



## LCA-Mk2 and AMCA

### Why in News

According to the **Aeronautical Development Agency (ADA)**, LCA Tejas-Mk2 will be rolled out in **2022** and the first flight in early 2023. **Advanced Medium Combat Aircraft (AMCA)** will be rolled out in 2024 and first flight in 2025.

- Simultaneously, the project for development of a **twin-engine deck-based fighter jet** meant to fly from the Navy's aircraft carriers is also making progress.
- ADA is an **autonomous body** of the **Ministry of Defence**.

### 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

### Key Points

- **LCA-Mk2:**
  - It is a **4.5 generation aircraft** which will be used by the Indian Air Force.
  - It is a **replacement for the Mirage 2000 class of aircraft**.
  - It has got a bigger engine and can carry **6.5 tonnes of payload**.
  - The technology is already developed in **Light Combat Aircraft (LCA)**.

- The LCA programme began in the 1980s to replace India's ageing MiG-21 fighters.
- The LCA is being designed and developed with **ADA as the nodal agency** and **State-owned Hindustan Aeronautics Limited (HAL)** being the principal partner.
- Its production is likely to start somewhere around 2025.

## Variants of Tejas

- **Tejas Trainer:** 2-seater operational conversion trainer for training air force pilots.
- **LCA Navy:** Twin- and single-seat carrier-capable for the Indian Navy.
- **LCA Tejas Navy MK2:** This is phase 2 of the LCA Navy variant.
- **LCA Tejas Mk-1A:** This is an improvement over the **LCA Tejas Mk1** with a higher thrust engine (**Air Force**).
- **LCA Tejas Mk-2:** Following the Mk-1A is the Mk-2 which will provide a high degree of manoeuvrability.

### ▪ **Advanced Medium Combat Aircraft (AMCA):**

#### ◦ **About:**

- It is a **fifth generation aircraft**. And will be used **by the Indian Air Force**.
- It is a stealth aircraft, i.e. **designed for stealth** and unlike the LCA, which is designed for manoeuvrability.
  - It has a unique shape to achieve low radar cross-section and has an internal carriage of weapons.
  - When the external weapons are removed, this aircraft has enough fuel and weapons inside to do a very capable operational role in stealth mode.

#### ◦ **Range:**

- **Over 1,000 km up to 3,000 km** in different modes.

#### ◦ **Variants and Engine:**

- It has two variants **Mk-1 and Mk-2**, While AMCA Mk-1 will have an imported engine, same as LCA Mk-2, the AMCA Mk-2 will have an indigenous engine.

#### ◦ **Manufacturing:**

- The manufacturing and production of the aircraft will be through a **Special Purpose Vehicle (SPV)**, which will also have participation of private industry.

**Source: TH**

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