

2022

ANNUAL REPORT





INERCO 

INDEX



PRESENTATION



INNOVATION AND
DIGITISATION



SUSTAINABILITY
AND ESG CRITERIA



MAJOR
PROJECTS



INERCO IN
THE WORLD



INERCO
IN FIGURES



TRUST IN
INERCO



PRESENTATION



Presentation

Growth and adaptation.

If in 2021 we undertook organisational changes and moved forward with our customers towards increasingly significant challenges, 2022 has been a year of remarkable growth for **INERCO** in our business and consolidation in the current global production and industrial scenario, with plenty of significant changes and marked by the adaptation and transformation of entire industrial sectors worldwide.

This change in paradigm of many of the traditional principles in the economy and industry, has meant a high development and implementation speed of the (growing) volume of projects, mostly focused on a new scenario, marked by environmental sustainability and by the alignment and momentum originated by the European and global energy transition and decarbonisation policies. Those are projects based on emerging technologies, subject to increasingly ambitious and groundbreaking environmental, safety and risk prevention requirements, with more demanding technical and energy standards, which have expanded not only our business volume in 2022, but also the catalogue of services and solutions for our customers, with proposals designed to meet new needs.

These changes and new approaches are in line with **INERCO**'s own vision, as a company focused from the outset on promoting sustainable development of both traditional and emerging industrial activities. To this end, it is worth highlighting how, during 2022, **INERCO** has developed actions aimed at:

- Restructuring **INERCO**'s production capacity for the development and specialisation in specific areas: renewable hydrogen, energy storage, energy optimisation, biogas and carbon dioxide capture, all of which are grouped within **INERCO**'s new Energy Technologies and Decarbonisation business line.
- Strengthening of the Environmental Technologies and Engineering lines in order to address the growing number of projects managed and the new production and activity sectors, as well as progress towards the new environmental improvement objectives that decarbonisation policies have set out in the current scenario of industrial transformation and development.
- HSE and technical advice to companies and public administrations, with a global and integrated vision, enabling projects to become viable from the earliest stages of conception and authorisation.



INERCO has also remained close to its conventional and new customers in 2022, advancing in detailed knowledge of their needs and operations, which has allowed an enhancement on degree of anticipation that effective assistance and advice require. This has materialised not only in the development and implementation of industrial-scale projects, but also in the execution of various innovation projects (financed by the European Union), which will be the basis for future developments in the fields of renewable hydrogen production and energy storage.

And, in 2022, we have not neglected the importance of alliances between complementary companies (as well as competitors, in some cases), which have allowed **INERCO** to be provided with new capabilities in record time and with a very high solvency level, while at the same time boosting the development and added value of projects in each and every one of the territories in which we are located.

Progress in all these fields has allowed **INERCO** to consolidate a rapid adaptation to the new industrial scenario, in which the speed of change and transformation (together with the understanding and implementation of new environmental, technical and personal and occupational safety principles) results in a distinctive added value provided by a company with

INERCO's implementation and principles. Likewise, and as a consequence, we have been able to activate a very important portfolio of new orders in our different areas of activity, which has meant starting 2023 with a solid production base and new developments.

Sustainability and decarbonisation are therefore the reference framework in which **INERCO** operates with extraordinary solvency. The adaptation of our production structure consolidates the bases that allow us to offer a broader and more specialised response to all our customers, to whom we offer a solvent support within a European regulatory framework that is still under definition and construction.

Last but not least, none of the above would be possible without our team. Committed, specialised, agile and innovative. This is our key to success, because each and every one of the people in our team contribute to make **INERCO** the great company where we work and develop professionally.

Vicente Cortés Galeano
Presidente





INNOVATION AND DIGITISATION



Innovation

INERCO's commitment to innovation continued to be reinforced during 2022. Among the most important actions was INERCO's leadership in the ALTERQ and BIOEFUEL projects, both belonging to the Joint Innovation Units programme of the Andalusian Agency for Innovation and Development (IDEA) and in collaboration with the Andalusian Association for Research and Industrial Cooperation (AICIA). On the one hand, through the ALTERQ project, **INERCO** began research into critical elements for large-scale energy storage, based on reversible chemical reactions (thermochemical storage). This research consists of the design and manufacture of laboratory reactors for the hydration of CaO and dehydration of Ca(OH)₂, with the aim of obtaining information that will enable reactors to be built on a commercial scale. In the case of BIOEFUEL, the technology area being researched is that of renewable synthetic fuels, for which innovative aspects of the different stages of the process, such as: CO₂ generation by biogas and oxy-fuel biomass combustion, CO₂ capture, renewable H₂ production, CO₂ methanisation and and global integration of processes in the search for optimised configurations.

Secondly, it should be noted that **INERCO** has started the **ATMOSPHERE project** in 2022 to research new technologies for the efficient and safe production of renewable hydrogen.

In this project, led by IBERDROLA and in which leading Spanish companies and technology centres participate, **INERCO** plays a leading role in specific

lines of great interest, such as those related to: the use of solid oxide electrolysis technology (SOEC), the safety of the new processes and the improved design of future plants with high renewable hydrogen production capacities.

INERCO has also maintained its collaboration with various partners with whom it had previously signed technological collaboration agreements. From large multinationals to start-ups, the work has been intense during 2022 to develop new solutions and bring them to market. This is the case of the technology start-up Orbital-EOS and its EOS Viewer solution, based on artificial vision and the processing of satellite images for monitoring and intervention in the event of oil spills.

Likewise, **Human Factors Engineering** and Risk Analysis have been carried out by by Factor Humano together with the British company HU-TECH, a world leader in this field. In addition, and also from our Occupational Risk Prevention Division, **INERCO** has collaborated with the company FLYROS, a spin-off from the Seville School of Engineering, to develop solutions based on artificial vision with the aim of improving worker safety.

Also, participation in **the FLASHPHOS and TARANTULA projects**, belonging to the HORIZONTE 2020 programme of the European Commission, has continued. The consortiums that are executing both projects and in which INERCO is involved are made

up of European partners from different sectors (university, industry, engineering, consultancy, etc.), being the first led by the University of Stuttgart and the second by the company Tecnalía. Among the main activities carried out by INERCO is the engineering of the planned pilot plants as well as the Safety Studies and Life Cycle Analysis that allow to confirm the environmental benefits of the process.





Digitisation

INERCO's track record endorses and shares the view that **digitisation** is more than necessary to gain competitiveness in any economic sector. That is why **INERCO** proposed, years ago, an ambitious plan to promote and consolidate this digital leap, making it part of its work philosophy in all the countries in which it operates.

Among the digital improvements in **INERCO**'s operations carried out during 2022, all those aimed at **Business Intelligence (BI)** should be highlighted. These improvements (which began to be implemented in 2021) have continued to be developed, giving rise to new applications. Based on the data collected by the ERP (Enterprise Resource Planning), implemented and operational for the last twenty years, these are converted into information which is finally turned into fundamental knowledge for decision-making. This digital improvement allows us to speed up the generation of strategy changes, control information and have up-to-date information, efficiently manage profitability and productivity improvements, identify trends, and reduce expenses while controlling costs.

In addition, **INERCO** has established **the use of digital tools within its activity and in the management of its customer relations**, by organising webinars on various topics and with a global scope of information.

