Bharat Aero 2026
Indian Military Aviation Ecosystem

CONCEPT-NOTE

Introduction

India's military aviation ecosystem stands at a decisive inflection point. Rapid advances in aerospace technologies, the changing character of warfare, and the evolving regional geopolitical environment demand a fundamental reorientation of how air power is conceived, developed, sustained, and modernised. For the **Indian Air Force**, the transition from a predominantly import-dependent force to a self-reliant, technology-driven, and industry-integrated aerospace power is no longer aspirational—it is an operational imperative.

The Government of India's thrust on *Atmanirbhar Bharat*, Defence Acquisition Procedure (DAP) reforms, positive indigenisation lists, and strategic partnership models have created unprecedented opportunities for the domestic industry. However, these opportunities need to be synchronised with operational realities, life-cycle sustainment challenges, and future capability requirements of the IAF. Military aviation today is no longer defined solely by platforms, but by ecosystems encompassing design, manufacturing, MRO, upgrades, digital engineering, supply chains, and human capital.

Against this backdrop, the **Conference** on **'India Military Aviation Ecosystem'** has been conceived so as to bring together policymakers, the Indian Air Force, DPSUs, private industry, MSMEs, start-ups, academia, and R&D institutions. The objective is to move beyond transactional procurement discussions and instead focus on aviation ecosystem-building, long-term collaboration, and capability development across the full spectrum of military aviation.

Vision and Objectives

The conference would aim to create a shared strategic understanding of how India can build a resilient, future-ready military aviation ecosystem aligned with the IAF's evolving operational doctrine. The central vision would be to enable **innovation-led self-reliance**, while ensuring that indigenisation directly translates into combat readiness, availability, and technological superiority.

Key objectives would include identifying gaps and opportunities in India's current aerospace manufacturing and support ecosystem; fostering collaboration between the IAF and industry at the design and development stage; enabling technology infusion for next-generation capabilities; and evolving sustainable models for upgrades, life extension, and obsolescence management of legacy platforms. The conference would also seek to align industry investment cycles with long-term IAF capability roadmaps.

Session-I: IAF Fixed Wing Aircraft Manufacturing Ecosystem & Upgrades

Fixed wing combat, transport, and special mission aircraft form the backbone of India's air power for sustaining combat effectiveness. This session will examine the current state of India's fixed wing manufacturing ecosystem, including design maturity, supply chain robustness, quality assurance, and certification frameworks; HAL perspectives for new fixed wing programs, the respective quality assurance aspects, and opportunities for the industry & the way forward. The goal is to ensure that indigenous fixed wing platforms remain technologically relevant throughout their service life while reducing dependence on foreign OEMs for critical subsystems.

Session-II: Helicopters, Unmanned Aerial Systems (UAS) and Counter-UAS Systems (CUAS) – Present Ecosystem and Way Forward

Unmanned Aerial Systems represent the most disruptive force in contemporary military aviation. The proliferation of UAS across ISR, strike, logistics, and electronic warfare roles has reshaped air operations globally. India's Unmanned Aerial Force is rapidly evolving, with significant advancements in drone technology, Manned-Unmanned Teaming (MUM-T), and AI driven Swarm Drones Development. The conference will explore how start-ups, MSMEs, and established aerospace firms can be integrated into a coherent UAS industrial framework, supported by agile procurement and iterative development models. Emphasis will be placed on military–industry co-development, rapid prototyping, and operational experimentation to ensure that indigenous UAS solutions remain responsive to evolving threat environments.

As UAS capabilities proliferate, Counter-UAS (C-UAS) has emerged as a critical air defence sub-domain. This session will examine India's current C-UAS ecosystem, including sensors, electronic warfare solutions, kinetic interceptors, and directed energy systems. Discussions will focus on layered defence architectures, cost-imposition strategies, and the integration of C-UAS into broader air defence networks.

The conference will also explore opportunities for indigenous development of radar, EO/IR sensors, AI-based detection algorithms, and soft-kill systems. A key outcome sought is the identification of pathways to develop scalable, affordable, and rapidly deployable C-UAS solutions tailored to India's operational realities.

Helicopters are indispensable across the spectrum of military operations, from battlefield mobility and logistics to ISR, SAR, and combat support. The session will also explore how India can build depth and resilience in helicopter manufacturing, MRO industry, including dynamic systems, avionics, mission equipment, and composite structures. Particular attention will be given to the challenges of indigenising engines, gearboxes, and flight control systems—historically the most technology-intensive domains.

Session-III: IAF Legacy Platforms – Industry Ecosystem and Way Forward

Legacy platforms will continue to form a significant portion of the IAF's inventory over the next two decades. Ensuring their operational relevance, safety, and availability is as critical as inducting new platforms.

This session will focus on how industry can support life extension programmes, avionics upgrades, structural health monitoring, and obsolescence management for legacy aircraft and helicopters. The discussions will address challenges related to diminishing manufacturing sources, reverse engineering, and certification of indigenous substitutes for imported components.

The conference will also examine new business models for MRO, including performance-based logistics, digital twins, and predictive maintenance. The objective is to transition from reactive sustainment to proactive availability assurance, with Indian industry playing a central role.

Conclusion

The future of air power will be defined not merely by platforms, but by the strength of the ecosystems that design, build, upgrade, and sustain them. This conference represents a critical step in aligning India's military aviation ambitions with industrial capacity and technological innovation. By focusing on collaboration, self-reliance, and forward-looking capability development, the event seeks to shape a resilient aerospace defence environment for decades to come.