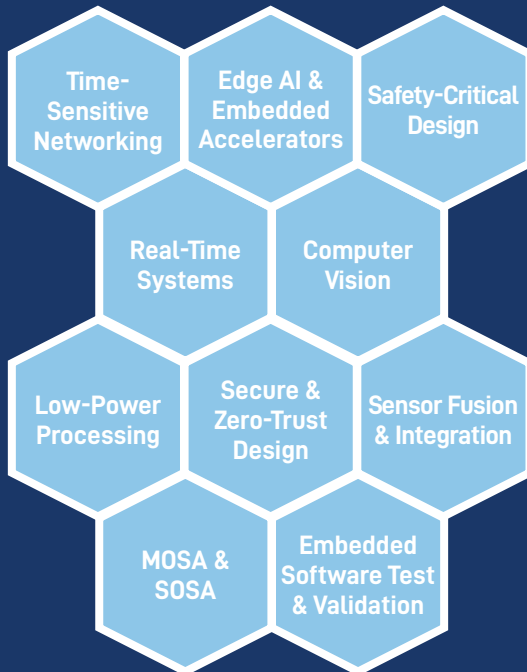


# Design Services for Long-Life Systems

Defense and autonomous systems expertise

## Engineered for Endurance

Full lifecycle, from proof of concept through technology refresh



AMRs, USVs, AUVs, UAVs  
 Shipboard Systems  
 Command and Control, TOCs, JOCs  
 FACE-compliant Avionics  
 Man Wearable  
 Commercial and Industrial

## Your Trusted Partner for Demanding Designs

Trilogic Systems offers a comprehensive suite of design services for high-reliability computing solutions serving military, aerospace, and other demanding applications.

### System Architecture

**Modular Design for SWaP-C:** We specialize in systems that prioritize efficiency, leveraging open standards to enhance scalability and longevity.

**Mechanical Design & Integration:** Our services encompass material selection, enclosure design, environmental stress testing, thermal analysis, and finite element analysis.

**Embedded Software Expertise:** Decades of developing safety-critical firmware and middleware—plus experience with RTOS and advanced OS like embedded Linux and Windows—get projects to the finish line, on time and in budget.

### Rapid Prototyping

**Fast Iteration & Testing:** Trilogic design services can help modify COTS products or deliver fully custom designs for everything from carrier boards to custom racks.

### Design for Manufacture (DFM)

**Feasibility Expertise:** We prioritize cost-effectiveness by considering manufacturing factors like availability, supply chain optimization, and long-term production feasibility.

### Obsolescence Management/Drop-In Replacement

**Seamless Integration:** We design drop-in replacements for obsolete products, ensuring 100% compatibility and eliminating the need for requalification.

**Obsolescence Mitigation:** We proactively address obsolescence concerns through strategic design choices and long-term component availability analysis.

With over 15 years of experience, our team of specialists offers extensive experience with mission-critical systems.



## Full-Stack Design Services

### SOSA/MOSA/OpenVPX Design

DoD SOSA and MOSA initiatives are ushering in a new era of mission-critical system architectures. With more than 15 years' experience developing modular open systems with technologies like OpenVPX, we help you meet today's design requirements.

### Multi-Vendor System Architecture

With design expertise addressing multiple disciplines across the entire technology stack, our supplier-agnostic team of engineers and system architects source and integrate the best available solutions to meet your design objectives.

### Full-Rack Integration, Testing & Validation

All our rack designs are rigorously tested against industry standards such as 901D, MIL-STD-810G, and MIL-STD-461 to meet the demands of operational deployments.

### FPGA Design

We provide prototyping and deployment on FPGA platforms including Xilinx Zynq 7000 SoC, Xilinx 7-Series, Xilinx Ultrascale+ MPSoC, Intel Arria V SoC, Intel Arria 10 SoC, and Lattice MachXO2.

### Power-Efficient Computing

Our expertise spans deeply embedded system development architectures including Arm Cortex, Intel x86, MIPS, RISC-V and AI acceleration platforms like NVIDIA Jetson, Blaize, and Hailo.

### Networking & I/O

Trilogic Systems addresses edge-to-cloud communications, from PCIe and Ethernet switches for enterprise/IT infrastructure to fieldbus protocols for OT domains to standards like IEEE Time-Sensitive Networking (TSN) that bridge the two.

### Real-Time OS & BSP

We create BSPs that streamline both boot and bringup time of operating systems like Windows/Windows IoT, Linux/RT-Linux/Yocto, VxWorks, QNX, and LynxOS on a variety of popular embedded hardware targets.

### Software & Firmware

Offload highly specialized custom embedded software and firmware development, library and stack integration, and creation of application enablement infrastructure to our experienced team of U.S.-based embedded programming experts.

## Expertise and Support Make the Difference

### Dedicated Program Managers

Continuously Trained in Cutting-Edge Technology

### Agile Development Methodologies

Specific to Each Customer and Program

### Access To Experts

Including In-House System Architects & Engineers

## Connect With Us

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