

EPICEA workshop Welcome

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Electromagnetic Platform for lightweight integration/installation of electrical systems in Composite Electrical Aircraft



THE FRENCH AEROSPACE LAB

ONERA

- **Public sector body established in 1946**
- **Under the supervision of the MoD**
- **1965 people at eight sites**
- **A world class scientific level**
- **290+ PhD students**
- **Budget 236 million € - 118 M€ contracts**
- **Largest fleet of wind tunnels in Europe**

Hauts de France

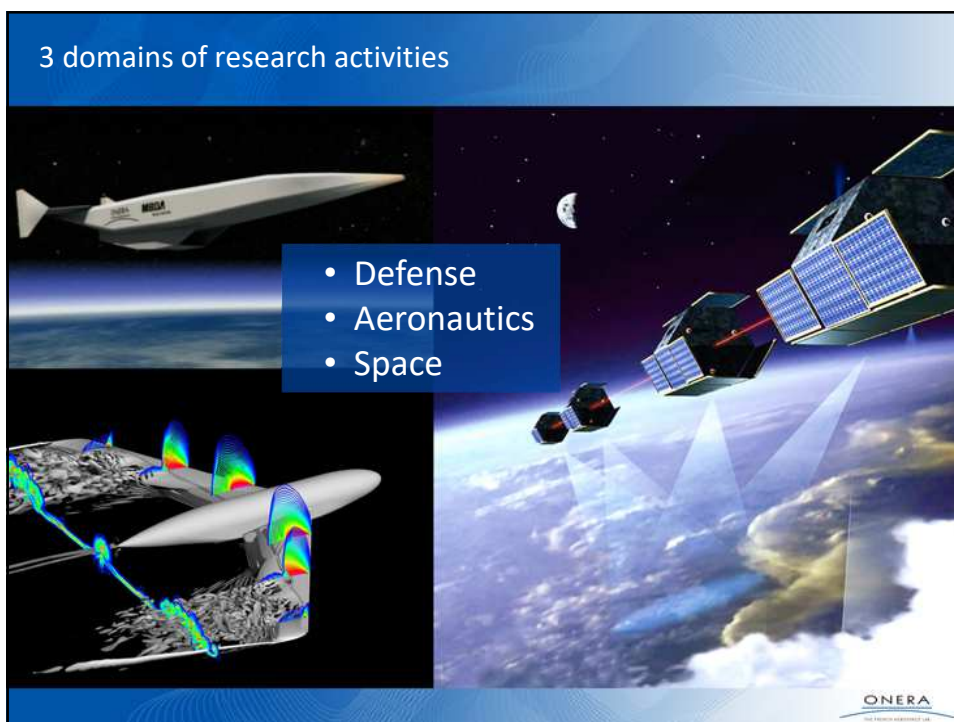
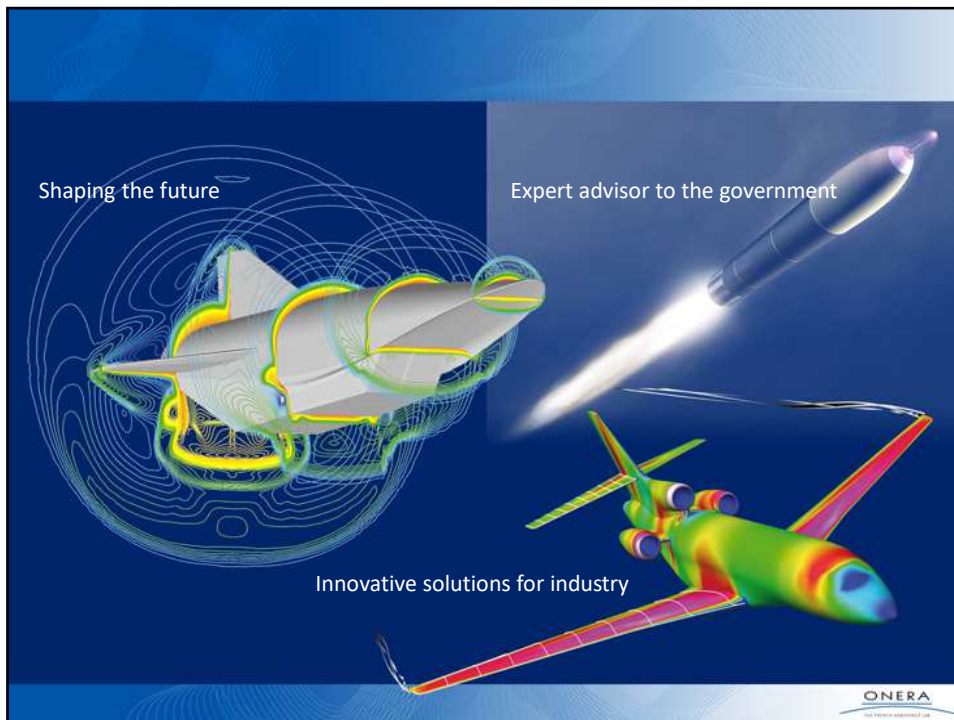
Ile-de-France

