

AEROSPACE & DEFENCE · TEST & VALIDATION

EXCELLENCE IN MISSION-CRITICAL AEROSPACE & DEFENCE SYSTEMS

NI Silver Alliance System Integration Partner · AS9100D & ISO 9001:2015 certified

TMCS's Defence Solutions Portfolio delivers reliable test, measurement and automation solutions for demanding applications — supporting data acquisition, real-time monitoring, system validation and performance evaluation across development, production and maintenance — engineered for accuracy, repeatability and robustness in harsh environments.



9+

Fortune 500 companies served

500

Projects executed

8+

Global coverage

80+

Team members

01 AEROSPACE & DEFENCE OFFERINGS

Test Systems

End-to-end testing for prototypes and production — ATE and EOL setups tailored for reliability and efficiency.

Software Solutions

LabVIEW (6.0 to latest), PLC and Python for testing, control and data analytics.

Hardware Solutions

NI hardware, PLC systems and embedded solutions for seamless integration.

Electromechanical Systems

Panel refurbishment, rewiring and complete electromechanical setups for testing and automation.

Execution & Support

Installation, commissioning and cross-continent assistance — on-site and remote.

02 DEFENCE SOLUTIONS PORTFOLIO

01

Automated Test Equipment (ATE) & End-of-Line (EOL) Systems

- ✓ Modular ATE for PCB fault diagnosis
- ✓ Fly-by-wire tester
- ✓ Compact test equipment for PCB fault diagnosis
- ✓ Radio altimeter tester
- ✓ Missile actuator testing system
- ✓ Remote & on-site calibration ATE

02

Data Acquisition Systems (DAQ)

- ✓ DAQ for propellant testing
- ✓ DAQ for wind tunnel applications
- ✓ DAQ for vibration & noise analysis
- ✓ DAQ for strand burner
- ✓ Closed vessel propellant test systems

03

Verification & Validation Systems

- ✓ Firing console systems
- ✓ Proof pressure testing
- ✓ Calibration test systems

"TMCS proudly contributes to the Make in India initiative by delivering indigenous engineering, testing and automation solutions that strengthen India's manufacturing ecosystem and global competitiveness."

03 WHY TMCS?

01 Decade of Excellence

02 Authorised NI Partner

03 Certified Professionals

04 Compliance Driven

05 Industry Leadership

06 Domain Expertise

07 LabVIEW Excellence

08 Technology

09 Global Presence

10 Timeliness

04 AEROSPACE & DEFENCE CASE STUDIES



CASE 01

Modular ATE – PCB Fault Diagnosis

- ✓ COTS-based modular ATE on NI PXIe
- ✓ JTAG, signature, RF, flying-probe, ICFT & OCFT
- ✓ LabVIEW software guides fault identification



CASE 02

Fly-By-Wire Ground Tester – Mirage-2000

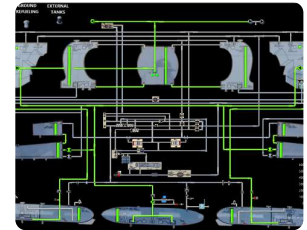
- ✓ Indigenised COTS-based system
- ✓ Rugged, portable O-level tester for lab & fleet
- ✓ NI CompactDAQ with built-in self-diagnostics



CASE 03

Missile Actuator Tester

- ✓ Portable, field-ready COTS-based system
- ✓ Synchronised, software-controlled testing
- ✓ One system for lab and field use



CASE 04

Aircraft Re-Fuelling Simulator – Mirage-2000

- ✓ PC-based computerised simulator
- ✓ Replaces vintage electrical design
- ✓ LabVIEW-based; scalable to VR training



CASE 05

Dataloggers

- ✓ Portable & ruggedised for harsh environments
- ✓ High sampling-rate, real-time acquisition
- ✓ LabVIEW with cRIO & field DAQ



CASE 06

Compact PCB Tester

- ✓ I-level PCB testing at hangar / base level
- ✓ Robust, portable NI CompactDAQ setup
- ✓ Scalable deployment across sites



CASE 07

Propellant DAQ

- ✓ Static & dynamic chamber-pressure measurement
- ✓ Real-time logging & P-T curve plotting
- ✓ Captures ignition delay & peak pressure (Pmax)



PRODUCT SPOTLIGHT

VayuMATE

Advanced PCB Test & Validation System

Verifies the electrical, functional and parametric integrity of PCBs with high fault coverage and rapid isolation. Modular PXI architecture, LabVIEW software and advanced diagnostics enable efficient, scalable and accurate testing of SRU, LRU and avionics systems – ensuring faster troubleshooting and reduced test time.

Let's Connect

Your trusted partner for automation, testing and system integration – from concept to commissioning, with seamless execution and long-term support.

CERTIFICATIONS & RECOGNITION

AS9100D certified (MQA)

ISO 9001:2015 certified (QRO)

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