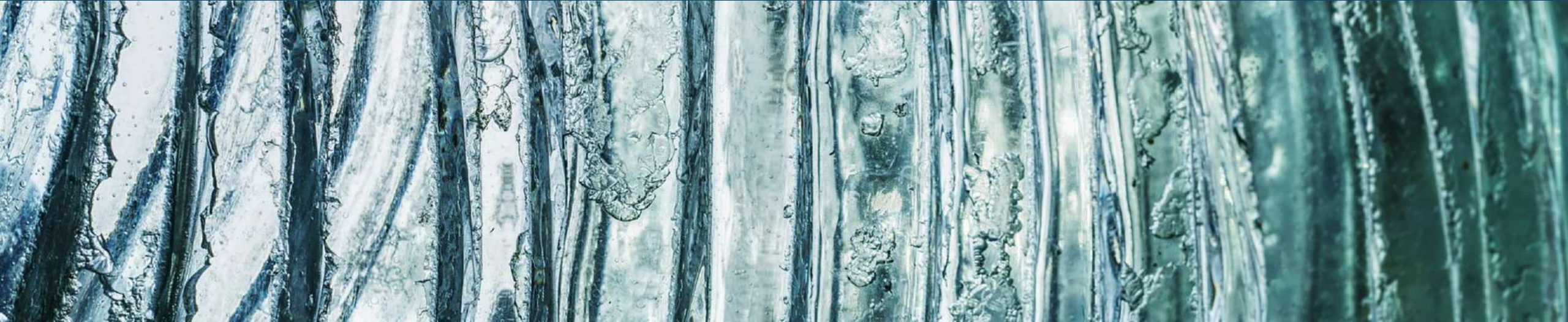# AD MAIOREM

Corporate presentation

About us

We are an independent technology consultancy company with high added value which offers tailored solutions to develop engineering and innovation projects, a leader in the Aerospace, Defence, Railway, Industrial, Telecommunications and Oil & Gas sectors in Europe and Latam.

Our commitment to technology becomes one of the strongest pillars of our management, which has enabled us to efficiently address the requirements of our clients, develop major projects and set up a network of highly qualified professionals.

https://www.admaiorem.com
info@admaiorem.com

17
years of experience

4
offices in Europe & Latam
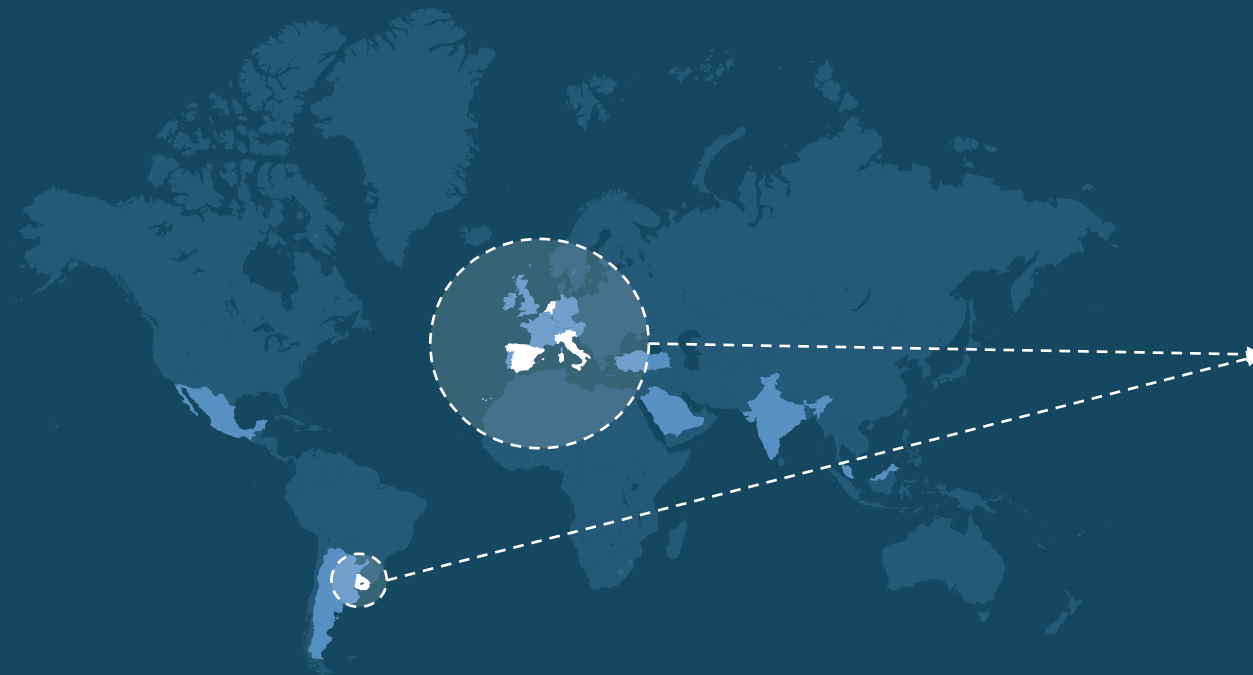
150+
projects

