of 70km)

**WHEN:** Set to go into production after the Tejas LCA order of 123 aircraft to replace the IAF's ageing MiG-21s is completed

**ALSO IN THE WORKS**  
Advanced medium combat aircraft (AMCA) given a go-ahead by IAF late last year

25-ton fighter will be powered by two engines capable of super-cruise speeds

Will have advanced tech to ensure minimum radar signatures

Sanctioned by the government in 2009, the Mk II will be equipped with state-of-the-art AESA radar with the indigenously developed air-to-air missile Astra, which has a range of 70km. The beyond visual range missile is currently being tested on the IAF's Su-30 MKI fighters.

ADA and IAF are also moving rapidly on the development of the advanced medium combat aircraft (AMCA). The 25-ton fighter will have all weapons in its belly and be powered by two engines capable of super-cruise speeds. AMCA will have complex S-shaped serpentine intakes. These hide the spinning turbine blades in the engine and are a key stealth feature. The super cruise feature allows the aircraft to accelerate without the use of after burners. Both features ensure minimum radar signatures.

According to top DRDO officials who asked not to be named, the design of AMCA, which was approved as an initial concept in 2014, has been given a go-ahead by IAF late last year. In consultation with the air force, the design of the twin engine fighter will be frozen by the end of the year. This, too, will be made by HAL.

The Tejas will be lightest member of the family; the LCA weighs just around 11 tonnes.

Designed as a fifth-generation stealth fighter using composite material, the AMCA will be unveiled by ADA in 2024. With a weight equivalent to the F-18 fighter, AMCA will be powered with a new engine, the search for which has already started.

<https://www.hindustantimes.com/india-news/indigenous-light-combat-aircraft-targeted-by-2022/story-MGy2MXsapn8H6IDjUNt12H.html>