

Avionics and Embedded Capabilities

India | USA | Italy | Japan | UK | Germany | France | Spain



QuEST Global provides engineering and product development solutions to both civil and military aerospace in the areas of design and development for the following domains:

- Accessories
- Avionics
- Engines
- Ground support equipment
- Structures

QuEST Global has been supporting global aerospace OEMs and their tiers for over a decade. The range of services offered includes software engineering, hardware engineering, mechanical design and development, engineering analysis, manufacturing engineering and technical publications.

We help our customers improve quality of software and hardware, reduce time to market, grow capacity, increase revenue generation life, reduce cost of product development and enhance sustenance engineering. Embedded software development with electronic hardware fabrication enables us to provide complete design-to-build solutions in avionics and embedded systems. Through our near-site centers located in the US and Europe, we can work on ITAR / export-controlled work, as well as provide critical project engineering support.

Customers (partial list)

- | | |
|--------------------|------------|
| ■ Airbus | ■ Culligan |
| ■ CS-SI | ■ Danaher |
| ■ GE | ■ Ebara |
| ■ Rolls Royce | ■ Hitachi |
| ■ SAFRAN Aerospace | ■ Toshiba |

Standards

- RTCA-DO-178B
- RTCA-DO-254
- IPC Standards for PCB design

Certifications

- | | |
|--|---------------------------------|
| ■ AS 9100 | ■ Airbus Supplier Certification |
| ■ CMMI Level 3 | ■ ISO 9001:2000 |
| ■ EADS E2S Preferred Supplier for Engineering Services | ■ ISO 27001 |

Sample case studies

- RTCA-DO-178B Level A IV&V of FADEC softwares
- Architecting and design of fuel system functional integration bench
- Prototype PCB layout design and fabrication
- Component engineering and obsolescence management
- Jet engine simulation model development

QuEST Global supports product development initiatives

Software development	Hardware development	Verification and validation	Automated test equipment	Methods and tools development
<ul style="list-style-type: none"> Requirements engineering Architecture design Detail design Development System integration 	<ul style="list-style-type: none"> Design of electronic circuits Schematics PCB fabrication Assembling Testing Re-engineering 	<ul style="list-style-type: none"> White box testing Black box testing Performance testing Acceptance testing 	<ul style="list-style-type: none"> Design & development of test rigs ATE, interface test adaptors Functional & ATP/ESS software development Break out box Power distribution unit 	<ul style="list-style-type: none"> Design and development of database driven applications Development of web based applications Design/process/system automation solutions Legacy system maintenance/enhancement/migration

Typical case study - Aero external instrumentation

Customer

A leading aircraft manufacturer, with the most modern and comprehensive aircraft family

Product

- Functional Integration Bench (FIB) for fuel system

Objectives

- FIB Architecture and specification

Customer inputs

- Aircraft system interface documents

Challenges

- Anticipating the potential change in requirements which may have effort and schedule impact

Our approach

- Global model
- Suggest alternatives

Benefits

- Knowledge capture to help future projects
- Hardware and software architecture definition and specification

- Architecture and specification documents detailed enough to overlap with the design phase
- The architecture and specification documents can be reused/referred for other concurrent systems FIB development
- Suggested generic hardware and software requirements, specific to quality to ensure the developed product is of adequate standard
- Definition of work breakdown structure which can be reused across similar programs

About the project

- FIB is the first hardware in the loop test platform for a leading aircraft manufacturing OEM
- This FIB will be used as a single verification link in the overall V-cycle superseded by Aircraft Zero and First Aircraft
- The FIB will provide a platform for development, certification and in-service testing of fuel system
- The peer aircraft system interface emulation requirements were specified as part of this project

About QuEST Global

QuEST Global is a leading provider of outsourced engineering services and manufacturing. The company helps customers in the Aerospace, Consumer Electronics, Healthcare, Industrial Products, Marine, Nuclear, Oil & Gas, Power Generation and Transportation verticals, to cut product development costs, shorten lead times, extend capacity, and maximize engineering resources. We do this by providing support across the complete product life cycle from design and modeling through analysis, prototyping, automation, data documentation, instrumentation and controls, embedded systems development, manufacturing support, vendor management, and in-house precision machining.



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