

AEROSPACE & DEFENSE

ENGINEERING SOLUTIONS FOR MISSION-CRITICAL PROGRAMS



Controlar
innovating industry





Controlar
aerospace & defense

From Test Benches to Ground Control Stations

We bring deep expertise in **test engineering and automation** to the Aerospace & Defense industry, developing advanced solutions for the **validation and certification of electronic, electrical, and electromechanical components** in mission-critical environments, where quality and reliability are non-negotiable.

Our commitment to excellence is reinforced by key certifications, including **EN 9100** – Quality Management Systems for Aviation, Space, and Defense Organizations, **ISO/IEC 27001** – Information Security Management Systems, and NI certifications in **CLAD, CLD, CTD, and CLED**.



Our end-to-end capabilities cover software and hardware test benches, system integration rigs, trainers, and UAV Ground Control Stations – complemented by expertise in RF electronics, satellite systems, and Earth Observation (EO) solutions.

From mechanical and electrical design (signal and power) and harness manufacturing to system integration, certification, and global deployment, we manage the full engineering lifecycle with rigorous documentation, on-site commissioning, and ongoing technical support.

/ Engineering & Design

Signal & power electrical design
Mechanical & ergonomic design
Full system development

/ Manufacturing & Assembly

Subsystems & cabinets
Harness manufacturing
Electrical testing

/ Program Management

Project management
End-to-end execution
Concept to deployment support

/ Deployment & Support

On-site configuration
Global installation & commissioning
Technical support
Lifecycle maintenance

/ Testing, Certification & Quality

Quality certification
Materials & quality validation
System-level testing
Technical documentation

References

AIRBUS

h3b mos
UpNext

CRISA

indra



oesia
grupo

RHEINMETALL

ThalesAlenia
a Thales / Leonardo company **Space**

ALTER

MADES

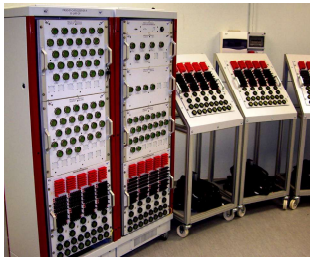
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CLEMESSY

SAFRAN

Raytheon
Missile Systems

AIRBUS A400M



Aircraft Integration Racks

Interconnection racks to connect the test systems with the aircraft.

Avionics Test Interfaces

39 equipment test interfaces for different aircraft electronic subsystems.

FAL Test Infrastructure Distribution

Distribution of test systems throughout the final assembly line.



Support Center

Facilities for the software support and maintenance for the NH90.



Power Racks

Control of the distribution of 115VAC/400Hz and 28VDC.



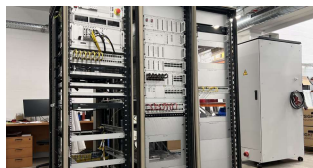
Ground Simulation Cockpit

Facilities for the software support and maintenance for the NH90.



NH90 HELICOPTER

EURODRONE



Ground Control Station

Unified GCS for platform, mission, and payload control.



Flight Control

Full flight management and air-to-ground communications.



Mission Management

Mission planning and operational performance assessment.



System Validation

Integrated validation environment for full system architecture verification.

SIRTAP



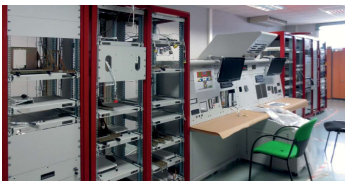
UAV NEURON



Ground Control Station
Outer view of the shelter.
UAV command console.
Equipment racks inside the shelter.



CASA C-295



Hardware and software support bench for troubleshooting
Overview of the complete bench.

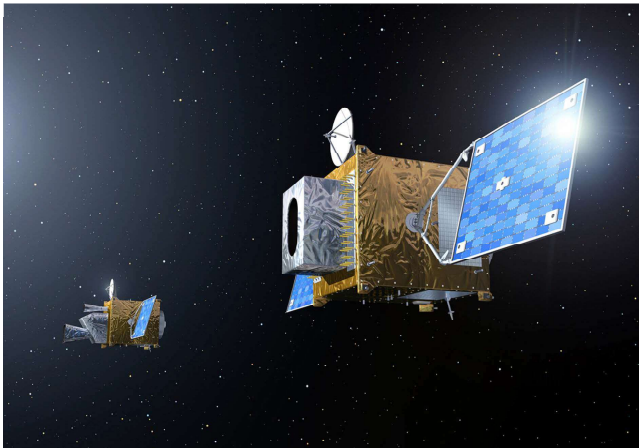


Hardware and software support bench for troubleshooting
Cockpit simulator.



Hardware and software support bench for troubleshooting
Detailed view of power racks.

METEOSAT 3RD GEN



Data streaming and high-speed digital communications
Validation system for the high-speed communication bus. PXI-based system.

I/F electronic design for 1.5 Gbit/s HS bus. Data acquisition up to 3 terabytes.

