Technological Services

Our great challenge is the commitment to reliability and guarantee of our services.

All of our technological services share the common denominator of highly qualified technical staff for their development, the uniqueness of our facilities and laboratories, backed by numerous accreditations and official recognitions that endorse our technological capacity and independence.

Technological services and solutions so your business grows.
IDEAS THAT CREATE VALUE

Inspiring Business

TECNALIA Research & Innovation is the first privately funded applied research centre in Spain and one of the leading such centres in Europe. A combination of technology, tenacity, efficiency, courage and imagination.

We identify and develop business opportunities through applied research. Inspiring Business is a different, unique vision: we visualise ideas that generate value and provide creative technological solutions to produce real results.

VALUES

1. COMMITMENT TO THE FUTURE
2. BUSINESS PERSPECTIVE
3. RESEARCH
4. EFFICIENT CREATIVITY
5. FLEXIBILITY
6. CONNECTIVITY
7. SUSTAINABLE CONSTRUCTION
8. ENERGY AND ENVIRONMENT
9. INNOVATION STRATEGIES
10. ICT/EUROPEAN SOFTWARE INSTITUTE
11. INDUSTRY AND TRANSPORT
12. HEALTH
13. TECHNOLOGICAL SERVICES

7 BUSINESS DIVISIONS

At TECNALIA we are organised in 7 fully interconnected Business Divisions. Cooperation works thanks to the transversality of teams, projects and clients collaborating with each other, combining expertise and commitment. Our best asset is our team, made up of more than 1,500 experts who work to transform knowledge into GDP in order to improve people’s quality of life by generating business opportunities for companies. We are committed to the future, society, our planet and our environment. This responsibility provides focus to our values and reinforces our activities.

INTERNATIONAL PRESENCE

One Hundred and Ten Million Euros Income

At TECNALIA Research & Innovation we are allocated 100% of the results from our sales to generate business opportunities through applied research.

WORKING TOWARDS A COMMON GOAL: TO GENERATE BUSINESS OPPORTUNITIES THROUGH APPLIED RESEARCH.

4 APPROACHES TO THE WAY WE WORK WITH COMPANIES

“TECNALIA transforms Knowledge into GDP to improve people’s quality of life by generating business opportunities for Companies”
Technological Services

We have spent over 50 years helping our clients with the development and validation of their products, processes and systems, their business growth being our goal. We have a team of 250 highly qualified professionals and unique, cutting edge facilities, with state-of-the-art equipment to offer a comprehensive service with maximum guarantee.

THROUGH OUR TECHNOLOGICAL SERVICES, OUR CLIENTS:
- Access international markets thanks to the worldwide recognition of TECNALIA’s technical reports.
- Ensure that their products and goods fulfil quality, health and safety, environmental and social responsibility standards, operating more efficiently, reducing costs and minimising risks.
- Foresee and respond to the future challenges of industry and society, accessing new business opportunities, new markets.
- Increase the added value of their products, developing reliable brands and acquiring competitive advantage.
- Develop and innovate products.
- Accelerate “time-to-market” for new products.

OUR DIFFERENTIAL VALUE LIES IN:
- Extensive knowledge of national and international standards and regulations.
- Over 1,000 tests and calibrations accredited by ENAC.
- Adaptation to the delivery requirements of our clients.
- All the technological services in one centre – Single Point Lab.
- Over 40,000 m² of laboratories with cutting-edge facilities and methodologies.
- “Customised” studies and tests.
- Multidisciplinary teams with a high level of know-how and experience.
- Capacity to deal with complex needs and problems thanks to the transversality between our areas and the expertise of our technicians.
- International recognition of our reports.
- Complementarity in terms of R&D&I with the rest of Divisions of TECNALIA.

The technological services that TECNALIA offers respond to the needs of companies working in a wide range of sectors and markets. Market orientation and specialisation are our hallmarks. We offer services for private and public clients all around the world.
Our Offer in Construction

We assess the conformity of all types of construction materials, products and systems ensuring that they fulfill the applicable regulations and requirements (RIP, CTE…) and we reduce the entry time of the product in the market, accelerating its “time-to-market”.