On the other hand, **INERCO** is working to **develop advanced products and services** using new digital tools, as shown by some of the examples mentioned in the previous Innovation section. In this regard, the application of the different digital enablers (IoT, Artificial Intelligence, Big Data, drones, artificial vision, etc.) is allowing **INERCO**'s different business lines to market advanced solutions in various fields, such as: early detection of incidents, acoustic control, measurement of pollutants, reduction of occupational accidents, energy efficiency and others.





PRESENTATION

INNOVATION AND
DIGITISATION

SUSTAINABILITY
AND ESG CRITERIA

MAJOR
PROJECTS

INERCO IN
THE WORLD

INERCO
IN FIGURES

TRUST IN
INERCO

INERCO

SUSTAINABILITY AND ESG CRITERIA



Sustainability and ESG criteria

The concept and acronym 'ESG' stands for **Environmental, Social and Governance**, factors that make a company **sustainable** through its environmental, social and governance values and commitments, without neglecting the financial aspects of the company.

INERCO has kept this triad of factors at the centre of its strategic vision from the very moment it was founded in 1984. For this reason, the momentum experienced in recent years in relation to the promotion and development of global sustainability initiatives and ESG policy, fits directly with the line of progress of **INERCO's** activity in all its fields.

In this specific way, our company has evolved and adapted over the years to continue offering the highest possible ESG and sustainability standards, both internally and in the tailor-made solutions developed for our clients. The main characteristic of our services and our vision as a company is that we are a company **whose economic activity can be considered 'enabling activities'**, as defined in article 16 of the Taxonomy Regulation itself, by directly enabling or assisting our clients through our services for other economic activities to make a substantial contribution to one or more of the environmental objectives established in the framework of sustainable investments and the European Green Deal.

Not in vain, since the origin of **INERCO** our mission has been "to contribute to sustainable industrial development".

These aspects are specified in the advice and application of technological and engineering developments by **INERCO** for the actions and projects of its clients, with the aim of **mitigating and adapting to climate change**, such as those relating to: optimisation of pollutant gas emissions, CO₂ capture, generation of renewable environmental vectors (such as hydrogen, biogas and methane, methanol or ammonia and solar, wind or biomass electricity generation) or energy storage through battery systems of various technologies. In addition, **INERCO's** activity is a pioneer in actions to comply with the DNSH principles established in the taxonomic regulation, which is essential for accessing public funding for projects.

The progress and implementation of projects that promote **circularity and the reuse of waste** has allowed **INERCO** to promote the definition and construction of new waste recovery plants and facilities (material and energy). The company has decades of experience in the management and authorisation of waste management processes, as well as its extensive knowledge of the applicable legislation and the criteria of the competent administrations in the different industrial sectors.



Special mention should be made of the solutions and analyses focused on the **protection of the water and marine environment**, as well as the optimisation of the purification and discharge systems of industrial activities, not only in terms of the design and construction of effluent treatment plants, but also in the control and monitoring of the receiving environment (both habitual and incidental discharges) or in the design of the discharge pipes and outfalls themselves, as well as in the hydrodynamic modelling of these infrastructures, in order to minimise any interaction or potential impact on the receiving environment and its surroundings.



As mentioned above, the EOS Viewer solution, based on artificial vision and the processing of satellite images for the detection of oil spills, which allows the retrospective identification of incidents and 24/7 monitoring of operations for the early activation of action plans, as detailed in the following section.

In addition to INERCO's previous activities, there are also those carried out within the framework of **pollution prevention and control** in the different industrial activities, dominated by a complete combination of INERCO's technical and environmental experience in the application of the best available techniques, in the abatement of emissions and discharges or in the optimisation and monitoring of industrial processes.

Last but not least, there are the actions and analyses derived from the **protection of biodiversity and ecosystems** in the broadest sense, combining analysis, communication and **social management** of communities and the population surrounding economic and industrial activities. This assessment of ecosystems, complemented by a thorough knowledge of the environmental optimisation measures of economic activities and infrastructures, and supported by a complete presentation of the reality of these activities to the population in their surroundings (including the collection and evaluation of their potential concerns) has become a key tool in

INERCO's assistance to its clients and the territories where they operate.

This **comprehensive approach** has distinguished INERCO's commitment to sustainability and the fulfilment of its environmental objectives since its origins, allowing the application of our experience and technological know-how to developments and projects on all continents.

These characteristics of our activity are also developed and extended throughout our organisation, proactively, originating in INERCO's own management structure and being integrated into the ESG environmental and social criteria applied in all business lines and for all INERCO's areas of activity.

Thus, actions are promoted that focus, among other aspects, on:

- Reduce pollutant emissions and waste generation from our activities.
- The digitisation of our services and developments.
- Promote ESG reporting of our company's activity and INERCO's adherence to the Global Compact.
- The protection and promotion of INERCO as a **diverse and inclusive company**, with the adoption of flexible working and a hybrid work model at all its sites being some of the actions aimed at achieving a healthy work space and collaboration for and by employees, as well as respectful of the community in general.
- The development and scrupulous compliance with INERCO's fiscal and regulatory strategies in the countries where it operates, with special attention to the aptitude and correct coexistence of our employees, the promotion of training and internal promotion for new opportunities.
- The current ongoing analysis of the calculation of the company's carbon footprint (in scopes 1, 2 and 3), with the aim of progressively moving towards a **carbon neutral model**.



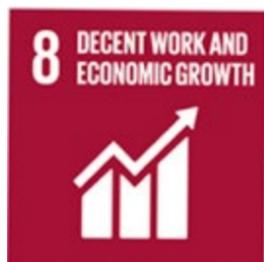


This integrated and cross-cutting approach in all **INERCO's** lines of action translates into a strategy framed in the **Sustainable Development Goals (SDGs)** set by the United Nations in 2015. Specifically, the following SDGs can be highlighted in relation to **INERCO's** activity and sustainability plan:



SDG 3

On the guarantee of a healthy life and the promotion of well-being, directly related to **INERCO's** mission, focused on improving the environment and the conditions of safety, health and prevention of economic activities and their surroundings.



SDG 8

Regarding the requirements for **INERCO's** suppliers and providers to comply with Social and Ethical Responsibility criteria (including the contractual requirement to support the elimination of child/forced labour), as well as the prevention of and compliance with our own and others' safety standards.



SDG 9

This refers to the promotion of environmentally friendly technologies, which is closely linked to **INERCO's** mission and, more specifically, to the contribution to sustainable industrial development.



SDG 10

Sustainable industrial development, a fundamental pillar of **INERCO's** activity, is one of the main instruments for guaranteeing equal opportunities among the different sectors of the population in all countries, allowing an increase in their income and the adoption of increasingly effective and comprehensive fiscal, wage and social protection policies.



SDG 11

On the sustainable use of resources and environmentally friendly technologies, as established in **INERCO's** Code of Ethics to minimise the environmental impact of the organisation's activities, as well as promoting sustainable mobility among our employees.



SDG 12

The development, authorisation and implementation of appropriate technologies by **INERCO's** different Divisions allows us to move towards efficient management and use of natural resources, waste generated and energy consumption, strengthening the scientific and technological capacity towards more sustainable greenhouse gas (GHG) production in our activity.