6 test benches for DPU and VCU.

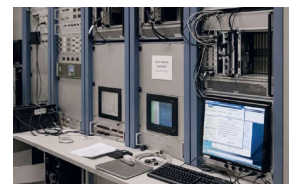
LOCKHEED P-3 ORION



Crew Trainer
Pilot support station for the trainer.

Crew Trainer
Trainer crew consoles.

Integration Rig
Detailed view of the racks containing the mission equipment.



A330 MRTT SIMULATOR



Mission Console

Full-functionality simulator of the mission console, designed for training purposes.

Control & Power System

Integration of the control system and power system.

Cockpit Panels

Manufacturing of the aircraft cockpit panels.

Video Solution

Integrated within the simulator architecture.



Ground-Support Infrastructures

Power distribution racks.

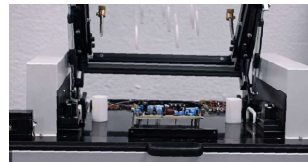
Breakout and patching panels for signal management, functional testing, and maintenance.

Centralized power, protection, monitoring, and system access for test campaigns.



TIGER HELICOPTER

EUROFIGHTER



Test Benches

Designed for Eurofighter power supply electronic modules and gyroscopes.



NI Platform Integration

NI PXI and SCXI platforms, managed with NI LabVIEW and NI TestStand.

Measurement & Switching

Digital measurement instruments and switching systems for precise board validation.

System Racks & Console

6 system racks plus a custom-designed console for testing.

TVA Test Equipment

Special TVA test equipment for SM-3 AEGIS and SM-6 ERAM missiles.



SCS Test Equipment

Test equipment for Steering Control System (SCS) validation.



CCA Validation

CCA testing for ballistic missile defense systems.



RAYTHEON MISSILE

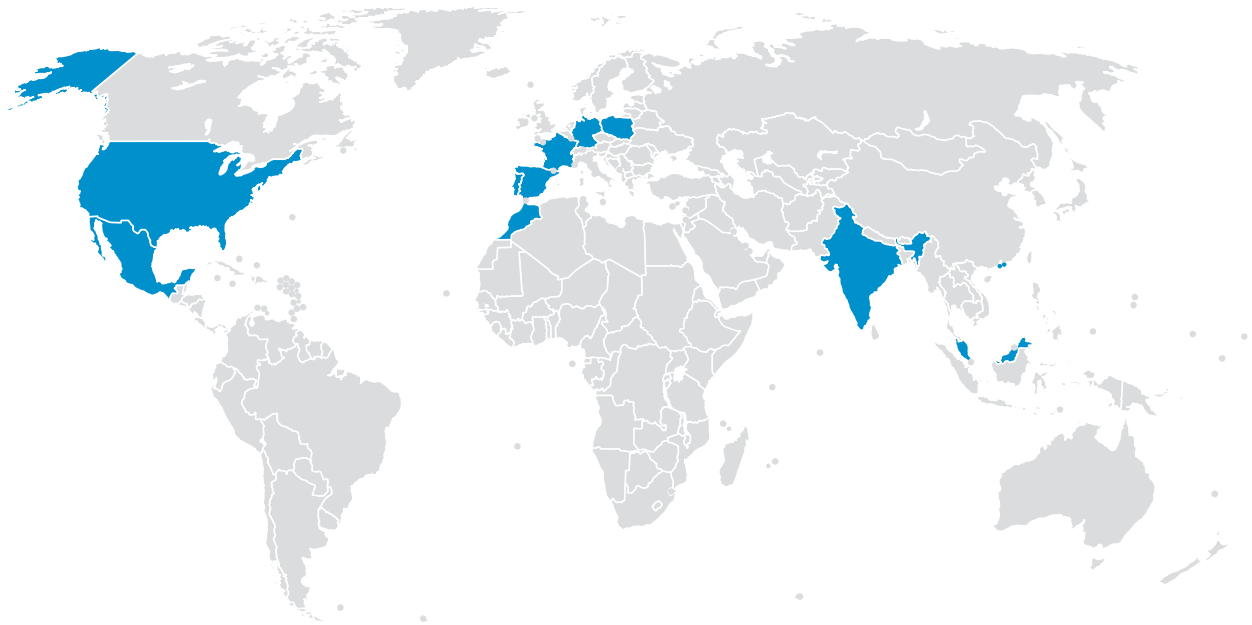
Innovation, Quality and **Passion for Engineering.**

About Controlar S.A.

Controlar is a global provider of advanced industrial automation and test systems supporting electronics manufacturing across multiple industries.

The company provides a wide range of services, including the design, development, and integration of automated test systems, data acquisition and analysis, production line automation, and quality control.

With 400 employees globally, Controlar operates a global network of production units, companies, and offices in Portugal, Spain, France, Germany, Poland, Morocco, Mexico, the USA, India, and Malaysia.



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