Occitanie






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Aeronautics Program at a glance

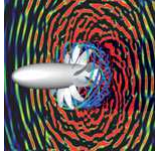
Prepare the next generations of aircraft



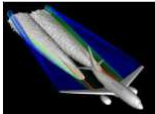
New technologies: propulsion, aerodynamics...



Understand and reduce environmental footprint



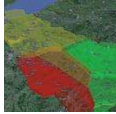
Emissions, noise...




For a more performant and secure air transport

Evaluation and risk mitigation: lightning, turbulence, crash, icing, fire...




ATM improvement



Drone insertion in air traffic





New means of coupled numerical and experimental simulations (assimilation), and exploitation of massive data (AI)

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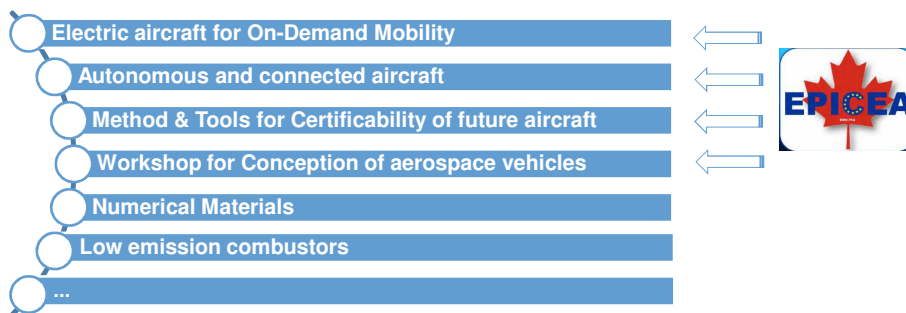
International context

- In 2018, studies contracted by ONERA have increased by 11%, and by 26% if contracts outside France are considered.
- Over the 2014-2018 period, our main foreign customers are within Europe. ONERA deeply involved in:
 - ✓ Clean Sky 2
 - **Core-partner** in 4 out of the 6 main platforms (AIRFRAME ITD, ENGINES ITD, LPA IADP, RA IADP) via 6 projects (success rate **55%**)
 - **Partner and subcontractor** in 5 platforms via 12 projects (success rate **67%**)
 - 7 scientific departments + 3 departments of the wind-tunnel direction
 - Current EU+subcontract for ONERA ~ **38M€**
 - ✓ H2020
 - Between **8 and 21 successful projects / year**
 - Average success rate ~ **29%** (increasing since 2 years)
 - Recent big success in projects related to:
 - **Noise** (ANIMA, ARTEM, RUMBLE)
 - **Icing** (MUSIC-Haic, Ice-Genesis, Sense4Ice): end 2018
- Several on-going initiatives to strengthen French (and European) cooperation with CANADA

EPICEA contribution to ONERA Aeronautics Strategy

24 ONERA Internal Roadmaps



EPICEA addressing key EM issues related to MEA as a N+2 generation of aircraft