We work with companies on their product and market diversification projects and generation of business opportunities.

• Guidance in national, European and international requirements, standards and regulations (UNE, EN, ASTM, UL, NFPA, JIS…).

• Development of test procedures for products beyond the scope of current regulations.

• On-site and full scale tests.

• Customised studies and personalised solutions.

• Technical audits for innovative products.

• European Technical Assessments (ETAs).

We have laboratories and unique technological skills in:

• Fire Safety (Reaction to Fire and Fire Resistance).

• Structural Safety.

• Physical-chemical Characterisation.

• Acoustics and Thermal Laboratory.

• Biological Characterisation.

• Environmental Quality.

• Mechanical Performance.

• Accelerated Ageing.

• Non Destructive Testing (NDT).

• Fatigue and Service Life Testing.

• Energy Efficiency.

LABORATORY NETWORK

Construction Materials Laboratory

Structural Safety Laboratory

Fire Safety Laboratory

Acoustics and Thermal Laboratory

Infrastructure and Quality Control Laboratory

Construction Materials / We improve the performance and evaluate the safety of:

• Pre-cast Concrete.

• Cement, Aggregates and Clay.

• Paints and Varnishes.

• Adhesives and Sealants.

• Wood and Wood Derivatives.

• Waterproofing Materials.

• Insulation Materials.

• Plastics and Composites.

• Protection Products.

To do so, we boast state-of-the-art facilities that enable us to offer the most innovative and effective technical solutions for the characterisation and certification of building products.

Construction Products / Reliability and safety assessment of:

• Windows and Accessories.

• Architectural Envelopes.

• Doors.

• Building Hardware.

• Noise barriers.

• Furniture and Interiors.

• Glazing.

• Panels.

We offer diverse certification methods which are adapted to the characteristics of each industry and market.

• Certification and Technical Assessments.

• TIA-Technological Innovation Audit.

• EPD-Environmental Product Declaration.

• On site verification.

• Study of the suitability of non-conventional complex systems in the field of the Technical Building Code.

We respond to client needs in all phases of the construction of a building or infrastructure, from quality control, on-site technical assistance, inspection and audits, supplier validation.

To do so, we boast state-of-the-art facilities that enable us to offer the most innovative and effective technical solutions for the characterisation and certification of building products.

RELIABILITY, QUALITY AND SAFETY ASSESSMENT OF CONSTRUCTION MATERIALS AND ELEMENTS

01.

ADVANCED SERVICES FOR INNOVATIVE PRODUCTS

02.

INSPECTION AND DIAGNOSIS OF SAFETY AND QUALITY IN BUILDING AND INFRASTRUCTURES

03.

ACCREDITATIONS AND RECOGNITIONS

• ENAC Accreditation No. 4/LE162 for the Testing of Construction Elements and their Accessories (Hardwares, Doors, Noise Barriers, Windows and Facades, Glass).

• ENAC Accreditation No. 4/18024 for Furniture Tests.

• ENAC Accreditation No. 4/14387 for the Testing of Concrete and its components.

• ENAC Accreditation No. 4/1345 for the Testing of Paints, Varnishes, Adhesives, Sealants and Plastic Surfaces.

• ENAC Accreditation No. 4/1347 for the Testing of Wood and its derivatives.

• ENAC Accreditation No. 4/1456 for Acoustic Tests.

• ENAC Accreditation No. 4/13967 for the Testing of Baked Clay Ceramic Materials.

• ENAC Accreditation No. 4/11459 for Thermal Insulation Tests.

• ENAC Accreditation No. 4/1599 for Reaction to Fire and Fire Resistance.

• Certified by VFK (Association of Public Building Insurance Companies and FBT (Construction Technology Commission) in Switzerland.

• Member of EGOLF (European Group of Organizations for Fire Testing, Inspection and Certification).


• Suitability of Fire Protection Complex (Building Code Reg., Ministry of Development).

• Notified Body No. 1290 according to the EU Regulation No. 305/2011 on Construction Products (CRPs).