SDG 13

For climate change mitigation, based on the high number of **INERCO** services and products aimed at decarbonising the economy, and despite the low greenhouse gas (GHG) emissions intensity of our activity.



SDG 16

In relation to the fight against corruption and bribery, and on independence from political and economic powers, as a basic pillar of **INERCO's** Code of Ethics.



MAJOR PROJECTS



Consultancy

MONITORING AND REMOTE SENSING OF OIL SPILLS IN OPEN WATERS

INERCO started in 2022 the implementation of preventive oil spill and oil slick monitoring and remote sensing systems for major global oil companies.

These solutions, derived from the alliance established in 2021 between **INERCO** and ORBITAL EOS, are based on the **EOS Viewer** digital solution which, based on artificial **vision systems and satellite and radar image processing**, applies a proprietary Artificial Intelligence algorithm for the detection and/or monitoring of oil spills.

The advantages of implementing this solution are maximised where open water oil activities are carried out, given the large areas it can cover and its capacity to identify and detect oil spills and slicks at sea. Also, it is greatly useful to predict the evolution with information in real time in order to define the intervention strategies and contingency plans to be carried out.

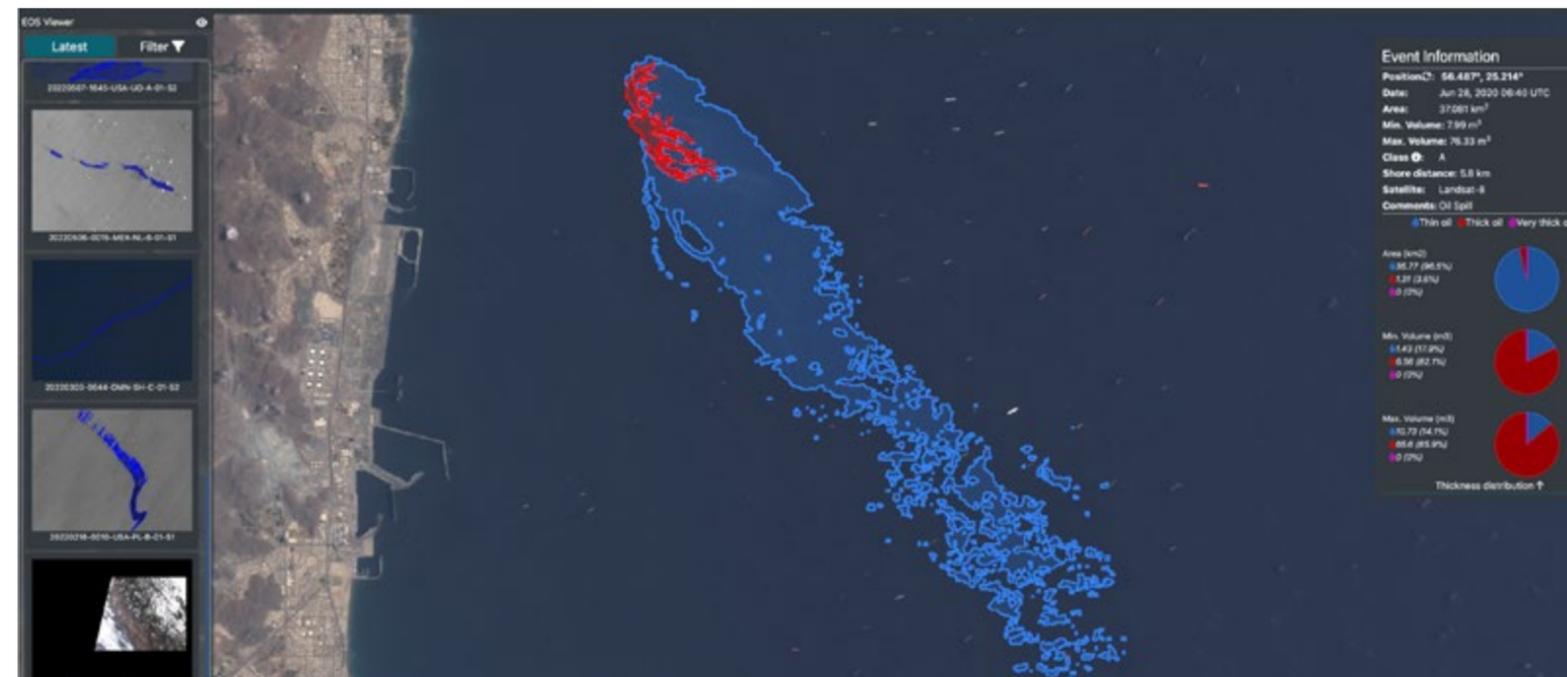
In addition, they represent significant cost savings for maritime operators compared to other monitoring solutions, providing the capacity and support to assess the origins of potential pollution situations and their real cause, among others.

LOCATION

Pacific Ocean

CLIENT

Multinational oil company





Consultancy

ADVICE AND ENVIRONMENTAL AUTHORISATION FOR THE LITHIUM-ION BATTERY MANUFACTURING GIGAFACTORY PROJECT FOR THE AUTOMOTIVE INDUSTRY

In 2022, **INERCO** began its collaboration with the Battery Division of the multinational **ENVISION** (ENVISION AESC), for the purpose of **coordinating** advice on the initial phases of environmental authorisation and licensing of its project to implement a **lithium-ion battery manufacturing gigafactory for electric vehicles**.

This unique project has a final budget of approximately €5 billion and will contribute to the creation of 3,000 new direct jobs in the area.

The development of this factory is in line with the objectives set out in the PERTE VEC (Strategic Project for the Recovery and Economic Transformation for the development of the Electric and Connected Vehicle).

From the different departments of **INERCO** and led by our experts from the Environment Division in Spain, the initial definition of the project has been coordinated with ENVISION AESC in China and with the Chinese Design Institute EDRI, responsible for the conceptual design, making its **definition feasible** with respect to the applicable regulatory and environmental requirements. In addition, **INERCO** has developed the environmental and safety documentation required to obtain the Integrated Environmental Authorisation and the Environmental Declaration of the Project and its qualification as a strategic project, advising the client and the administrations before and during the processing of the project. The Engineering Division has also developed the documentation for the application for the access point and connection to the electricity grid, as well as the technical project for the power line.

LOCATION

Navalmoral de la Mata, Cáceres (Spain)

CLIENT

ENVISION AESC





Consultancy

DEVELOPMENT OF HUMAN FACTORS ENGINEERING (HFE) METHODOLOGY FOR AN OLEFINS EXPANSION PROJECT IN POLAND

INERCO has developed **Human Factors Engineering (HFE)** for the olefins expansion project at the **PKN ORLEN** petrochemical complex in Plock (Poland). The HFE, contracted by the consortium between **Técnicas Reunidas and Hyundai Engineering**, identifies the modifications to be introduced in the project to comply with legislative standards and international design codes, optimise the operation and minimise human errors.