100+
professionals

10
countries covered

20+
major clients

Where we are?

Engineering and innovation for large technological projects.

We base our strategy on adapting to our clients, seeking competitive advantages and improving the quality of life for all of us.

Representative office   Operations area

Spain
p: +34 911 28 30 10
a: Calle Valportillo II, 16, Floor 2
(Left), Alcobendas, 28108, **Madrid**

Italy
p: +39 02 4936 1384
a: Via Alfredo Campanini 4, 20124,
Milan

Netherlands
p: +31 204 91 91 91
a: Kingsfordweg 151, 1043 GR,
Amsterdam

Uruguay
t: +598 97 211 102
a: Luis Alberto de Herrera 1248,
Tower 2, Floor 7, Office 710,
**Montevideo**

Overview

Ad Maiorem

We are the ideal strategic partner for dynamic and competitive companies interested in technological development and innovation.

Internationalisation

Our service offer extends internationally. We were born in Spain in 2006 with headquarters in Madrid, and since 2019 we have operational offices in Milan and Amsterdam.

Current trend
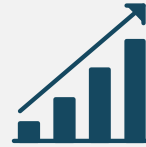
Confirming our financial and organizational growth. Having over 100 professionals specialized in civil, aerospace, IT and telecommunications engineering, mainly.

Technological innovation

Having customized solutions for any type of technological requirement which the global market demands, participating in the entire project cycle.

Quality and excellence

Our competitive strategy is based on the knowledge of the requirements of our clients, the high quality of services and the excellence of our resources.

Vission, Mission and Values

Our vision:

To be a strategic reference benchmark for technological innovation at an international level, committed to the satisfaction of our clients and the growth of our team.

Our mission:

Providing our clients with innovative solutions for the management of technological projects with high social impact, supplying the advice and expertise necessary for the creation of value and the success of each of their actions.

Our values:

- **Honesty:** To act with honestly and truthfulness in all our processes. Managing our business activity with transparency, committed to development overall.

- **Talent:** Not only contributing expertise and experience, but likewise working from empathy and positivism perspective to ensure that individual excellence contributes to overall success.

- **Innovation:** Playing a key role in the design and development of new technologies. Using our experience to implement solutions at the service of our clients and society.

- **Projection:** Thinking ahead. Wishing to go further and to be the nexus between people, new ideas and great opportunities.

- **Ethics:** We are governed by rules and principles which regulate respect for individuals, the environment and diversity. This represents our method of building solid and trust-based relationships.

Transversal activities

We assist our clients to take on major technological challenges.
Placing at your disposal expert staff specialising in the most important technology, to provide advice in relation to the entirety of all your projects and requirements.

Software, Hardware and Firmware

At Ad Maiorem we develop embedded systems for various industries. Our comprehensive approach calls for a thorough requirements analysis and accurate prototyping to ensure optimal functional results.

Artificial intelligence

Ad Maiorem we are experts in the automation and digitization of the processes of various industries. To face the challenges of the business future, we integrate Artificial Intelligence into your infrastructure and data strategy.

