

ENGINEERING CAPABILITIES

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ENGINEERING SERVICES



ENGINEERING CONSULTING

RTC provides full life-cycle complex engineering labor and solutions for Safety Critical Embedded Systems and Software including Avionics, Command, Control, Communication, Intelligence, Information and Security. Whether you need updates on a legacy system or support on an innovative program, the RTC team is ready to support & deliver.

SERVICE DELIVERY OPTIONS

WE OFFER TWO SERVICE OPTIONS:

CONTRACT LABOR /STAFF AUGMENTATION SERVICES (SOW) — We custom screen to identify the engineer(s) who meet your specific skillset & experience requirements; support client programs for short and long terms; render services remotely, client onsite or at the RTC Phoenix facility.

PROJECT MANAGEMENT SERVICES — Our engineering team is able to actively manage all phases of product and project development.

RTC EXPERTISE

RTC Engineering Program Managers' versatile skillsets include overseeing single component projects and full system programs. Our engineers average over 15-20 years of experience servicing Fortune 100 companies and OEMs.

CERTIFICATIONS & SECURITY

- Certified Small Business (NAICS)
- ISO9001: 2015/AS9100D Certified
- Export Control EAR capable and ITAR Registered
- · Secured badge ITAR facility



CORE ENGINEERING CAPABILITIES



CORE

- Contract Labor/ Staff Augmentation (SOW)
- **Program & Project Management**
- Subcontract Labor/ Contingent workforce
- Systems & Software
- **Verification & Validation Testing**
- **Certification Consulting**

PROGRAM MANAGEMENT

- **Provide Technical Leadership**
- Progress, Metrics, & Reporting
- Risk Management & Recovery Planning
- **Active Management of:**
 - -Resources, Content, Schedules & Budgets
 - -Client, Cert Authority & Suppliers
 - -Scope, Deliverables & Milestones

VERIFICATION & VALIDATION

- **Customer & Cert Authority Meetings**

SYSTEMS

- ARP4754 Processes
- Safety (ARP4761) including FMEA & FHA
- **Human Factors Analysis/Effectiveness**
- Requirements Analysis, Capture & Trace
- **System & Functional Integration**
- Model Based Development (MBSE)
- **Architectural Definition**
- Acceptance Test Criteria
- Use Case Scenario
- Reliability Analyses
- System Level Integration Testing

SOFTWARE

- DO-178B/C Development Processes
- Criticality Level A => D
- Software Architecture
- Requirements (High & Low Level)
- Software Design & Allocation
- Multiple Software Languages
- **Code Generation**
- **Documentation with Tracing**
- Software/Hardware Integration
- UI 2D/3D Graphics
- Embedded, Windows, BSPs, & Drivers

- **Certification Planning**
- **Reviews & Audits**
- **Test Plans & Procedure Creation**
- Test Execution & Results Analysis
- Tool Qual (DO-330/ED-215)
- **Certification Document Submittals**
- **Trace Matrix Review**
- Code Coverage & MC/DC Reviews

ENGINEERING CAPABILITIES



PROJECT CERT DOCS

- **PROJECT START**
 - PSAC/PHAC, SCM, SQA, SDP, VTP
- **PROJECT END**
 - -SAS/HAS & VTPR
 - -Configuration Index Document (CID)
 - -Version Description Document (VDD)
 - -Open/Closed Problem Reports & Justifications
- TRACE MATRIX
- ALL DELIVERABLE ARTIFACTS

AUDIT SUPPORT

- **Project Artifact Audits**
- Project/Client/Cert Authority
- Stage of Involvement (SOI) Audits

- Lab Development & Hosting
- Safety Assessments & Analysis
- **Control Design**
- **Testing & Simulation**
- **Software Tools Development**
- **Software Tool Qualification**
- Rapid Prototyping

FUNCTIONAL EXPERTISE

- Full Life-Cycle Development
- **Technical Leadership**
- Risk Management
- **Project Realignment**
- **Progress & Metrics Reporting**
- Model Based Design & Support
- **Agile Methods**
- Multiple CM Tools

AVIONICS SYSTEMS

- Flight Management Systems
- All Surveillance Equipment
- **Ground Proximity**
- Displays PFD, MFD
- **MCDU**
- **Central Maintenance Computer**
- **Communication Systems Radios**
- Autopilot
- Fly by Wire Flight Controls
- Platforms (IMA)
- **Fuel Controls**
- Flight Recorder
- **Engine & APU Controls**