TECNALIA is the Technical Assessment Body (TAB) for the issue of European Technical Assessments (ETAs) for Construction Products.

TECNALIA | INSPIRING BUSINESS
Worldwide recognition of our reports enables our clients to access INTERNATIONAL MARKETS.

We provide Conformity Assessment Services of electrical and electronic equipment at Accredited Laboratories and on site on installed equipment to demonstrate compliance with national and international standards and regulations as well as utility and manufacturer specifications.

We also offer electric utilities and electrical equipment manufacturers external and independent services in the field of Technical Consultancy, Supplier Qualification and Technical Management of Supplies, as part of the Product Certification process.

Tested Products / • Distribution Transformers. • Instrument Transformers. • Transformation Centres. • Medium Voltage Switchgear. • Low Voltage Panels. • Fuses and Fuse Holder Bases. • LV/MV Cut-off Switchgear. • Inverters and Converters. • Measurement, Protection and Control Equipment. • Smart Meters and Concentrators. • Telecommunications Equipment. • High Voltage Cables. • Rotating Machines. • Power Transformers.

LABORATORY NETWORK
Electrical Equipment Laboratory
EMC and Telecom Laboratory
Smart Grids Laboratory
Ingrid by tecnalia
Mobile Laboratory for On-site Testing

CONFORMANCE ASSESSMENT AND CERTIFICATION OF LV, MV AND HV ELECTRICAL EQUIPMENT

01.

- Power, High Voltage, Low Voltage and Power Electronics tests.
- EMC and Environmental Testing.
- Smart Grids equipment tests.
Our Offer in Electrical Energy

CONFORMITY ASSESSMENT AND CERTIFICATION OF ELECTRICAL EQUIPMENT

ON-SITE DIAGNOSIS AND PREDICTIVE MAINTENANCE SERVICES FOR ELECTRICAL EQUIPMENT

02. CONFORMITY ASSESSMENT AND CERTIFICATION OF ELECTRICAL EQUIPMENT

- Tests with Resonant System for High Voltage Cables.
- Diagnosis Tests for Rotating Machines.
- Predictive maintenance tests for Power Transformers.

Inspections and Technical Audits / Qualifications of Suppliers and Production Centres.

03. ON-SITE DIAGNOSIS AND PREDICTIVE MAINTENANCE SERVICES FOR ELECTRICAL EQUIPMENT

- Diagnostics and Predictive Maintenance Services for Electrical Equipment.

ACREDITATIONS AND RECOGNITIONS

- ENAC Accreditation No. 4/LE166 for Electromagnetic Compatibility: Emissivity and Immunity Testing.
- ES-02 registered laboratory by LOVAG (Low Voltage Agreement Group), European Association for Product Certification.
- Laboratory accredited by the PRIME Alliance, international association for the certification of PRIME technology equipment.
- Member of the PRIME Alliance, METERS & MORE, DLMS User Association, SGCCS (Smart Grids Coordination Group).
- Member of DERlab, European Distributed Energy Resources Laboratories.
- Founding Member of the AELP, Spanish Association of High Power Laboratories.
- International recognition by European and global electric utilities such as CFE (Mexico), SEC (Saudi Arabia), DEWA (Dubai), ADWEA (Abu Dhabi).

INGRID New Experimental Infrastructure for Smart Grids

INGRID is a singular laboratory at international level, with a great experimental capacity in high-voltage and high-power, which comprises equipment and component testing for smart grids, electric systems for renewable energy and smart management of the electric power consumption (electric vehicle, building, demand management).

TECNALIA, internationally recognized electrical laboratory, has extensive experience in product conformity assessment for electrical distribution and transmission grids for product development and certification.
Capacity to respond to complex needs and problems thanks to the transversality between our areas and the expertise and experience of our technicians.

Our Offer in Materials


LABORATORY NETWORK

Mechanical Testing Laboratory
Metallography/Materialography Laboratory
Chemical Analysis Laboratory
Corrosion Laboratory
Non-destructive Testing (NDT) Laboratory

Metallic Materials (steels, irons, aluminium, copper, nickel, titanium alloys), Polymers and Composites, Ceramics, Paints and Coatings, Welds.