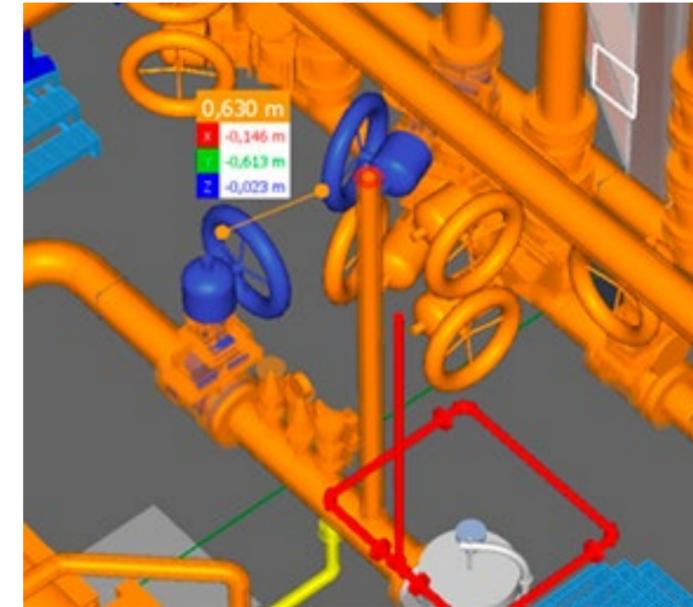
The methodology applied to the new unit, prior to its construction, will make it possible to **prevent occupational, industrial and catastrophic accidents** from the design phase, avoiding the costs of future corrective actions and increasing the operability of the facilities themselves.

LOCATION

Sevilla (Spain) y Plock (Poland)

CLIENT

Técnicas Reunidas and Hyundai Engineering





Environmental Technologies and Engineering

DESIGN, SUPPLY AND INSTALLATION OF A LEACHATE TREATMENT PLANT AT A WASTE MANAGEMENT COMPLEX IN SPAIN

INERCO has started in 2022 the design, engineering, equipment supply and construction works for a new leachate treatment plant at an Environmental Waste Management Complex located in Spain, a **project aimed at increasing and optimising the treatment capacity of the leachates generated and collected in the Complex's landfill cells.**

The purification system project integrates all of **INERCO** Water Treatment's experience in the application of solutions for the treatment of landfill leachate and high load industrial effluents, combining reverse osmosis stages, physical-chemical treatments, vacuum evaporation systems and subsequent stripping stages for the elimination of ammonia residues in the obtained purified water and the generation of ammonium sulphate solutions.

All this, using an evaporation technology that **minimises operating costs** by running under vacuum conditions, as well as guaranteeing a high degree of purification and obtaining a high quality effluent.

LOCATION

Spain

CLIENT

Confidential





Environmental Technologies and Engineering

DEVELOPMENT OF ENGINEERING AND PROCUREMENT MANAGEMENT FOR THE MODIFICATION OF THE LOADING AND UNLOADING JETTY OF CEPSA ENERGY PARK IN SAN ROQUE.

In 2022, **INERCO** began work on the design of the **engineering** (basic and detailed), obtaining the necessary authorisations and procurement management associated with the **project to modify CEPSA's jetty cross at its Energy Park located in the Bay of Algeciras (Cadiz, Spain).**

The needs for remodelling of the numerous pipelines for raw materials and chemical products received and dispatched through the facility's current port jetty, in order to adapt them to future activities, have required detailed engineering work by **INERCO's** Engineering Division team. These analyses and works have made it possible to **combine INERCO's knowledge of oil and petrochemical** facilities with expert collaborators in the remodelling of existing infrastructures and work on port facilities.

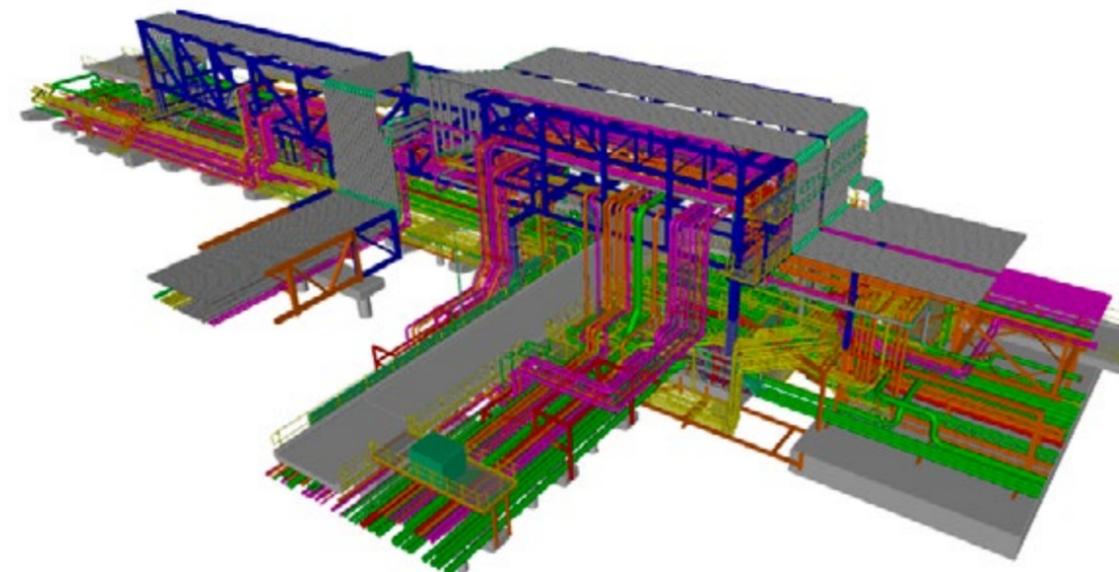
This has been carried out together with the planning of preventive actions to enable the project implementation while maximising the protection of the surroundings environment and the personnel and facilities safety conditions.

LOCATION

Bay of Algeciras (Spain)

CLIENT

CEPSA





Environmental Technologies and Engineering

DEVELOPMENT OF ACOUSTIC AND CONTAMINATED SOIL STUDIES AT INTERNATIONAL AIRPORTS

The combination of **INERCO**'s extensive experience in the application of environmental analysis and technologies to a multitude of facilities has made it possible to carry out improvement **actions at various international airports in 2022.**

An example of this has been the execution by **INERCO** Acústica of the multi-year operation service for the **aircraft noise continuous monitoring system at Lima International Airport (Peru).** The execution of this first phase of the works has allowed **INERCO** to be awarded important complementary scopes, such as:

1. The update of the mitigation plan associated with the expansion project of this international airport.
2. Conducting additional analysis to justify such a mitigation plan, including noise modelling of previous, current and future operating scenarios.

The work carried out by **INERCO** has completely met the clients expectations, allowing for the continuity of the collaboration with Lima International Airport in actions planned both for the year 2023 and for future years.

