India’s First eVTOL Prototype

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Why in News?

Recently, A Chennai based startup ePlane Company unveiled India’s first full-scale electric vertical take-off and landing (eVTOL) aircraft prototype – PT-01.

Key Features

- **eVTOL Concept –** ***Vertical take-off/landing*** like helicopters, forward flight like fixed-wing aircraft.
- **Structure –** Carbon-fibre composite body.
- **Design –** 6 independent lift rotors + 4 forward propellers with thrust redistribution (if one motor fails).
- **Range –** Operational range 110 km.
- **Propulsion –** Powered by ***batteries and multiple electric motors*** (no turbine engines).
- **Advanced Air Mobility (AAM) –** Combines electric propulsion, lightweight composites, advanced flight-control systems.
- **Flight Control –** Modern *fly-by-wire technology* enables safe unmanned testing and redundancy in case of propulsion failure.
- **Safety –** Distributed electric propulsion reduces risk of single-point failures, suited for dense urban areas.
- **Initial Trials –** Unmanned test flights first, followed by piloted trials under certification programme.
- **Commercial Operations –** Targeted by 2028.
- **Applications –** Air ambulance services (first use case), airport transfers and urban transport.
- **Benefits –** Quieter operations, lower emissions, reduced operating costs compared to helicopters.

Reference

Economic Times | eVTOL

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