# Netra Airborne Early Warning and Control (AEW&C) system

***Prelims:*** *Current events of national and international importance | Defence*

## Why in News?

*The Indian defence sector received a fresh boost as the indigenously built Netra Airborne Early Warning and Control system secured final operational clearance.*

- **Netra System** – It is *India's first indigenously developed* Airborne Early Warning and Control (AEW&C) system designed to strengthen air defence and battlefield awareness.
- **Purpose** – It provides comprehensive situational information to controllers onboard the aircraft and to ground-based stations, enabling coordinated air defence operations.
- Often referred to as an *"eye in the sky",* the system provides commanders with a real-time picture of the aerial battlefield.
- **Developed by** – Defence Research and Development Organisation (DRDO), in collaboration with the Indian Air Force, certification agencies such as CEMILAC and DGAQA, and several Indian industry partners.
- **Mounted on** – Brazilian-made Embraer EMB-145 aircraft.
- **Function** – It functions as an airborne surveillance and battle management platform capable of detecting, tracking and identifying airborne threats over long distances.

## Key Features

- **Equipped with** – It is equipped with an indigenous Active Electronically Scanned Array (AESA) radar (one of the most advanced radar technologies), allowing it to detect and track multiple targets simultaneously with greater speed and accuracy.
- **Integrated with Advanced Systems** – Including Secondary Surveillance Radar (SSR), Electronic Support Measures (ESM), Electronic Counter Measures (ECM), secure communication systems, Line-of-Sight (LOS) and Beyond-Line-of-Sight (BLOS) data links, and a self-protection suite.
- **Air-to-Air Refuelling** – It has air-to-air refuelling capability, allowing it to remain airborne for extended surveillance missions.
- **Technical Complexity** – For developing Netra platform requires *expertise across multiple domains*, including radar technology, electronic warfare, avionics, mission software, aircraft integration and systems engineering.
- **Significance** – It is considered a force multiplier in modern warfare by acting as an airborne command and control centre that provides early warning of incoming aircraft, missiles & drones & enables the Indian Air Force to rapidly coordinate large-scale air, border, and maritime defence missions.

**Reference**

[The Hindu | Netra AEW&C: India’s indigenous ‘eye in the sky’ that strengthens air power]