Similarly, in 2022, **INERCO**'s Contaminated Soil and Groundwater Division has developed several **analyses to identify potential environmental liabilities in the**

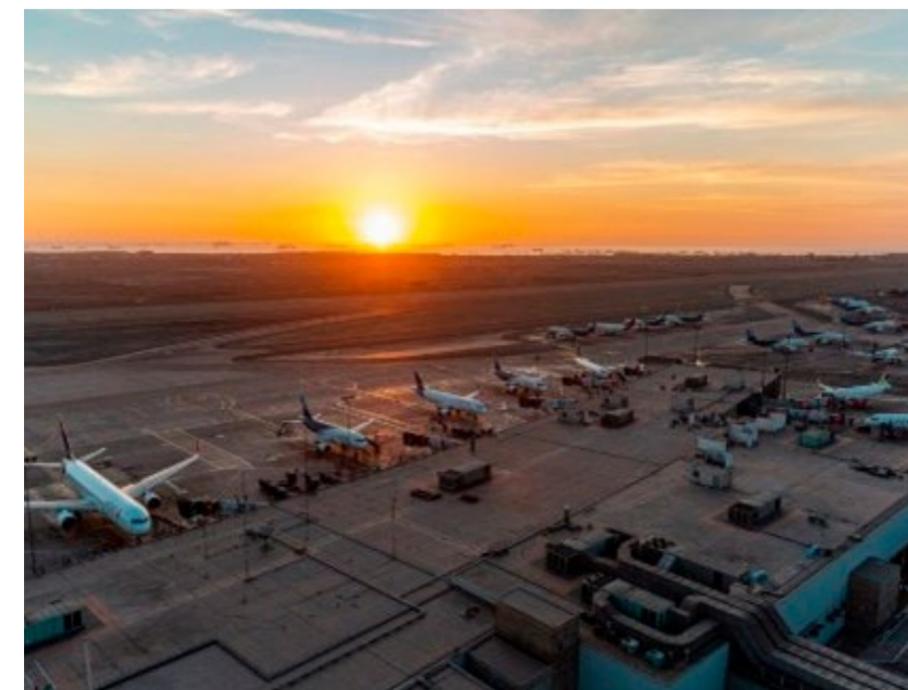
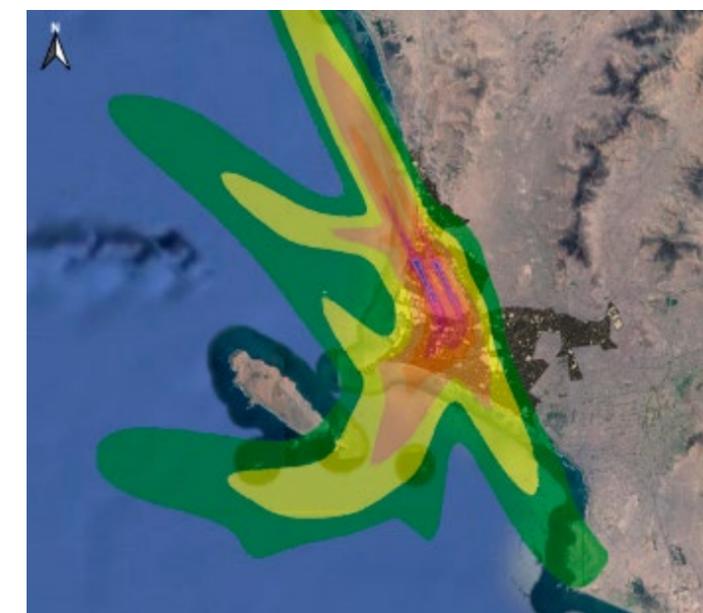
soils of another international airport located in South America. These environmental site studies have been developed by specialised **INERCO** personnel applying criteria defined in international standards, in three areas of interest within the airport. The studies included the acquisition of advanced geophysics, qualitative environmental assessment, quantitative environmental assessment and calculation of generic risk-based limits, allowing the airport operators to have quantitative information to disregard the existence of possible environmental liabilities at their site. The work carried out includes the management of hydrocarbon affected soils through authorised managers.

LOCATION

South America

CLIENT

International Airports





Environmental Technologies and Engineering

DEVELOPMENT OF THE IMPLEMENTATION OF THE CRUDE OIL STORAGE CAPACITY INCREASE PROJECT AT THE BÍO-BÍO REFINERY IN CHILE

INERCO has continued, during the year 2022, the execution of the project to increase the storage capacity of the Bío Bío Refinery, operated by ENAP in Hualpén, Concepción (Chile).

The execution of this project (around USD 45 million, and developed jointly with the Chilean construction company Vial y Vives) consists of the design and construction, on a **turnkey (EPC) basis**, of two new 50,000 m³ crude oil tanks, as well as the associated crude oil, steam and fire-fighting piping and the respective power supply, control and safety installations.

The experience of **INERCO's** engineers is making it possible to successfully accomplish the construction of both tanks, minimising deviations in a complex scenario of high prices and long delivery times for the necessary materials and components, obtaining the client's recognition and making it possible to develop the planned storage capacity expansion, currently in its final phase of execution.

LOCATION

Concepción (Chile)

CLIENT

ENAP

[WATCH VIDEO ▶](#)





Environmental Technologies and Engineering

SIGNIFICANT PROGRESS IN THE CONSOLIDATION OF THE LINE OF WATER AND PROCESSES CONTINUOUS MONITORING, TOGETHER WITH THE INNOVATIVE IMPLEMENTATION OF IOT SYSTEMS ASSOCIATED WITH THE CEMS LINE.

During the year 2022 there has been a steady growth on important technological developments carried out by **INERCO** in Chile, in terms of **monitoring emissions, discharges and processes**, for important companies in the Chilean industrial sector. These actions are in addition to those already carried out on a regular basis by **INERCO** for the maintenance of continuous monitors (CEMS) for various clients in the country.

In the case of **COPEC**'s facilities, **INERCO** Inspección y Control's specialised technicians have also optimised the continuous monitoring systems of the facilities, incorporating ongoing maintenance to the systems together with the deployment of a first group of low-cost environmental monitoring systems, of the IoT type, which connected to a remote monitoring platform allow **real-time visualisation** of the monitored air quality situation.

These actions have consolidated the development and actions carried out by **INERCO**'s line of continuous monitors (CEMS) in Chile.



LOCATION

Chile

CLIENT

COPEC



Energy Technologies and Decarbonisation

DEVELOPMENT OF ENGINEERING AND SPECIFICATIONS ASSOCIATED WITH THE CO₂ CAPTURE PROJECT AT CARBONERAS CEMENT PLANT.

INERCO, through its CO₂ Capture Technology line, has developed during the year 2022 the conceptual engineering, general project specifications and the bid request documentation necessary for the EPC of the off-site battery limits (OSBL) of the project for the installation of an experimental CO₂ capture unit at the LafargeHolcim cement plant in Carboneras (Almería, Spain), also known as 'ECCO₂ Project'.

The purpose of the project is to capture the CO₂ present in a stream of 10% of the total gas flow generated during the cement manufacturing process, treat the captured carbon dioxide and then use it for agricultural use in the region's greenhouses, where it will improve crop productivity through a process known as carbon fertilisation.

In the Carboneras ECCO₂ Project, **INERCO** has successfully completed the specifications of this first stage of design and specifications necessary for the definition of the OSBL, **proposing improvements to the technologists** and integrating the characteristics of the selected capture technology with the necessary requirements for its operation in a real plant.

LOCATION

Carboneras, Almería (Spain)

CLIENT

LafargeHolcim





Energy Technologies and Decarbonisation

COMMISSIONING OF THE NO_x AND CO ABATEMENT SYSTEM AT PORTO CORSINI UNIT 4 COMBINED CYCLE POWER PLANT.

