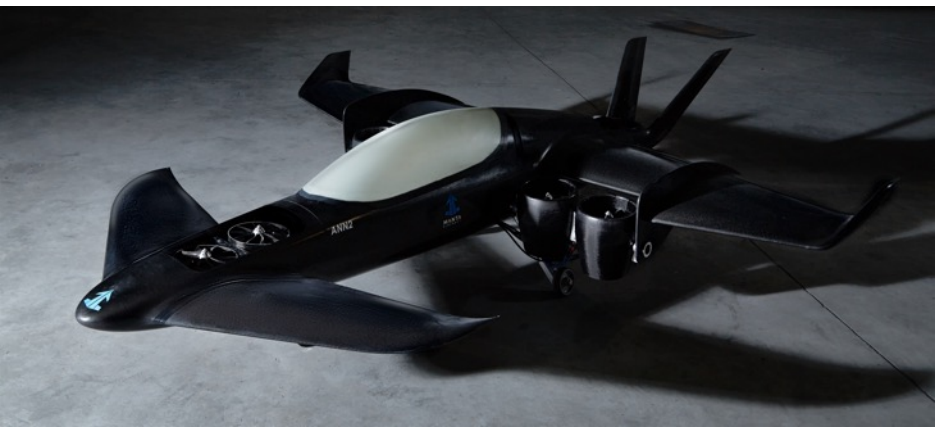
MANTA AIRCRAFT



MANTA AIRCRAFT SA

MANTA AIRCRAFT SA is an engineering design and technology company active in the development of high-tech multi-purpose platforms for electric and hybrid-electric flying vehicles. The project has been developed by a group of skilled engineers and technicians with long-time experience in all the technologies involved in advanced air mobility aircraft construction and operation.

HIGH-PERFORMANCE ADVANCED AIR MOBILITY AIR VEHICLE PLATFORM ANN™

Manta Aircraft ANN™ is a family of HeV/STOL multi-purpose aircraft capable to operate on any standard helipad or very short airstrips. HeV/STOL means that these air vehicles can take off and land vertically or with a very short ground run, or also on runways as normal aircraft. These latter modes of operation allow substantial increases of payload-carrying capability.

A MULTI-FACETED SET OF MODELS

The first model being developed by Manta Aircraft is the two-seat ANN2. 2 prototypes of this high-performance aircraft are being developed in a program that sets the first flight in 2022. It has been designed for personal air mobility with regional range (up to 600 km) at high speed (over 300 km/h). The same performance will be offered by the larger ANN4, which can be configurated also for air taxi services. This model is set to join the family two years later.

HYBRID PROPULSION, DUCTED FANS

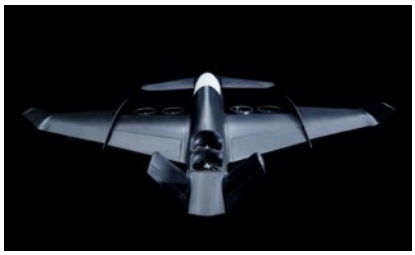
The propulsion is hybrid electric. It relies on a gas turbine that runs an electric generator which charges a pack of batteries. These feed eight electric motors that spin as many ducted fans.

Four of the latter are set vertically in the fuselage (two aligned in the nose and two behind the power unit, which is installed just past the crew compartment, over the wing). These thrusters are used for vertical take off and landing and are closed by panels in cruise.

The other four thrusters are installed at the wing roots, mounted on paired tilting units, to contribute for vectored thrust in V/STOL operations and for transition to/from horizontal flight. They are set in horizontal for fast cruise propulsion.

PILOTED OR AUTONOMOUS

The ANN air vehicles are normally piloted by a human onboard. Though, the enhanced computerized redundant flight control system allows for complete autonomous flight where applicable flight safety condition exist.



MULTI-PURPOSE CHARACTERS

All models have been designed to be capable of a very wide range of “utility” operations such as fast light cargo dispatching, aerial surveillance (police, port authority, electric and oil lines) rapid emergency intervention (medical, fire, accidents) where human presence is urgently necessary.

In all these operations the performance of ANN air vehicles largely surpass the ones of the helicopters.

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AIRCRAFT

CHARACTERISTICS

- HYBRID PROPULSION SYSTEM
- EASY –TO-USE HUMAN MASCHINE INTERFACE
- 8 ELECTRIC DUCTED FANS
- FULL COMPOSITE STRUCTURE
- FLY –BY-WIRE – FULL ELECTRIC CONTROL SYSTEM
- COCKPIT WITH WIDE PILOTS`VIEW

BENEFITS

LONG ENDURANCE & RANGE

600+ km

The hybrid propulsion system allows an outstanding range for regional and inter city flights without several recharging stops

HIGH CRUISING SPEED

300+ kmh

The high cruising speed enables a fast commuting on medium and long distances

VERY LIMITED INFRASTRUCTURE NEEDS

Only gas/(eco)fuels

Little ground infrastructure needed: Short ground time and high availability

HIGH MANOEUVERABLITY

Mix of airplane and VTOL characteristics

Exceptional manoeuvring capabilities: hover in mid air, exceptional pitch, roll and yaw rates performance

AFFORDABLE OPERATING COSTS

Much lower than for helicopters

Total cost of ownership much lower than the of a helicopter

EASY TO DEPLOY & MAINTAIN

It fits in a road trailer towed by a car.

Modular design allows quick disassembly and assembly for transportation and repair: Wing, Canard, Fuselage, Power Pack Unit

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