



# Air Traffic Management Systems

## Why in News

Recently, the [Airports Authority of India \(AAI\)](#), under its R&D initiative, has signed an agreement with [Bharat Electronics Limited \(BEL\)](#) to jointly develop indigenous **Air Traffic Management System**.

- Under this Agreement, BEL and AAI will jointly develop **Civil Air Traffic Management System (ATMS)** with **Advanced-Surface Movement Guidance and Control System (ASMGCS)**, a complex ground surveillance system that manages air traffic at airports and in Indian Civil Airspace for safe operation of flights from take-off to landing.

## What is the Air Traffic Management System?

- Air traffic management and control primarily **involves the control of traffic in and around airports, airport terminals and airspace**.
- Air traffic controllers that work from **Air Traffic Control (ATC) towers are responsible for ensuring a safe distance between all aircraft**, both in the air and on the ground, to prevent accidents.
- Air traffic controllers **prevent collisions and maintain an orderly flow of air traffic**. The commonly used technologies and systems in air traffic management and control include:
  - Surface movement and surveillance [radars](#)
  - Holographic radar
  - Navigation and surveillance systems
  - Voice communication control systems
  - Ultra-high frequency (UHF) and very high frequency (VHF) communication systems
  - Flight data information display equipment
  - Radio modems and transceivers
  - Collision avoidance systems
  - Noise monitoring systems
  - Meteorological sensors and displays
  - Airfield lighting control and monitoring
  - Training management software

## What are the Objectives and Significance of the Agreement?

- It will help in leveraging the complementary strengths and capabilities of BEL and AAI and enabling both to **address airport modernization opportunities**.
- It will **ensure safety, maintain separation between multiple aircraft, and efficient management of operations** at the airport and Indian airspace.
- It aims to upgrade its **ANS (Air Navigation Services) Infrastructure** in systematic, efficient and cost-effective manner and in compliance with the [‘Atma Nirbhar Bharat’](#) missions of the Government of India.
- It will **reduce AAI’s foreign dependency for procurement** of ANS infrastructure.

[Source: PIB](#)

PDF Refernece URL: <https://www.drishtias.com/printpdf/air-traffic-management-systems>