In July 2022, the guarantee tests were carried out for the commissioning of the first stage of the carbon monoxide (CO) and nitrogen oxides (NO_x) abatement project that INERCO is developing for the company ENEL at its Porto Corsini combined cycle power plant (Ravenna, Italy).

The objective of this first stage of the work consisted in the supply (under the EPC modality) of a CO catalyst layer in Unit 4 of the aforementioned installation, as well as the implementation of modifications needed for the future selective catalytic purification (SCR) system that is planned to be installed as part of the project.

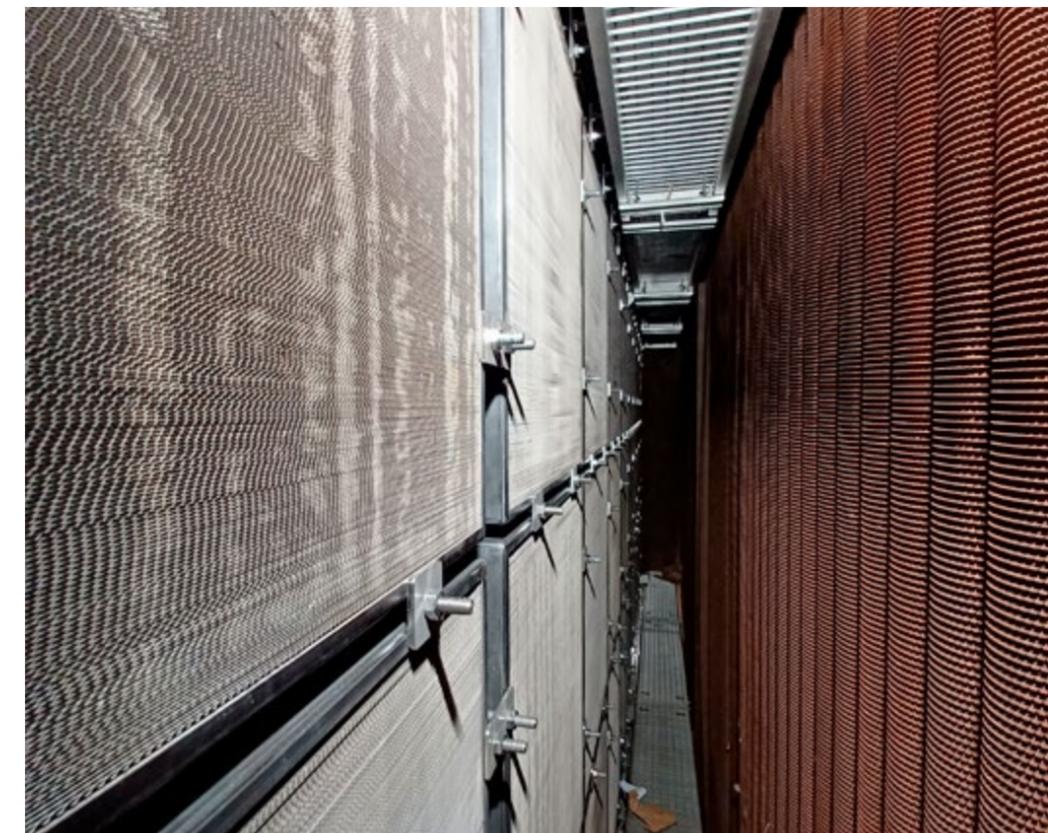
The tests carried out have verified **compliance** with the stringent contractual guarantees set for the CO reduction target.

LOCATION

Porto Corsini combined cycle power plant, Ravenna (Italy)

CLIENT

ENEL



Source: INERCO



Energy Technologies and Decarbonisation

START OF WORK ON THE DESIGN AND CONSTRUCTION OF AN ANAEROBIC DIGESTION SYSTEM AT THE CREVILLENTE WASTEWATER TREATMENT PLANT.

The year 2022 has meant the creation and integration of highly specialised personnel in the **new technological line of INERCO BIOGÁS**, with the contracting of the construction services for the new anaerobic digestion system at the Crevillente Wastewater Treatment Plant (WWTP) (Alicante, Spain) being the first order for the implementation of this project under the **INERCO** company, in EPC mode and structured in containers.

This treatment plant is designed to treat a flow of 5,000 m³ per day of urban wastewater and 4,000 m³ per day of industrial water, with differentiated treatment of urban and industrial effluents.

The work initiated by **INERCO** takes advantage of the extensive experience accumulated by the technical staff of **INERCO BIOGÁS** in the construction of this type of plants, carrying out the implementation of an **anaerobic digester** at the facility, with the aim of generating biogas (from wastewater) for use in a cogeneration engine, and the generation of sustainable electricity.



Source:: PSAR

LOCATION

Crevillente, Alicante (Spain)

CLIENT

Entidad Pública de Saneamiento de Aguas Residuales de la Comunidad Valenciana (EPSAR) (Public Entity for Wastewater Treatment of the Valencian Community)



Energy Technologies and Decarbonisation

IMPLEMENTATION OF AN ENERGY STORAGE SYSTEM USING LITHIUM-ION BATTERIES FOR A PHOTOVOLTAIC INSTALLATION.

From its Energy Services Department, **INERCO** has launched in 2022 the services of storage capacity optimisation and electricity supply of a self-consumption installation using photovoltaic (PV) energy for a client located in the region of Murcia (Spain).

The work contracted to **INERCO** (with a budget of €2 million) consists of the engineering, supply, installation supervision and commissioning of a 2.5 MW / 6.9 MWh installed / 6.5 MWh useful BoL lithium-ion battery storage system (BESS).

The planned system will maximise solar self-consumption at the customer's installation, complying with the Spanish grid code.



Source: PSAR

LOCATION

Murcia (Spain)

CLIENT

Ingeniería Murciana S.L.



Energy Technologies and Decarbonisation

DEVELOPMENT OF A RENEWABLE HYDROGEN TECHNOLOGY SUPPLY PARTNERSHIP

The year 2022 marked the genesis of the **business alliance between INERCO and the companies TSO and VISION GRID ENERGY**, which will enable the unification of synergies in the design, authorisation, supply of electrolysers, as well as the construction and joint development of integrated energy solutions in the hydrogen chain, such as: electrolysers for hydrogen production and supply (PEM and alkaline technologies), fuel cells, hydrogen refuelling stations for transport (HRS), storage and compression systems, vehicles and other ancillary equipment.

VGE's access to technology suppliers has been a key point in the signed agreement, making it possible to manage and program **guaranteed equipment supply** in the current global scenario of long supply deadlines and a limited supply of equipment.

The agreement established between **INERCO**, TSO and VGE will make it possible to tackle and service projects promoted by third parties in different geographical areas, combining the presence of the three companies worldwide (Europe, Asia, Middle East and America).

LOCATION

Global scope



Source: INERCO



PRESENTATION

INNOVATION AND
DIGITISATION

SUSTAINABILITY
AND ESG CRITERIA

MAJOR
PROJECTS

INERCO IN
THE WORLD

INERCO
IN FIGURES

TRUST IN
INERCO

INERCO 

INERCO IN THE WORLD



Brazil

In a year of changes and slowdown in the Brazilian economy, **INERCO's activity in Brazil has meant a good year for sales in 2022, increasing by 85% compared to 2021 and consolidating the growth of the structure.** In this way, **INERCO's** experience in the areas of Industrial Safety, Occupational Health and Safety and Environmental Consultancy has been key in enabling it to carry out new projects of relevance for important companies.

