QUADRUS CORPORATION

ENGINEERING SERVICES

Quadrus Corporation is a small business that provides expert Multidisciplinary Engineering, Consulting, and Staff Augmentation to complex defense, space, and commercial projects at every lifecycle stage from initial requirements development through verification, certification, and deployment. From research and development to design, testing, and production, our engineers are at the forefront of using cutting edge technology to support our customers needs. In business since 1995, we have served Army, NASA, school systems, nonprofits, and commercial customers with a solid track record of delivering requirements on time, on budget, and with zero defects.

DIFFERENTIATOR

Generic Interface Test Computer (GenITC)

- Communications breakout box and a versatile communications and emulation tool
- System Integration Lab (SIL) in-a-box
- Lower cost and shorten schedule
- Lower technical risk and increase quality
- Fully-configurable interface emulator, simulator, traffic-interceptor, and driver

Our patent-protected products are cutting edge and valued by our customers in defense and the space industry. We have products which are ideal for interface development, integration, test, and V&V (verification and validation) roles. Our flagship software products consist of: GENeric Interface Test Computer (GenITC) and DICE. GenITC is designed as a breakout box / interface emulator / component simulator for point-to-point communications from a single node to a different single node. Those same capabilities are found in a multi-node, multi-point environment which is known as DICE. GenITC Technology is a communications breakout box that is used as a versatile communications and emulation tool that can be configured to emulate any interface and system behavior. GenITC can pass all communications from one interface to the other. This allows for GenITC to be inserted nearly invisibly into a communications path. GenITC allows the user to have control over every message that passes through. It also performs as a component simulator / emulator.

NAICS

323111 – Commercial Printing (except Screen and Books)
332999 – All Other Misc Fabricated Metal Product Manufacturing
332510 – Hardware Manufacturing
332710 – Machine Shops
333249 – Other Industrial Machinery Manufacturing
333999 – All Other Misc Manufacturing
336415 – Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing
511210 – Software Publishers
541513 – Computer Facilities Management Services
541519 – Other Computer Related Services
541715 – Research and Development
541330 – Engineering Services
541511 – Custom Computer Programming Services
541512 – Computer Systems Design Services
561720 – Janitorial Services
611420 – Computer Training
611430 – Professional and Management Development

CORE COMPETENCIES

SOFTWARE

- Skilled in Avionics Simulations (Boeing EUS Simulation Rack), Electrical Ground Support Equipment (EGSE), Special Test Equipment (STE), Instrumentation, and Telemetry
- Worked within the Boeing EUS Simulation team to provide avionics simulation of EUS Data Acquisition Unit (EDAQ)
- Extensive experience in the development and integration of software for distributed training and simulation systems
- Highly qualified in data communication protocols: TCP/ UDP, HDLC, 1553, TTE, TSN, Space Fiber/ Wire, and others

SYSTEMS

- Skilled in Hardware and Software-in-the-Loop test environments
- Performed in system architecture, requirements development, and system testing
- Unique perspective into the complexity of developing and implementing engagement solution logic

TEST

- Skilled Avionics Hardware and Ground Systems Test Engineers
- Highly experienced in the performance of System Independent Verification and validation operations, procedures, and testing
- Regularly perform as a part of Test Operations Teams for various projects

GROUND SYSTEM AND TEST SYSTEM DESIGN AND IMPLEMENTATION

- Requirements Development
- System design
- System implementation
  - Hardware build to print
  - Software development

CUSTOM CABLE DESIGN AND IMPLEMENTATION

- Cable design
- Cable build to print
- Certification IPC/ WHMA A-620

ADVANCED MANUFACTURING

Our company has experience in additive manufacturing components made from GRCop-84, Inconel 625, Inconel 718, Haynes 282, Monel K500, AlSi10Mg, AlSi12Mg, Scalmalloy® (Quadrus Corporation's Additive Manufacturing is the only North American company certified by Airbus to manufacture items from their proprietary Aluminum alloy), silicon carbide-reinforced AlSi10Mg, Ti6Al4V, and W24Re. We are experts in developing selective laser melting (SLM) process for new materials. Quadrus Corporation's Additive Manufacturing team has a long history of technology development support to both government and industry customers. Quadrus Corporation's Additive Manufacturing serves many valued customers including NASA, US Navy, MDA, US Army, and many other space and defense companies.