The Material Characterisation service is aimed at all sectors and companies that require Quality Control or Conformity Assessment of their products.

• Quality Control/Conformity Assessment.
• Testing and Analysis under particular standards or specifications.
• Static and dynamic testing of Components and Parts on test bench (RIG).
• Extensometry: Strain and Stress measurement tools and instrumenting with Strain Gauge.
• Residual Stress (Hole Drilling).
• Metallographic Replication: Microstructural Analysis and Residual Life.

This service is aimed at all clients that require a singular or specific test and the corresponding guidance.

In addition to carrying out conventional tests and analyses, TECNALIA has the means and know how to perform singular or specific tests, offering the possibility of customising these tests.

In addition to carrying out conventional tests and analyses, TECNALIA has the means and know how to perform singular or specific tests, offering the possibility of customising these tests.

This service is aimed at all clients that require a singular or specific test and the corresponding guidance.

The service covers raw-material and semi-product characterisation testing and analysis through to the end product.
• Quality Control/Conformity Assessment.
• Testing and Analysis under particular standards or specifications.

Mechanical Tests (static and dynamic tests, high temperature and cryogenic tests). Metallography/Materialography Analysis, Chemical Analysis, Corrosion Tests, Non-Destructive Testing (NDT).
Our Offer in Materials

03. ASSESSMENT AND DIAGNOSIS OF MATERIALS AND COMPONENTS

TECNALIA offers an Assessment and Diagnosis service that goes beyond the mere characterisation and testing of materials and components. The experience and know-how of the technicians enables them to advise clients on the reasons behind a Non-Conformity and in the Review and Design of Specifications.

This service is aimed at all clients requiring external support for product quality problems or those who need to guarantee this quality:

- Assessment and analysis of results.
- Diagnosis of the reasons behind the Non-Conformity.
- Review and/or Design of Product and Process Specifications.
- Accelerated Tests.

04. FAILURE ANALYSIS AND PREVENTION IN COMPONENTS AND SYSTEMS

Determination of failure causes (Design, Manufacture or Use-Maintenance) in order to improve processes and components, evaluate solutions and/or assign liability.

Aimed at the Industry, Insurance Companies and Assessors that need to know the root cause of Components or Systems failures in order to establish corrective measures or improvements and/or assign liability.

Failure Analysis Studies: specifications and recommendations.

The studies cover mechanical (fatigue-fracture), Corrosion, Erosion-Friction-Wear and High Temperature failures on Metallic, Polymeric, Composite, Ceramic, Paints and Coatings and Welded components.

05. IN-SERVICE BEHAVIOUR AND MATERIAL SELECTION


Assessment of status/damage and residual life and design of inspection program.

Aimed at sectors and companies that require support and guidance in the selection of materials, design of specifications, assessment of status/damage and inspection programs.

- Selection of Materials and their Manufacturing and Protection Processes.
- Experiment and Test Design.
- Component status/damage Assessment.
- Fracture mechanics and damage tolerance.
- Design of specifications and inspection programs.

06. WELDING PROCESSES

Assistance, certification, control and testing of the welding process, that contemplates sharing the Project with the client from the outset:

- Quality System Review.
- Technical Review.
- Guidelines and Testing.
- Procedure Certification.
- Process Control.
- Supervision of works and implementation of production and quality assuring systems.

ACCREDITATIONS AND RECOGNITIONS

- ENAC Accreditation No. 4/LE063 for Metallic Materials Testing.
- ENAC Accreditation No. 4/LE364 for the Testing of Paints and Coatings.
- ENAC Accreditation No. 4/LE365 for Non-Destructive Testing (NDT).
- Certification according to UNE-EN 9100:2016.
- Approved by AIRBUS to conduct Control Testing for Surface Treatment Baths.
- Approved by ESA (European Space Agency) for **SMT Microsectioning** according to ECSS-ST-Q-70-38.
- Nadcap OP Accreditation for Chemical Processes.
- Nadcap MTL Accreditation for the Testing of Metallic Materials.