In the metallurgical sector, **INERCO** Brazil's team of experts in Occupational Health and Safety has carried out **chemical agents, noise and vibrations assessments** in the aluminum manufacturing plants of ALUBAR.

The mining, chemical and cosmetics sectors have also been key for **INERCO** Brazil, for which we have developed **hygiene assessments** for companies such as NEXUS LIGAS, FIVEN or Grupo BOTICARIO, as benchmarks in these sectors.

INERCO's extensive experience and references in the Oil&Gas industry throughout the world have been translated into a guarantee to take on new projects in a key market for **INERCO** such as Brazil. In this way, **Quantitative Risk Analysis has been developed in petrochemical facilities of BRASKEM,** as well as measurements of chemical agents and risk analysis in **offshore platforms and on-shore facilities of PETROBRAS.**





Chile

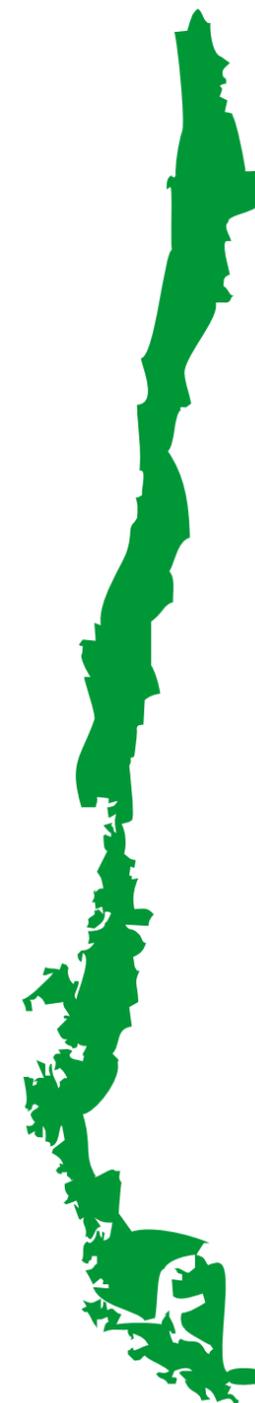
In 2022, **INERCO Chile has expanded in different areas**, highlighting the consulting services for the mining and infrastructure sectors, or the development of operation and maintenance activities for instrumentation systems and the implementation of IoT technology for CEMS and air quality, which have allowed **INERCO** Chile to exceed the expectations and objectives set for this year.

In this way, it is of importance to highlight **obtaining of the Environmental Permit (RCA) for the Arqueros Mining project**, based on **INERCO's** environmental advice and assistance for the development of the necessary environmental documentation to successfully address and conclude the associated environmental formalities. In the infrastructure sector, the main services to be highlighted are the start of assistance for the **provision of environmental and community relations services** in the area of water supply infrastructure, through the development of the analyses and documentation associated with the Environmental Impact Assessment (EIA) of the desalination plant project and long pipes to supply desalinated water to the interior of Chile **to combat the country's water deficit**. **INERCO** has also developed the environmental studies required for the **authorisation of two new Microsoft Data Centres** in Chile.

All this without forgetting the actions and solutions developed in other areas of great importance for **INERCO** in Chile, such as: the support and positioning as a strategic ally in the **development of renewable facilities in Chile**, helping our clients with the environmental approval of photovoltaic and wind projects, or the environmental advice (in the form of a Framework Contract) for the operations of the National Petroleum Company (ENAP) in the Magallanes Region.

Apart from that, it is also worth mentioning the completion of the project for the supply of **selective catalytic reduction (SCR)** systems for NOX emissions for EDELMAG's Porvenir and Puerto Williams plants, or the **monitoring** of emissions, discharges and processes carried out for CELULOSA Arauco y Constitución, an important pulp and paper company, or AES Gener, ENEL or COPEC.

INERCO's Environmental Technologies and Engineering activities in Chile were emphasized in 2022 by the start of different silencer and acoustic shielding projects, as well as by the progress of the project to implement an effluent evaporation and crystallisation plant for the Huasco plant of Compañía Minera del Pacífico (CMP). Of particular importance is the execution, during 2022, of the project to increase the storage capacity of the Bío Bío Refinery, operated by ENAP in Hualpén, Concepción (Chile).



Source: ENAP



Source: INERCO



Colombia

The **boost and positioning of INERCO Colombia as the country's leading environmental consultancy firm** continued during 2022, in parallel to the growth of the Colombian economy and despite the stagnation and contraction of various industrial sectors.

The high qualifications of **INERCO** Colombia's environmental and social professionals have enabled the activation of a 2-year consultancy contract in the field of **social management** with the Colombian branch of the Indian state oil company Oil and Natural Gas Corporation Limited (ONGC Videsh Limited). This collaboration focuses on raising the standard of living and stability of the community and state entities by designing the necessary **action plans** to ensure compliance with environmental legislation and licences, as well as coordinating and monitoring **community relations and communications**.

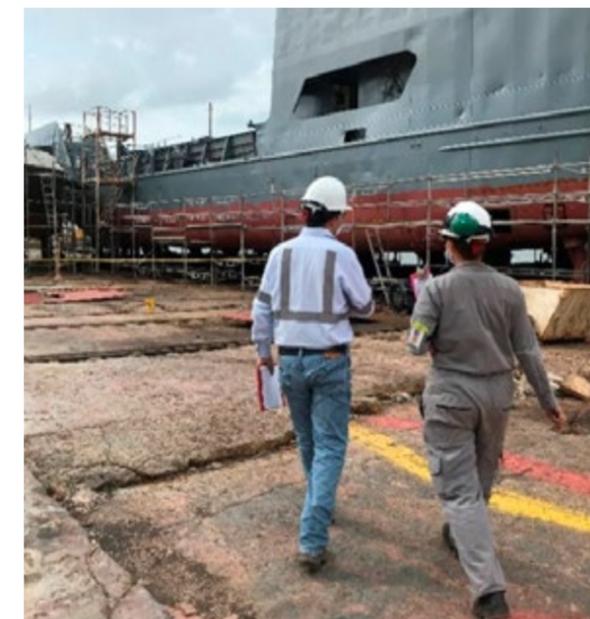
INERCO Colombia has also provided consultancy services to the country's productive and industrial activities, including those carried out for the Cotecmar shipyard, with the aim of drawing up the greenhouse gas inventory and the carbon footprint of the facility (with scopes 1, 2 and 3) and the development of the company's **Decarbonisation Plan**.

In the traditional line of high-level environmental consultancy provided by the **INERCO** Colombia team, it is worth highlighting the 3-year contract signed with the company Mansarovar Energy Colombia, from the hydrocarbon sector, for the provision of **external environmental auditing services to monitor** the different environmental control instruments that govern the company's obligations for Campo Velásquez and the Velásquez Galán oil pipeline.

This is in addition to **INERCO's** traditional technological developments in the field of soil and groundwater, highlighting the various projects developed for the **identification of environmental liabilities in soils and the management and recovery of areas with potential contamination**.