PAST PERFORMANCE

Space Launch System (SLS)	Data Analysis and Reduction Tools (DART)	BA330 Inflatable Orbital Habitat	Radio Frequency (RF) Generation Technology
Raegan Test Site Telemetry (RTM) Program	Terminal High Altitude Area Defense (THAAD)	National Missile Defense Payload Launch Vehicle (PLV)	Ground Based Interceptor (GBI)
Multiple Kill Vehicle (MKV)	Constellation (Ares I and Ares V)	NASA SBIRS NAVY SBIRS	Aviation and Missile Research Development Engineering Command Propulsion Lab

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ENGINEERING SERVICES

Quadrus Corporation's Engineering Services Division has provided our customers with expertise in all phases of Avionics and Ground Systems development, integration, and testing sine 1995. Our engineers have helped integrate and test initial versions of the THAAD weapons systems, provided expertise in upgrading the THAAD Launcher, provided test tools and expertise for preliminary integration and test of the Raytheon EKV, flight test at Kwajalein Atoll for the PLV program, supported GMD launch control, battle management, and missile integration, test and emplacement, supported integrated flight testing for ABL, led instrumentation and data acquisition for both the Constellation Upper Stage Test Article and Flight Article, led development of Delta IV ground systems used for integrated booster and second stage factory acceptance tests, integrated vehicle tests and launch control, and have provided expertise to the Avionics integration and test of the Space Launch System by providing specialized test equipment for individual Avionics boxes (Flight Computer, Telemetry Controller), system testing tools, test software development, and lab integration. We have helped our nation be better prepared to defend against ballistic missile threats and are now helping our country go back to the Moon and beyond.

- GenITC generating all off nominal test cases
- Dave as lead test engineer
- Integration of flight hardware
- Resolution of flight critical integration issues under pressure
- Our position as the "go to" troubleshooters for lab UVFs
- Shadow system at Kawaj

Payload Launch Vehicle (PLV)

The PLV program served as an early surrogate launch vehicle for Raytheon Exo-atmospheric Kill Vehicle (EKV) testing at Kwajalein Atoll. Our engineers worked closely with the team in the Systems Integration Lab to integrate, test, and verify all aspects of the system prior to each flight test at the Regan Test Site on Kwajalein. We led testing efforts and provided a modified GenITC capability to allow requirement verification not otherwise possible. We drove timely resolution of flight critical issues uncovered during the testing process in the SIL. With the GenITC, we provided the capability to test pre-release launch control software against live data at the range, as well as off-nominal countdown training for the launch team.

Space Launch System (SLS)

Since the inception of the SLS program, our engineers have supported integration and test in the Avionics Integration Lab (AIL) and System Integration and Test Facility (SITF). We developed, and continue to support, specialized test equipment for the Core Stage Flight Computer and Telemetry Controller, and the Stage Controller ground support system. We have worked with NASA and Boeing to integrate the Stage Controller into the SITF facility at Marshall Space Flight Center supporting verification test development and execution.

- SC Chief Engineer
- Development of specialized test equipment (CTC STE, FC STE, SC STE)
- GenITC use in TDL/SITF/SSC
- Work with Jacobs/NASA to integrate SC into SITF
- Requirements/Test for EGSE
- Integration/Test at SITF
- Development support for EGSE

Generic Test Computer (GenITC)

The GenITC is a Commercial off-the-shelf test tool that provides rapid prototyping and test capability for data communication over Ethernet, 1553, RS422, and NTDS interfaces. This scriptable Windows-based system has been successfully used to verify stand-alone elements against interface specifications, provide interface emulation for missing system elements, and provide scriptable, repeatable testing of off nominal conditions without modification to target hardware or software. It was used by the PLV program to provide all off nominal requirements verification, as well as realistic off nominal events for count down training of the launch crew. It was used on GMD to provide preliminary integration of the Battle Manager and Launch Controller identifying interface inconsistencies quickly, expediting the process and saving money, and it is currently in use by SLS to provide controlled performance testing of the Green Run Stage Controller. It is designed to be flexible, allowing it to quickly be adapted to meet a large number of integration needs.

QUADRUS CORPORATION

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HUBZone Historically Underutilized Business Zone CERTIFIED

SBA Certified HUBZone company
Small Disadvantaged Business
Minority Owned Business

BBB ACCREDITED BUSINESS
BBB Rating: A+