Cybersecurity

At Ad Maiorem we implement and deploy tailored solutions, with the purpose of detecting and eliminating incidents and/or threats caused by cyber attacks, fortifying the technological structure of our clients.
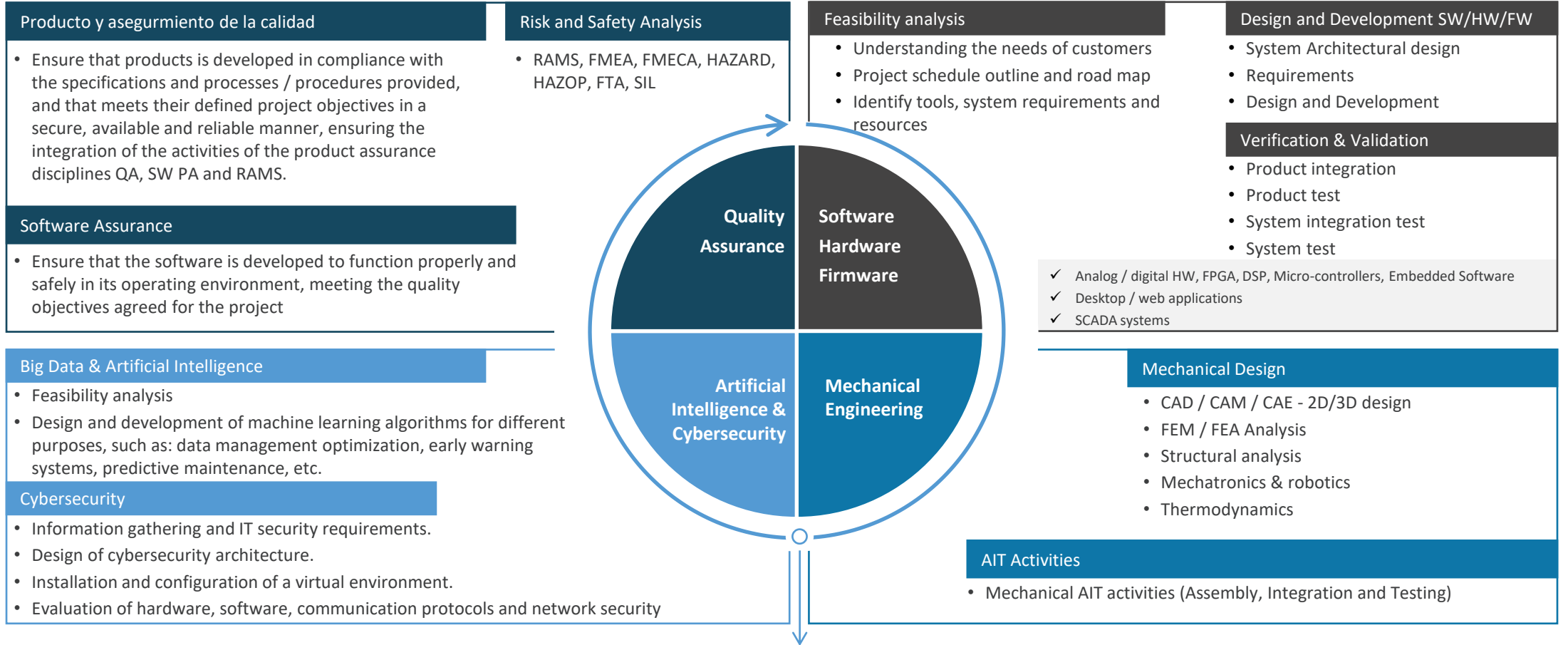
Quality assurance

Ad Maiorem experts work based on planned and systematic actions, implemented within an environment that ensures compliance with quality requirements and standards with an emphasis on the life cycle of technological projects.

Areas of Expertise

Producto y asegurmiento de la calidad

- Ensure that products is developed in compliance with the specifications and processes / procedures provided, and that meets their defined project objectives in a secure, available and reliable manner, ensuring the integration of the activities of the product assurance disciplines QA, SW PA and RAMS.

Software Assurance

- Ensure that the software is developed to function properly and safely in its operating environment, meeting the quality objectives agreed for the project

Risk and Safety Analysis

- RAMS, FMEA, FMECA, HAZARD, HAZOP, FTA, SIL

Feasibility analysis

- Understanding the needs of customers
- Project schedule outline and road map
- Identify tools, system requirements and resources

Design and Development SW/HW/FW

- System Architectural design
- Requirements
- Design and Development

Verification & Validation

- Product integration
- Product test
- System integration test
- System test

✓ Analog / digital HW, FPGA, DSP, Micro-controllers, Embedded Software
✓ Desktop / web applications
✓ SCADA systems

Big Data & Artificial Intelligence

- Feasibility analysis
- Design and development of machine learning algorithms for different purposes, such as: data management optimization, early warning systems, predictive maintenance, etc.

