



Certified Experts in Automation Engineering to Design, Control, Test & Adapt

MISSILE WING DEPLOYMENT TEST & READINESS VALIDATION SYSTEM

CAGE: 1SGJ4

Automating Complex Systems. Delivering Actionable Data. Advancing Mission Success.

Data Science Automation (DSA) develops advanced automated test, measurement, and validation systems that support mission readiness for aerospace and defense programs. DSA specializes in creating flexible, data-driven test platforms that evaluate subsystem performance, automate qualification processes, and provide objective readiness assessments for critical military assets.

CORE COMPETENCIES

• Missile and Aerospace Test Automation • Automated Test and Evaluation (T&E) • Deployment Mechanism Characterization • Data Acquisition and Instrumentation • Calibration and Verification Systems • Real-Time Monitoring and Analysis • Qualification and Acceptance Testing • LabVIEW and National Instruments Architectures • Operator Interface Development • Digital Engineering and Data Management

RELEVANT PROJECT EXPERIENCE

DSA designed and implemented an automated test system to characterize and validate the deployment performance of wing assemblies used on military missile platforms. The system was developed to support readiness verification, identify degradation caused by long-term storage, and reduce the risk of deployment-related mission failures.

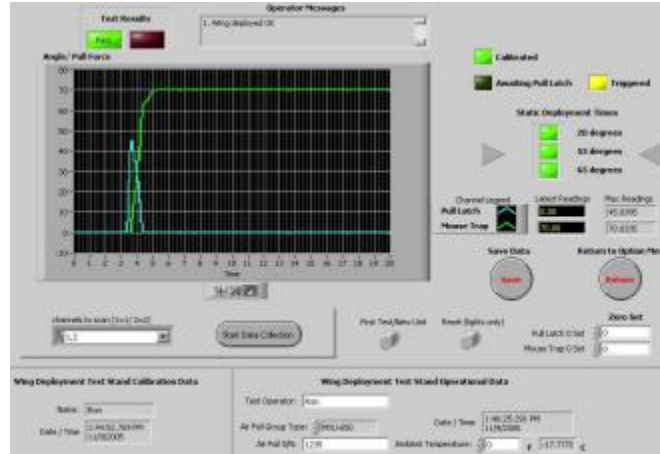
Key capabilities included:

• Automated measurement of wing deployment force and angular position • Real-time determination of deployment timing and performance metrics • Verification of deployment parameters against user-defined tolerances • Operator-guided calibration procedures with electronic recordkeeping • Support for multiple wing assembly and airfoil configurations • Configuration-driven architecture enabling rapid integration of new missile variants • Automated pass/fail evaluation and diagnostic messaging • Data recording, reporting, and front-panel image capture for traceability • State-machine software architecture supporting future upgrades and sustainment

MISSION IMPACT

The deployment test system provided a standardized method for assessing missile wing subsystem readiness before field deployment. By identifying degradation in deployment mechanisms prior to operational use, the system reduced risk, improved reliability, and enhanced confidence in missile performance.

The flexible software architecture enabled support for evolving weapon system variants while reducing operator workload and improving consistency across test events.



TECHNICAL CAPABILITIES DEMONSTRATED

- Precision force measurement and analysis
- Angular position tracking and calibration
- Automated tolerance verification
- Real-time event monitoring
- Operator-guided test execution
- Electronic data collection and reporting
- Configuration-controlled test environments
- Rapid adaptation to new hardware configurations

DIFFERENTIATORS

- Extensive experience supporting aerospace and defense test programs
- Expertise in automated qualification and acceptance testing
- Proven LabVIEW and National Instruments development capability
- Integrated hardware, software, controls, and instrumentation expertise
- Flexible architectures designed for long-term sustainment and future expansion

CUSTOMERS SERVED

NASA | Department of Defense | Department of the Navy | Air Force | Army | NIH

CONTACT INFORMATION

Data Science Automation, Inc. CAGE: 1SGJ4 www.dsautomation.com

Accelerating Test. Enhancing Readiness. Delivering Mission Assurance.