



# India's Fighter Jets

## Why in News?

The [Indian Air Force \(IAF\)](#), one of the world's largest Air Forces, face challenges in modernizing its fleet, as delays in procurement have led to a **shortfall in its fighter squadrons**.

- An IAF representative informed the Parliamentary standing committee on Defence that the IAF has only **31 fighter squadrons, against the sanctioned strength of 42**.

## What is Fighter Squadron?

- **About:**
  - A **fighter squadron is a military unit consisting of fighter aircraft and the pilots who fly them**.
    - It is a fundamental component of an air force and is responsible for **conducting air operations in a combat zone**.
  - A typical fighter squadron consists of **18 fighter aircraft**.
  - They are an essential component of any modern air force and are tasked with a wide range of missions, including air superiority, and ground attack.
- **Reasons for the Shortfall:**
  - **Delays in procurement have contributed to the shortfall**, as many of the IAF's fighter jets are ageing and need to be replaced.
- **Status of the Procurement of Fighter Jets:**
  - India has an ambitious plan to acquire over 500 fighter jets, with most of them being for the IAF.
    - Many of these jets are still in **various stages of development**, and their manufacturing and timely deliveries are critical.
  - The IAF has in total contracted 272 SU-30s.
  - A deal to procure 12 additional [SU-30MKI](#) aircrafts to replace the ones lost in accidents and 21 additional MIG-29s from Russia has been stuck, though both IAF and Russian officials state that it has only been delayed but is on track.

## What Different Types of Aircrafts India Has?

- **Light Combat Aircraft (LCA):**
  - **Designed to replace ageing Mig 21** fighter planes
  - Developed by the **Aeronautical Development Agency (ADA)** under the Department of Defence Research and Development.
  - Manufactured by [Hindustan Aeronautics Limited \(HAL\)](#).
  - **Lightest, smallest and tailless multi-role supersonic fighter aircraft** in its class.
  - Can carry a range of **air-to-air, air-to-surface, precision-guided weapons**.
  - Air-to-air refueling capability, maximum payload capacity of 4000 kg, maximum speed of **Mach 1.8** and Range of 3000 km.
- **Multi-Role Fighter Aircraft (MRFA):**
  - Designed to perform various missions such as air-to-air combat, air-to-ground attack, and electronic warfare.
  - IAF pursuing the procurement of 114 MRFA to replace the aging fleet of Soviet-era MiG-21.

- Procurement will be carried out under the **Make in India initiative.**
- Selected vendor will have to set up a production line in India and transfer technology to local partners.
- **MiG-21:**
  - Supersonic jet fighter and interceptor aircraft designed by the erstwhile USSR in the 1950s.
    - Widely used combat aircraft in history, with more than 11,000 units built and over 60 countries operating it.
  - **IAF acquired its first MiG-21 in 1963** and has since **inducted 874 variants** of the aircraft
  - Involved in several wars and conflicts involving India. Involved in many accidents and crashes, earning it the nickname **“flying coffin”.**
  - IAF plans to phase out the **MiG-21 by 2024 and replace it with more modern fighters.**
- **Advanced Medium Combat Aircraft (AMCA):**
  - An Indian program to develop a 5th generation stealth, multirole combat aircraft for the IAF and the Indian Navy
  - Designed and developed by the ADA of the **DRDO**, in collaboration with Hindustan Aeronautics Limited (HAL) and other public and private partners.
  - Expected to have features such as a **stealth airframe, internal weapons bay, advanced sensors, data fusion, supercruise capability and swing-role performance**
  - Started in 2008 as a **successor to the Sukhoi Su-30MKI**
    - **First flight planned for 2025** and production is expected to start after 2030.
- **Sukhoi Su-30MKI:**
  - **Twin-engine, two-seat, multirole fighter aircraft developed by Russia’s Sukhoi** and built under license by India’s HAL for the IAF.
  - Designed to perform air superiority, ground attack, electronic warfare, and maritime strike missions
  - Entered **service with the IAF in 2002 and has been deployed in several conflicts and exercises**
- **Twin-Engine Deck-Based Fighter (TEDBF):**
  - Manufactured for the Navy to replace the Navy's MiG-29K.
  - **First twin-engine aircraft project in India for dedicated carrier-based operations.**
  - Equipped predominantly with **domestic weapons.**
  - Maximum **mach number of 1.6**, service ceiling of 60,000 feet, maximum takeoff weight of 26 tons, unfolded wing.
- **Rafale:**
  - **French twin-engine and multirole fighter aircraft.**
  - **India procured 36 Rafale jets** for Rs 59,000 crore in 2016.
  - Equipped to perform **air supremacy, interdiction, aerial reconnaissance, ground support, in-depth strike, anti-ship strike, and nuclear deterrence missions.**
  - The weapons package of Rafale jets includes **Meteor missile, Scalp cruise missile, and MICA missile system.**
    - **Meteor missile** is the next generation of Beyond Visual Range air-to-air missile designed to revolutionize air-to-air combat, capable of targeting **enemy aircraft from 150 km away.**
    - **SCALP Cruise Missiles can hit targets 300 km away**, while **MICA missile system** is a versatile air-to-air missile capable of **hitting targets up to 100 km away.**
  - Flight hour capacity of **30,000 hours in operations.**

## Note:

- In a more recent move, **INS Vikrant, India’s first indigenous aircraft carrier**, was commissioned in Sept 2022 and is currently in the process of getting operationalised.
- Recently, the **Naval variant of India’s indigenous Light Combat Aircraft (LCA) made its maiden landing** on board the INS Vikrant.

[Source: TH](#)

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