

## Aviation

### ALTEN ADDED VALUE

Agile approach  
Expert domain knowledge  
High-seniority engineers  
Fast team ramp-up  
Remote team working on a common goal  
Extending the client's project capabilities

### KEY DATA

Team Size: 30 Engineers  
Time: Since January 2016

### KEY TOOLS & TECHNOLOGIES

CATIA V5  
Hypermesh  
3Dx

# DESIGN AND STRESS ACTIVITIES ON POWERPLANT STRUCTURES

## OVERVIEW

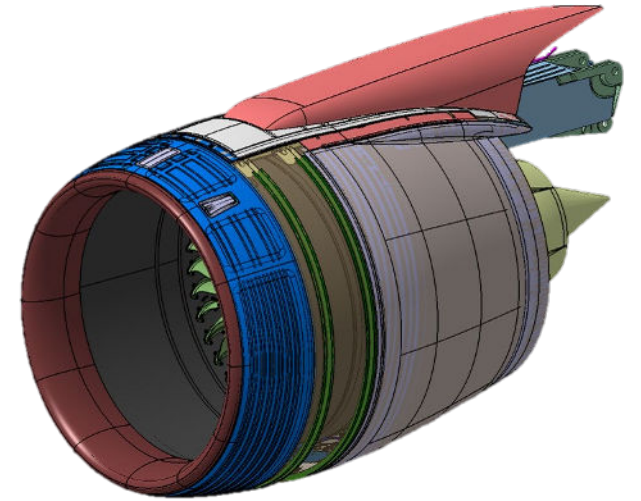
- S1 2020: PDR and CDR LLI
- Several powerplant architectures to study including all components (air inlet, nacelle, engine mount, pylon)
- Testing of innovative technological brick in flight conditions
- Primary and secondary structures
- Mechanical and electrical system installation
- System architecture
- Mechanism architecture
- Physical integration

## PROJECT DETAILS

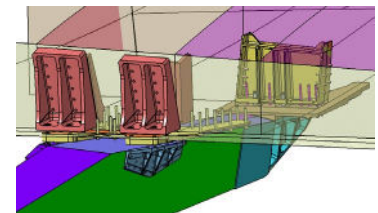
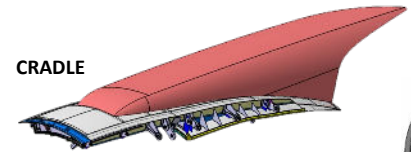
- UHBR engine integration
- Architecture for powerplant system installation
- Innovative design on structures and interfaces:
  - > Wing interfaces: WCCP
  - > Engine interfaces: Mx load path on front engine mount
- Mechanical and electrical systems installation (various innovative ATA36 concept installation, etc.)
- Design optimization and simplification
- Stress optimization (IFEM, GFEM, topological approach, design of experiments)

## APPLICABILITY

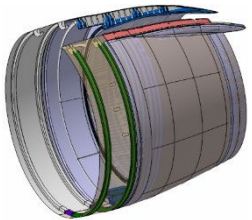
- Feasibility phase: Experience with powerplant architecture and R&T projects
- Concept, design, and build and test phase: Experience with pylon development
- Design and stress activities on primary and secondary structures and MSI design



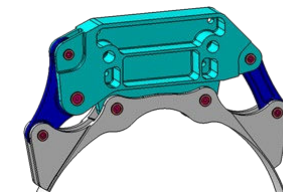
CRADLE



WING INTERFACES - WCCP



NACELLE (FC/OC/IC)



FRONT ENGINE MOUNT



INLET