Cybersecurity

- Information gathering and IT security requirements.
- Design of cybersecurity architecture.
- Installation and configuration of a virtual environment.
- Evaluation of hardware, software, communication protocols and network security

Quality Assurance

Software Hardware Firmware

Artificial Intelligence & Cybersecurity

Mechanical Engineering

Mechanical Design

- CAD / CAM / CAE - 2D/3D design
- FEM / FEA Analysis
- Structural analysis
- Mechatronics & robotics
- Thermodynamics

AIT Activities

- Mechanical AIT activities (Assembly, Integration and Testing)

PROJECT MANAGEMENT

- Project plan definition and management.
- Reporting and management of progress meetings with the project team.

- Cost estimation / cost controlling activities.
- Coordination of resources/ suppliers.

- Risk Management.
- Support for internal functions (procurement, legal dept, etc.).

Main technological skills

Hardware

- **Architecture:** FPGA (Xilinx, Altera, ecc.), ASIC, CompactRIO, PXI, Analog hardware.
- **Languages:** VHDL, Verylog.
- **Tools:** Mathlab, LabVIEW, Altium, OrCAD, PSpice, ecc.
- **Standards:** DO-254, ECSS, IEEE.

Software & Firmware

- **Languages:** C / C++, C #, .NET, JAVA, JAVA (RCP), J2EE, PYTHON, PHP, ADA.
- **Operating systems:** UNIX, LINUX, RTEMS, VxWorks, LynxOS RTOS, WINDOWS.
- **Methodology / Approaches:** UML, RUP, SCRUM, Model-Based Software Design.
- **Microcontrollers / microprocessors:** ARM, x86, PowerPC, Coldfire, PIC, AVR.
- **IDE:** μVision, Atmel Studio, MPLAB, Simulink.
- **Standards:** DO-178B/C, ECSS, IEEE.

Web applications

- **Languages:** Java, Php, Python, VB, C#
- **Framework / front end library:** Angular.js, Vue.js, React, Jsf, Primfaces, JavaScript, Vanilla JS, Jquery, Liferay, Adobe Experience Manager (AEM).
- **Framework / back end library:** Apache ArtemisMQ, Apache Cassandra, Spring boot, Ejb, Hiberante, Jpa, Liferay, Mybatis, Redis, PostgreSQL, Laravel (php) Simphony (php), Node.js.
- **Continuous integration/Test:** Jenkins, Github, Mockito, Maven, Openshift, Kubernetes, Jasmine, Docker, JUnit, Karma, Vmware.
- **Methodology:** Scrum, Kanban.

IOT & Big Data

- **Open source:** Apache Hadoop, Hortonworks, Cloudera, Azure, AWS.
- **Data engineering:** Scala, Spark, Grafana, PowerBI, Informatica PowerCenter.
- **Data analysis:** R, Matlab, SAS, PySpark, Shiny, Teradata
- *Business Intelligence:* Microsoft PowerBI, Qlik Sense, Tableau, TIBCO, Looker.
- *Message Broker:* MQTT, RabbitMQ.

Business sectors

Aerospace

We develop systems, subsystems, equipment, for satellites, space vehicles and aircraft, in addition to "Ground Segment" related systems.

Defence

Having available solutions for the development and integration of technological systems and equipment related to the air, naval and land segments.

Railway

Designing comprehensive engineering solutions for each of the stages of the design, development and maintenance of train signalling systems, track, and control equipment.

Industrial

Participating in projects of great industrial complexity related to construction, electromedicine, and renewable energy, among others.

Oil & Gas

Handling the entire value chain in projects for the development of information and automation systems, providing an overview of technological evolution.

Telecommunications

Developing solutions for connectivity and data transmission, audiovisual broadcast networks, Smart City, IoT & Security, DAS, Small Cells, and infrastructure.

Our value offer

Success cases

- AIT/AIV
- AI/Big Data
- Optical Instruments
- Product Assurance (PA) / Quality Assurance (QA) / RAMS
- Satellite communications equipments
- Software / Hardware / Firmware
- Space Mechanisms
- Systems engineering

Collaboration models

- Time & Material
- Work Packages

Professional profiles

- Artificial Intelligence (AI) expert
- Big Data Consultant
- Mechatronic Engineer
- Optical Engineer
- Product Assurance (PA) / Quality Assurance (QA) / RAMS Engineer
- Software / Hardware / Firmware Engineer
- System Engineer
- V&V Engineer

Ad Maiorem is part of IcexNext.

