CREATING THE FUTURE:

TOWARDS THE WORLD'S FIRST ZERO EMISSION AIRCRAFT

Global aircraft manufacturer, Airbus, has revealed new concepts for the world's first zero-emission commercial aircraft which could enter service by 2035. The concept aircraft rely on hydrogen as a primary power source - an option which Airbus believes holds exceptional promise as a clean aviation fuel for aerospace and other industries to meet their climate-neutral targets.

Codenamed "ZEROe", each concept represent a different approach to achieving zero-emission flight, exploring various technology pathways and aerodynamic configurations. Airbus is studying a variety of concepts to determine which option has the potential to scale up to larger aircraft. A final selection for the launch of the ZEROe programme can be expected by 2025.

"POD" CONFIGURATION / TURBOPROP DESIGN

This innovative configuration features "pods" that act as standalone turboprop motors, each driving eight-bladed propellers via a distributed hydrogen fuel cell propulsion system. The aircraft features removable fixtures for quick assembly and disassembly. It would seat up to 100 passengers, and can travel more around 1,000 nautical miles, making it a greener option for short-haul trips.

"BLENDED-WING BODY" DESIGN

In this concept, the wings merge with the main body of the aircraft . Two hybrid hydrogen turbofan engines provide thrust. An exceptionally wide fuselage opens up multiple options for hydrogen storage and distribution, and for cabin layout. This aircraft would be able to take up to 200 passengers with a range of 2,000+ nautical miles.

TURBOFAN DESIGN

In the turbofan configuration, two hybrid hydrogen turbofan engines (modified gas-turbine engine running on hydrogen) provide thrust. The liquid hydrogen will be stored and distributed via tanks located behind the rear pressure bulkhead. The aircraft would seat between 120 to 200 passengers, and have a range of 2,000+ nautical miles, making it capable of operating transcontinental flights.