![ACCREDITATIONS AND RECOGNITIONS](images/14.png)
At TECNALIA, we offer you Comprehensive Instrumentation Management so that you can TRUST absolutely in the fulfilment of parameters.

Our Offer in Metrology

We perform the calibration of equipment and facilities of any kind to ensure reliability of their measurements, hence guaranteeing the optimum operation of production processes and increasing their quality and reliability.

LABORATORY NETWORK
Metrology Laboratory

- Comprehensive management of the SEICA calibration plan.
- Outsourcing and Remote Management.
- Calibration of standards, measuring equipment and processing facilities.
- Metrological control of measuring instruments.
- On-site Calibrations and Verifications.
- Effective management of instrumentation.
- Measurement Consulting and Engineering.

Measurement Areas /
- DC, High- and Low-Frequency Electricity, HV.
- Time and Frequency.
- Temperature and Humidity.
- Flow Rate, Volume, Pressure and Vacuum.
- Dimensional.

LABORATORY NETWORK
Gaming Laboratory

ACCREDITATIONS AND RECOGNITIONS
- ENAC Accreditation No. 33/LC10.020 for Calibrations.
  - Electricity (DC, High- and Low-Frequency, HV).
  - Temperature.
  - Humidity.
  - Flow Rate and Volume.
  - Pressure and Vacuum.
  - Force and Torque.
  - Mass.
  - Time and Frequency.
  - Dimensional.
- AIRBUS Military supplier.

Comprehensive offer for the certification of gaming and betting systems that combines over 15 years of experience as an accredited testing laboratory in the same organisation and international technological capacity in software and security and in the implementation of good practices for the industrialisation of the development of software and models, methodologies, standards and their certification.

- Testing and assessment of compliance with the applicable legislation.
- Independent Testing Laboratory in case of user claims.
- Advisory Services for Public Administrations.

TECHNICAL SERVICES
TECNALIA | INSPIRING BUSINESS

01. COMPREHENSIVE CALIBRATION SERVICE

02. TESTING OF GAMING MACHINES, NETWORKED GAMING AND ON LINE GAMES
Our Offer in Health and Quality of Life

01. PHARMACEUTICAL DEVELOPMENT AND DRUG EVALUATION

- Pharmaceutical development: pre-formulation studies, galenic drug development, excipients compatibility studies.
- Analytical development: characterisation of raw materials and pharmaceutical forms; setting-up and validation of analytical techniques; in-vitro dissolution studies.
- Stability Studies (ICH).
- Bioanalysis.

02. PHARMACEUTICAL LABORATORY

- Biobatches for clinical trials, Pilot and Industrial Batches of marketed drugs.
- Medical Devices.

03. CLINICAL TRIALS UNIT

- Phase I Clinical Trials.
- Management of and collaboration in Phase II and III clinical trials.
- Clinical Validations.
- Nutritional clinical studies.

04. BIOTECHNOLOGY AND BIOMEDICINE

We work with the biomedical sector within the fields of genetics and functional genomics, using new, high performance technologies such as DNA microarrays, gene sequencing and protein and cell analysis.

Services / • Identification of genetic (mutations, SNPs, CNVs, LOH) and epigenetic modifications.
• Transcriptome Analysis (Agilent oligo arrays).
• Bioinformatic analysis and interpretation of results.
• Analysis and quantification of the protein profile.
• Gene sequencing (capillary electrophoresis).
• Cell cultures and in vitro tests: Flow cytometry, enzyme activity, immunoassays, cell viability and proliferation tests.