IcexNext is the ICEX Spain Export and Investments program for Spanish SMEs seeking to internationalize.

They provide us with:
- Personalized and expert advice in Spain and abroad.
- Support in prospecting and commercial implementation in new markets.
- Access to the Network of Spanish exporting SMEs and Spanish Commercial Offices worldwide.

How does it benefit us?
- Internationalize our brand.
- Diversify our business.
- Improve our global competitiveness.

Learn more about **IcexNext** en https://icexnext.es/

ICEX | ICEXnext

FONDO EUROPEO DE
DESARROLLO REGIONAL

UNA MANERA DE HACER EUROPA

UNIÓN EUROPEA

Certifications

Ad Maiorem Consulting has achieved **ISO 9001:2015 certification – Quality Management.** This certification confirms that Ad Maiorem Consulting adopts a unique and integrated model that facilitates the management and ensures the maximum efficiency of our engineering services in technological innovation projects, thus confirming our **commitment to quality, the search for excellence and the satisfaction of our clients**.

Ad Maiorem Consulting is a company that has the NATO SECURITY CLEARANCE CERTIFICATE (NSCC), an essential requirement that is required of a contractor to participate in contracts, programs, projects or activities classified as **NATO CONFIDENTIAL** or equivalent . This qualification allows us to participate in EU SECRET (European Union - EU), NATO SECRET (North Atlantic Treaty Organization - NATO) and ESA SECRET (European Space Agency - ESA) degree projects.

Ad Maiorem Consulting is considered as a company that carries out a strategic activity within the sector of scientific and technical professional activities in Spain. It has a report issuedby the Ministry of Industry, Commerce and Tourism, whichaims to facilitate the presentation ofresidence authorizations for highly qualified professionals within the framework of the implementation of Law 14/2013, to support entrepreneurs and their internationalization.

Ad Maiorem Consulting is certified by NEN 4400-1. This certification confirms that Ad Maiorem Consulting adopts a human resources management model in line with the standards defined by the Dutch authorities and the best practices of the sector. In addition, it confirms the diligence of Ad Maiorem to comply with the payment of taxes and social contributions.

Aerospace projects

Our experience:

- Design and development of equipment for satellite communications, air traffic systems, systems for satellite control, systems for the integration of aerospace mechanisms, GNSS systems and equipment and integration of the Galileo Ground Segment.
- Systems engineering for AOCS and CNG.
- Systems engineering for optical instruments on board satellite platforms.
- Product Assurance, Safety and RAMS analysis.

Defense projects

Our experience:

- Software development for flight simulators of air training systems.
- Development and integration of operating systems and subsystems, structure and equipment for frigates and submarines.
- Development and validation of electronic components for guided systems.
- Design and development of electronic devices for anti-disturbance systems, hardware and software for defence technological tools and equipment, radar systems for naval and aeronautical uses.
- Integration, validation, and development of air traffic control systems (Flight Data Processing, FDP).

Railway projects

Our experience:

- Big Data for diverse railway applications.
- Development of comprehensive ticketing systems for railway transport.
- Development of embedded software for different railway signalling systems and products and passenger information.
- Safety and RAMS analysis.
- Train management and control systems:
  - ✓ European Rail Traffic Management System (ERMTS),
  - ✓ Communications-Based Train Control (CBTC),
  - ✓ Automatic Train Protection (ATP),
  - ✓ Automatic Train Operation (ATO), y
  - ✓ Centralised Traffic Control (CTC).
- Railway systems verification and validation.

Industrial projects

Our experience:

- Development of software and hardware for electromedical equipment and SCADA-type control systems.
- Comprehensive project management in the renewable energy (wind, solar etc.) field and for the construction of energy production plants.
- Systems engineering for rotating equipment in refining plants.

Oil & Gas projects

Our experience:

- Design of HVAC (Heating, Ventilation and Air Conditioning) and firefighting systems.
- Rotating and/or static equipment design and calculations.
- Cost estimation in the tender phase and construction cost control.
- Planning engineering in the design, construction, and start-up phase of Oil & Gas plants.
- Quality assurance, RAMS & risk analysis (esp. HAZOP, FMEA etc.).

