

Commercial Aircraft EVTOL

Project
Management



Mechanical
Engineering



Systems
Engineering



EVTOL AIRFRAME SYSTEM DESIGN AND STRUCTURAL ANALYSIS

APPROACH

- Build embedded engineering team with mechanical and systems engineering support
- Support airframe design and stress analysis, mechanical systems design, propulsion and controls systems design, requirements management, tooling design, and manufacturing build support of NCRs and floor guidance
- Provide requirements management for multiple system configurations
- Support mass governance activities
- Support design reviews of PDR, CDR, and MRR

RESULTS

- Designed majority of fuselage, empennage, and boom components, assemblies, and installations
- Performed static and dynamic testing of boom and boom-to-wing interface
- Validated and verified requirements for propulsion and control systems
- Developed CAD part framework of composite components to support aggressive timelines
- Developed company-wide Fibersim guidelines for design and manufacture of composite parts
- Performed dynamic nonlinear analysis of landing gear and boom-to-wing interface
- Designed tooling for composite part layup and airframe bonded assembly
- Created design and installation engineering of avionics mounting components
- Managed system requirements development
- Supported identification of safety-of-flight requirements and system mass governance activities

KEY TOOLS & TECHNOLOGIES

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| ■ Siemens NX | ■ Fibersim | ■ Polarion |
| ■ Teamcenter | ■ Femap/Nastran | ■ Jira |
| ■ GitLab | ■ LS-DYNA | |