

# Systems Engineering



CSSI provides insightful engineering support across the full engineering life cycle to ensure the successful development, deployment, and maintenance of strategic programs and mission-critical systems.

On the Oceaninc project, CSSI developed technical requirements for automation solutions; developed fast-time simulations; provided interface and integration solutions to legacy systems; tested to established requirements; and provided documentation for vendor acceptance of hardware and software systems.

CSSI also completed risk analysis on current and new NAS systems with full documentation of mitigation strategies and results. This provides analysis against CONOPS for NextGen to anticipate any safety considerations/issues based on strategy and schedule implementation.

CSSI satisfies our customer's needs by providing comprehensive services in the following areas:

## Enterprise Architecture (EA)

- ✦ Implement manageable enterprise structures and governance using DoD and Federal Enterprise Architecture Frameworks (DODAF, FEA)
- ✦ Align processes, infrastructure, and systems to support the business mission
- ✦ Implement collaborative EA development environments
- ✦ Apply EA standards and methods to support the development of complex systems

## Life Cycle Systems Engineering Support

- ✦ Requirements development
- ✦ Prototype development
- ✦ System Integration
- ✦ System testing, verification, and validation
- ✦ Independent Verification and Validation

## Safety Engineering and Risk Analysis

- ✦ Safety assessment and implementation
- ✦ Probabilistic fault analysis of redundant system designs
- ✦ Analysis of operational defects
- ✦ Accident and incident prevention
- ✦ Regulatory compliance and documentation

## Human System Integration

- ✦ Human factors research and engineering
- ✦ Performance modeling and assessment
- ✦ Human-In-The-Loop Simulations Support
- ✦ Error analysis

## Portfolio Management

- ✦ Investment strategy development and analysis
- ✦ Implement portfolio management governance and processes
- ✦ Business case development (OMB Exhibits 300 and 53)
- ✦ Life cycle performance management methodology including data collection, data analysis, and performance assessment