



# Il Catalyst come sistema propulsivo dei futuri Sistemi a Pilotaggio Remoto (UAV): l'esperienza Eurodrone

Webinar “La propulsione aeronautica dal 1908 al 2024 – dal motore automobilistico al Catalyst”  
Roma, 24 Ottobre 2024



Catalyst ... selected by Airbus Defence and Space for the Eurodrone, following a 5+ years, challenging selection process

# About the Eurodrone



- Program between Germany, France, Spain and Italy and under the management of OCCAR (international armaments agency)
- It will give Europe its own unparalleled competencies in the field of UAV offering advanced strategic performance capabilities
- It will strengthen European sovereignty by establishing and expanding an independent technological base in the field of UAV
- Being developed by Airbus Defence and Space in cooperation with Dassault and Leonardo
- First unmanned aerial system designed for flight in non-segregated airspace.

# UAV ... gaining momentum



- UAVs proven themselves to be a fundamental assets in 'modern' warfare
- They altered the dynamics of military operations, offering unique tactical advantages and enhanced the operational efficiency in various combat scenarios
- Primarily used in asymmetric conflicts, but not only ...
- Essential enabler of future power air system
- Civilian use foreseen, but barrier to entry still exists
- Until 10 years hegemony of US and IL
- Now several countries are developing its own asset

# Eurodrone: main characteristics

## Characteristics

- MALE class
- MTOW: 12t
- Mission Payload: 2.300 kg
- Wingspan: 30 m
- Cruise speed: 500 km/h
- Endurance: 18-40h
- Service ceiling: 13,700 m
- Twin turboprop engine

## Missions

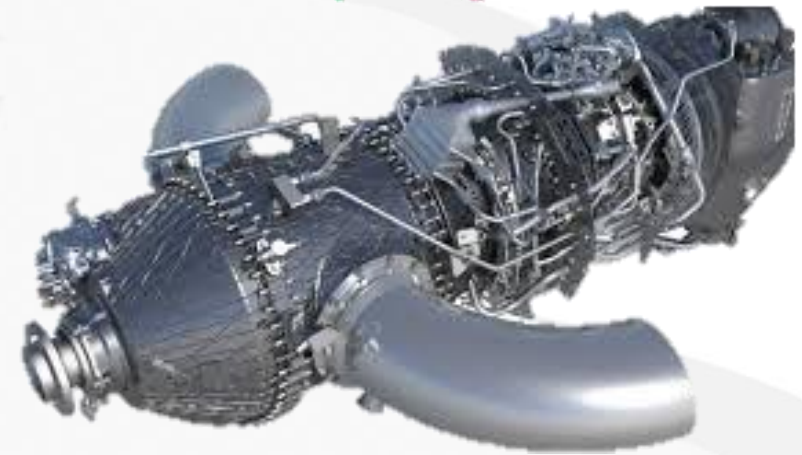
- Multi-Mission Unmanned System
- Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR)
- Anti-Submarine Warfare (ASW)
- Anti-Surface Warfare (ASuW)
- Early- Warning
- Large Area-Surveillance
- Fleet Protection
- Protection of Critical Infrastructure
- SIGINT
- All weather capability
- Interoperability

# The engine selection

4 turboprop engines were initially evaluated ... 2 were down-selected



**Safran Ardiden 3 TP**



**Avio Aero Catalyst**

Competitive selection process ...