Telecommunications projects
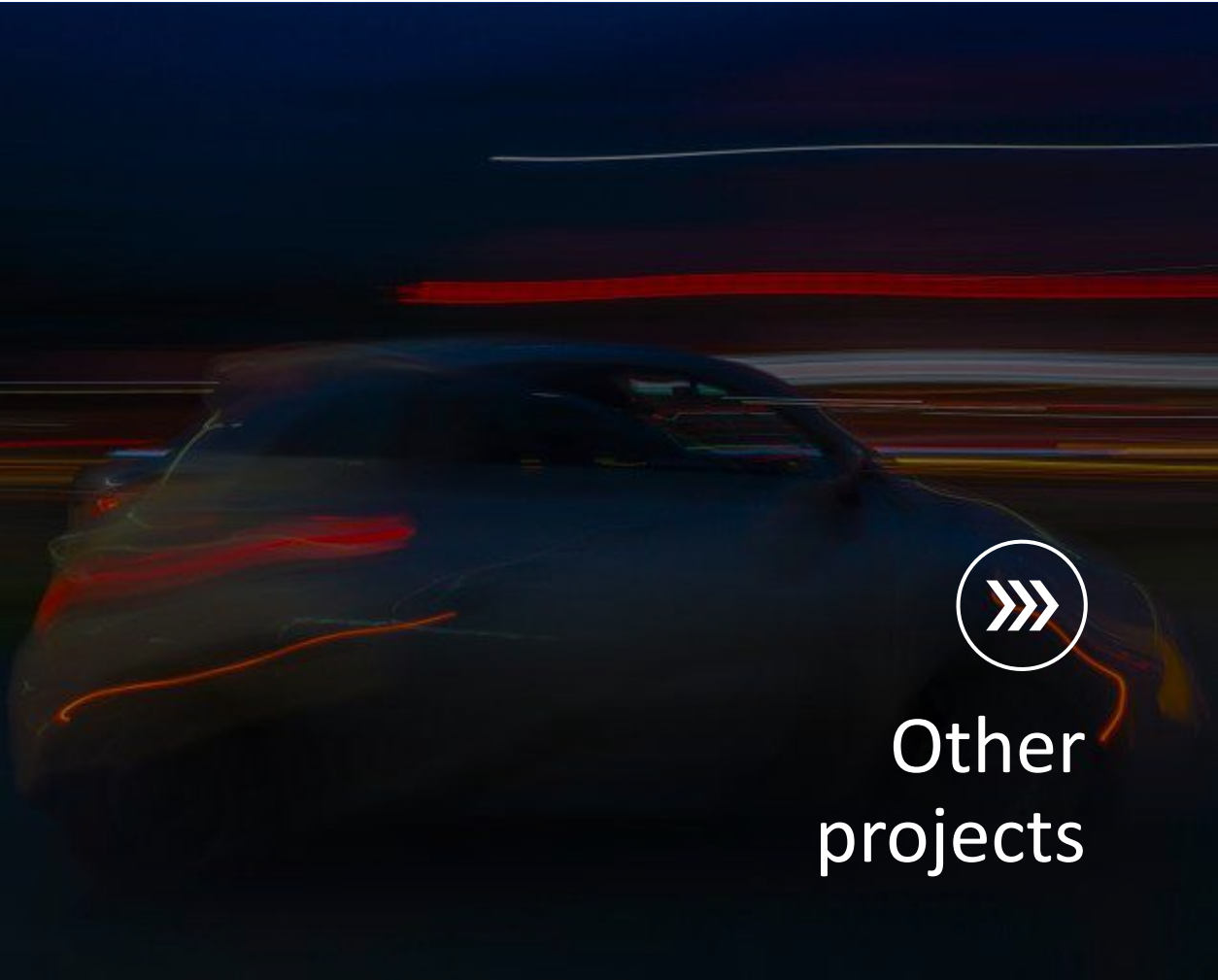
Our experience:

- Analysis, definition, test equipment, and network elements.
- Analysis, design and development of software for video surveillance equipment (CCTV).
- Analysis, design, and OSS (Operational Support System) implementation testing.
- Development of embedded hardware, and software for digital transmission equipment.
- Comprehensive project management for Next Generation Networks (NGN, Next Generation Networking).
- Implementation of communication and traffic control systems for onboard equipment of urban transport buses.
- Systems engineering for innovation in access technologies.
- Comprehensive project management solutions for VoIP and Video.

Other projects

More sectors:

- Transportation:
  - ✓ Development of software and hardware for SCADA type control systems.
  - ✓ Implementation of communication and traffic control systems for on-board equipment of urban transport buses.

AD MAIOREM