

WESTFORD

DCS Facility



DCS's Westford facility is a state-of-the-art center advancing next-generation defense technologies. Purpose-built to support U.S. Army, Marine Corps, and Special Operations programs, it enables rapid engineering cycles from concept development to prototyping, integration, and full-scale testing. Specialized labs, flexible workspaces, and advanced manufacturing areas allow seamless transition from digital design to high-performance hardware.

The facility supports mission-focused efforts including manned and unmanned ground vehicles, C5ISR integration, robotics and autonomy, and ruggedized electronics. Capabilities span custom digital electronics, cable and harness manufacturing, and electro-textile networks, all meeting stringent DOW requirements. Integrated simulation and digital engineering environments enable early validation, reduce risk, and accelerate transition from prototype to operational capability.



WESTFORD, MA

This facility includes:

- High-bay, lab, manufacturing, and office space including:
 - Logistics Area including pallet racking
 - Stock Room Cage
 - Machine Shop
 - Box Build & Cable Fabrication
 - Quality Control
 - Electronics Prototyping
 - 2 SILs
 - Fiber Processing
 - Material & Chemistry Lab

TECHNICAL CAPABILITIES

- Design
- Prototyping/Fabrication
- Integration
- System Fielding
- Testing
- Field Service, Logistics, and Warehousing

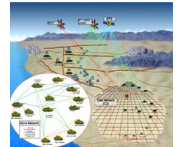
SYSTEM ENGINEERING

Systems Engineering

- Process Development
- Requirements Development
- Architecture Design, support MOSA
- System Documentation
- SIL Development
- System Verification & Validation

Systems Modeling

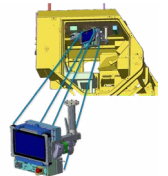
- Model Based Systems Engineering
- DoDAF (AV, OV, SV, StdV, DIV)



MECHANICAL ENGINEERING

DCS provides a full design and engineering solution for everything from rapid turn prototyping to vehicle integration and MIL-STD compliant components.

- Full complement of computer aided design and modeling software
 - Solidworks
 - PTC Creo Simulate
 - Autocad
 - PLM Unigraphics
 - ORCAD
 - Ansys Discovery FEA Analysis
 - FloEFD Thermal/Flow Analysis CFD Software
 - Sauna Thermal Analysis
 - Windchill PLM
- Level II & III TDP Development



ELECTRICAL ENGINEERING

Hardware Engineering

- Component Trade Analysis
- Block and Interconnect Drawings
- Electrical/Electronics Designs
- Schematic and Board Layout
- Component Integration & Testing



VST E-Stop Controller

Power Management Development

- Solid State Power Control
- Programmable Circuit Protection
- Management & Distribution
- 28VDC & 600VDC
- Battery Monitoring System
- Power Distribution and Management



Generation 2 Vehicle Unit

ASSURED CONTROL SYSTEMS

- MILSTD882 Safety-rated systems
 - LOR-1 pedigree SW
- Robotics Integration onto Ground Systems
 - Tactical Wheeled and Tracked vehicles
- Commander User Interface
- Remote User Control and Handhelds
- Robotic Convoy Operational Stop
- Hardware and Software Development
 - Warfighter Machine Interface (WMI)
 - Robotic Network Interface (RNI)
 - Platform Integration Kit Development



FABRICATION

- ISO 9001:2015 Compliant Quality Management System
- DCS operates a fabrication capability to support surge and specialized build
 - Cable design and integration strategy
 - Vehicle component integration
 - Test and repair of field cables
 - Full logistic support
 - Component fabrication and assembly
 - Manufacturing readiness validation
- IPC-compliant fabrication processes
 - QC inspection and testing
- Facilities to support these capabilities include
 - In accordance with MIL-HDBK-454B
 - Custom Hi-pot automated cable testers
 - High volume heat shrink ovens
 - Laser wire stripper
 - Connector torque/pull station
 - Automated wire cutter and braid cutter
 - MIL Spec. Braiding Machines.
 - Over-mold Machine



Automated Cable Testing



Harness Fabrication

PROTOTYPING

The Prototyping Facility support a wide range of fabrication needs:

- 3D printing capability
- Milling Machining
- CAD post processor conversion programming with G-Zero
- EMS Creaform HandySCAN Black Elite 3D Scanner
- Turning area with CNC lathe and manual lathe and tooling
- Precision sheet metal fabrication
- MIG and TIG welders, tooling and fixturing
- Full range of QC inspection equipment
- Machine shop post production equipment
- Obsolescence Management and reverse engineering

INTEGRATION - C5ISR SYSTEMS

DCS has developed SILs and test support environments supporting GVSC R&D programs, PM programs, and Post Deployment Software Support and Maintenance activities.

- Precision Power Supplies
- Signal Analysis Tools and Test Equipment
- IPC compliant soldering stations
- Prototype Bread Boards
- Diagnostic Test Software
- Simulator and Emulator Development
- Custom Cable, Harness and Mounts
- SIL Development and Support



Crewstation SIL

TESTING

- MIL-STD-810 Environmental Testing:
 - Operational Hot & Cold Testing
 - Temperature Shock Testing
 - Storage Cold & Hot
 - Gun Fire Shock
 - Vibration & Loads Shock
 - Dust & Sand Conditions
 - Water Immersion & Humidity
- MIL-STD-461 EMI / EMC Testing:
 - CE102 Conducted Emissions
 - CS101,114,115,116 Conducted Susceptibility
 - RE102 Radiated Emissions
 - RS103 Radiated Susceptibility

FSR LOGISTICS & WAREHOUSING

- DCS FSRs Training & Testing facility
- DCS FSR's Vehicle Reset operations
- Warehousing and Logistics

