

Indigenous Air Traffic Management Systems

March 28, 2022

In news— Recently, the Airports Authority of India (AAI) has entered into an agreement with Bharat Electronics Limited (BEL) for the joint indigenous development of systems for air traffic management and surface movement of aircraft at airports in the country.

About Indigenous Air Traffic Management Systems-

- **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.
- **This will reduce AAI's foreign dependency for procurement of ANS infrastructure.**
- **The aim of ATMS with ASMGCS is to provide the air traffic controller with the complete air traffic picture of the coverage area** while interacting with Primary/Secondary Radar, Automatic Dependent Surveillance-Broadcast(ADS-B), Multilateration System (MLATs), and navigational equipment such as GPS, Instrument Landing System and Doppler Very High Frequency Omni Range.
- The dual purpose of air traffic control is to ensure safety, maintain separation between multiple aircraft, and efficient management of operations at the airport and Indian airspace.
- **ASMGCS provides routing, guidance and surveillance services to aircraft and vehicles, on the ground, in**

order to maintain safe surface movement in all weather conditions at the airport.

- **It also interfaces with multiple sub-systems including Aeronautical Fixed Telecommunications Network**, Airport Operational Database, Airport Collaborative Decision Making and Centralized Air Traffic Flow Management system.
- **The system is used in congested airports and airspaces to serve a large volume of air traffic**, including military flights.
- **The system comprises multiple, in-house developed technologies, such as** Situation Display for Air traffic controller, Surveillance Data Processing, Flight Data Processing, Safety Net and Decision Support, Control & Monitoring Display (CMD), Advanced ASMGCS, etc.
- It helps in increasing capacity with improved safety by reducing controller workload, improving air traffic flow and minimizing flight delays.