LABORATORY NETWORK

Pharmaceutical Development Laboratory
Laboratorium Sanitatis Pharmaceutical Laboratory
Clinical Trials Unit
Molecular Biology Laboratory

ACCREDITATIONS AND RECOGNITIONS

- TECNALIA is certified by the Spanish Agency of Medicines and Medical Devices (AEMPS) in Good Laboratory Practices (GLP).
- TECNALIA is certified by the Spanish Agency of Medicines and Medical Devices (AEMPS) in Good Manufacturing Practices (GMP).
- TECNALIA’s Clinical Trials Unit lies within Good Clinical Practices (GCP) and holds ISO 9001 certification for Bioequivalence and Phase I Trials.
- The Molecular Biology Laboratory is a member of the European Molecular Genetics Quality Network (EMQN).
TECNALIA is certified by the Spanish Agency of Medicines and Medical Devices (AEMPS) in: Good Laboratory Practices (GLP) and Good Manufacturing Practices (GMP).

We offer technological services so that companies of any sector can respond to environmental legal requirements and we also have a services portfolio to help companies become more sustainable.

LABORATORY NETWORK

Environmental Control Laboratory
Urban Environmental Health Laboratory
Energy Efficiency Laboratory

Comprehensive Service /
• Atmospheric emissions inspections and/or testing.
• Measurement of outdoor air quality.
• Industrial discharge testing.
• Analysis of water of different kinds.
• Waste characterisation (for landfill acceptance, hazaroudness, recovery...).
• Soil analysis.
• Calibration of on-line analysers (NGC2 and EAS).
• Preparation of the environmental monitoring programme.

01. ENVIRONMENTAL CONTROL SERVICE

We have inspectors and technicians with extensive technical capacity and experience to carry out the environmental measurements and calibrations required at your facilities by the appropriate administration. Multisectoral offer.

02. URBAN PEST SERVICES

A team made up by entomologists and biologists with wide experience in pest control and biocides.
• Own “air-conditioned” insectaries for more than 10 species of insects.
• Bioassays.
• Ecobiology and mosquito systematics.
• Surveillance and monitoring of mosquitoes, vectors and invasive species.
• Management of mosquito breeding places in urban, peri-urban and touristic areas and in protected nature reserves.
• Efficacy Evaluation (laboratory, semi-field, field).
• Development and validation of indoor/outdoor technologies for surveillance, monitoring and integrated management.
Our Offer in Sustainability

**03. WOOD PRESERVATIVE SERVICES AND OTHER BIOCIAL SERVICES**

- Biocidal Effectiveness Evaluation for Protective Product Registration (Field & Laboratory assays).
- Fungicidal efficacy.
- Insecticidal efficacy.
- Measurements of the durability of wood and wood derivatives.
- Leaching tests for biocidal products in use.

**04. SUSTAINABLE MATERIALS MANAGEMENT**

Interdisciplinary team to provide support to all the necessary requirements for the sustainable management of materials throughout their life-cycle. The areas of interest on the management of materials are:

- Being aware and reducing the impact of the life-cycle on the supply chain.
- Use less raw materials (reduce, reuse, recycle).
- Use less toxic materials and more renewable materials.

**Services**

- VOC content and emissions.
- Life-cycle analysis of materials.
- Waste water analysis and characterisation.
- Purity of materials.
- Characterisation of materials.
- Usability and effectiveness.
- Biosource and materials reuse.
- Biodegradability and Compostability.

**05. ENERGY EFFICIENCY IN BUILDINGS AND INDUSTRIES**

We have the knowledge and the means to find out the energy consumption in buildings and in processes and industrial facilities.

**Services**

- Energy Audits.
- Advice for the implementation of ISO 50001.
- Thermographic studies.
- Energy simulation.
- Assessment and characterisation.

**ACCREDITATIONS AND RECOGNITIONS**

- ENAC Accreditation No. 4/LE478 for Testing in the Environmental Sector (Air Quality Area).
- ENAC Accreditation No. 4/LE1103 for Testing in the Environmental Sector (Liquid Environmental Samples Area).
- Accreditation No. 34/EI042 as an Environmental Inspection Body.
- ENAC Accreditation No. 4/LE115 for Wood Preservatives Testing.
- Cooperating Entity with the Ministry for the Environment as a Testing Laboratory.
- Professional Technicians Certified in Metering and Verification by The Efficiency Valuation Organization, EVO.
- FEDACAI Accredited Laboratory for the Inspection of the Indoor Environmental Quality in Buildings.