5+ years from the initial engagement to contract signature

# What Airbus was looking for ... typical CTQs for a UAV

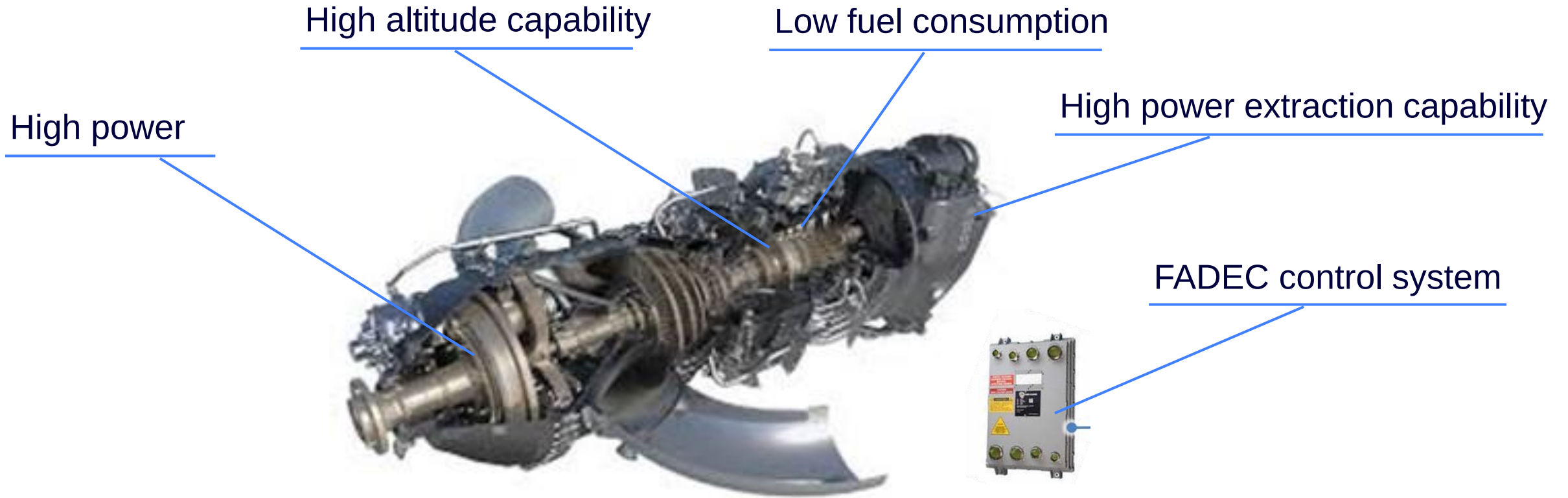


- Performance
  - Fuel consumption
  - Power at altitude
  - Power extraction (payloads)
  - Control system
- Time to market
- Operating costs

but also ...

- European nature
- Not subject to non-EU export control
- Maturity (reducing development risks)

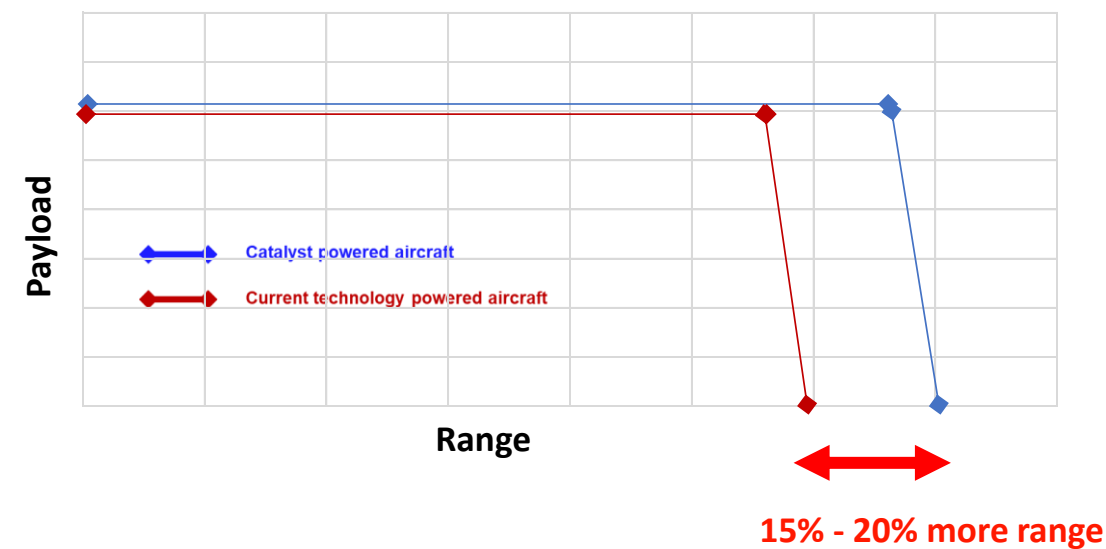
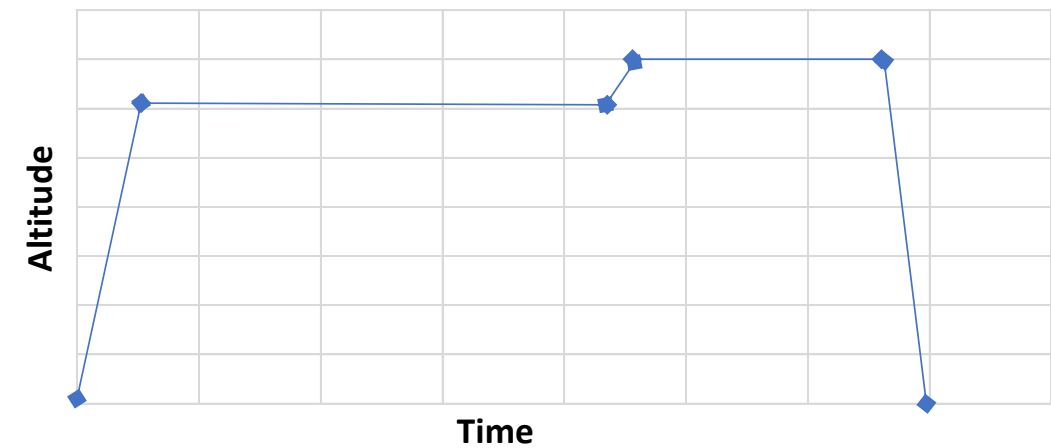
# Catalyst ... our value proposition to Airbus D&S



- Low maintenance cost (high TBO) ... low operating costs
- Time to market ... in line with Airbus requirements

# Catalyst ... our value proposition to Airbus D&S

Typical UAV ISR mission



Enhancing mission capability

# Catalyst ... our value proposition to Airbus D&S



## European nature

- Fully developed in Europe (IT, CZ, PL, DE)
- Not subject to non-EU export control
- In particular, not controlled by US export control regimes (ITAR, EAR )

# Catalyst for Eurodrone



- The right engine at the right time
- Performance, operating costs, maturity
- Airbus “Industrial choice”

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Denali and Eurodrone ... completely different mission / requirements



Versatility of the engine ... winning both