Source: INERCO





Spain

The year 2022 in Spain has meant the consolidation of a scenario of adaptation to the significant changes that have been experienced in terms of the type of business and projects. Thus, the **diversification of INERCO's business lines** and the **increase in the workforce and the specialisation of our technicians** in all areas has been one of the company's main priorities this year, characterised by changes and uncertainties in the industrial and production scenario. All of this has led to the **generation of a high volume of business, exceeding the objectives set.**

As a first example of the change in paradigm, the high volume of projects associated with the adaptation of the vast majority of industrial sectors to the new scenario of sustainability and decarbonisation, which have required the **specialised environmental advice** of INERCO's technicians to achieve their viability and authorisation in record time and with the greatest guarantees. These include the environmental and urban planning authorisation and definition, as well as the **engineering development of renewable hydrogen, methanol and green ammonia generation projects** for clients such as ACCIONA, EDP, REGANOSA, DH2, CAPITAL ENERGY or IGNIS, among others, the promotion of **circularity and waste management or biofuels** for ATLANTIC COPPER, WASTE PLASTIC IBERIA, CEPESA or REPSOL, or advice on the management of **effluents and discharges.**

Special mention should be made of the advice provided by INERCO's specialised staff on sustainable financing, taxonomy and DNSH ("Do No Significant Harm"), in the projects early stages, aiming at taking in consideration the environmental criteria in the engineering and financing of the projects.

In the field of industrial safety, INERCO has carried out **specialised and advanced studies of risks in industrial facilities**, such as new renewable hydrogen plants or their derivatives (renewable methanol or ammonia). In terms of Occupational Risk Prevention, INERCO has updated the **ATEX studies** of various refineries in Spain, reviewing the classification of areas and the suitability of electrical and mechanical equipment in the classified areas. In addition, INERCO has carried out OHS activities (PAU, drills, training, etc.) for more than 125 wind farms for the main companies of reference in Spain.

In the field of engineering, the energy improvement works developed by INERCO's Engineering Division for CEPESA stand out, including those carried out in the used

cooking oil circuit (UCO) at the La Rábida Energy Park in Palos de la Frontera (Huelva, Spain). Also noteworthy is the engineering developed for the implementation of a new vacuum waste storage tank developed for REPSOL at its Cartagena Refinery (Spain), as well as the expansion of EXOLUM's hydrocarbon storage facilities in Huelva (Spain).



Source: REPSOL



Source: CEPESA





Spain

From its acoustics line, **INERCO** has continued in 2022 to work on the **acoustic conditioning** of 4 new logistics centres in Spain for a multinational online sales company, applying solutions to improve acoustic comfort in office areas in a work space of more than 100,000 m2. Similarly, and with regard to technological innovations in this field, it is worth highlighting the **reusable mobile barriers** developed by **INERCO**, with special application to construction sites, or the software and supply of acoustic monitoring equipment for the review service of Acoustically Saturated Zones (ZAS) declared by the City Council of Seville (Spain).

In addition, within the framework of **effluent treatment**, the design, engineering, equipment supply and construction of a new leachate treatment plant at an environmental waste management complex. Also, it has been awarded a compression **evaporator** for the purification of penetrating liquids in the automotive sector. Regarding the Soils Business line, **several groundwater recovery actions** have been carried out in a thermal Power Plant in operation. The remediation of the subsoil by means of water extraction, hydrocarbon separation and active carbon filters, with subsequent infiltration of the treated water into the ground to maintain the hydraulic balance has been carried out. A similar solution has been used for soil and groundwater remediation at various service stations.

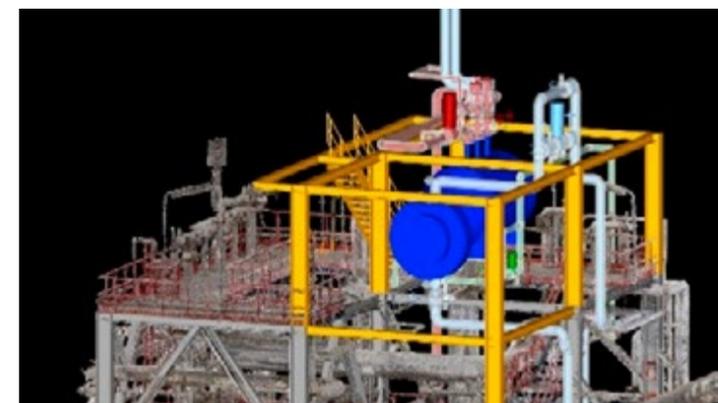
In the field of continuous monitoring of emissions, we have developed projects for the design, purchase, integration, testing, assembly and commissioning of **automatic measurement systems** for clients such as NOVARGI and ENDESA, among others, incorporating various measurement technologies to adapt the systems to new emission standards and new processes. As far as the **optimisation of sulphur recovery plants** is concerned, we support CEPESA and REPSOL in the characterisation and optimisation of all their plants in refineries and energy parks in Spain, including the provision of training and support in plant

operation. All this in addition to our work as an emissions and air quality testing laboratory, supporting important companies in the area covered by our authorisation.

In the field of **detection and quantification of fugitive emissions**, our company VIRA GAS continues to provide ongoing support to ENAGÁS, together with other companies in the gas sector. To this end, we have incorporated different technologies for the detection and quantification of fugitive emissions, with bottomup and top-down approaches, which allow us to support companies before the arrival of new regulations on the control of fugitive methane emissions, and also to assist from an OGMP (Oil & Gas Methane Partnership) perspective.

Finally, from the Energy Technologies and Decarbonisation Division, **INERCO** has developed the engineering of various **renewable hydrogen, methanol and ammonia** projects, with REGANOSA, CAPITAL ENERGY and IGNIS being some examples of clients who have placed their trust in our capabilities and comprehensive vision. Similarly, **INERCO** BIOGAS tackled the **construction of a semi-continuous pasteurisation system for substrates**, with thermal energy recovery, in the biogas plant of TUERO MEDIOAMBIENTE S.L. in Venta de Baños (Palencia, Spain), while **decarbonisation** approaches and the development of novel technologies for the **production of renewable hydrogen or energy storage** have been developed through participation in various European projects.

On the other hand, **INERCO** has begun to provide its services and technical support to ENDESA GENERACIÓN S.A. from 2022 to 2024, for consultancy, testing, trials and calculations of combustion and air in its power plants in Spain.



Source: INERCO



Source: INERCO



Source: INERCO



USA & Canada

In 2022, **INERCO**'s U.S. subsidiary **INERCO E-Tech** presented to the CANADIAN OIL SANDS INNOVATION ALLIANCE (COSIA) the different **technologies developed for emission reduction** in combustion plants, as well as available **technologies for smart steam networks and steam trap monitoring**.

INERCO and Sulfur Recovery Engineering's participation in the conferences of the 29th Edition of the Sulphur Symposium in Vail (Colorado, USA) provided information to **improve the operation, reliability, efficiency and safety of refinery sulphur recovery units**, while reducing operating costs. This symposium brought together the leading operating companies and service providers in the refining industry.





United Arab Emirates (UAE)

In order to support the **development of projects** and improve the provision of assistance to our customers and the industrial sector in the Middle East, **INERCO** has opened a new office in the United Arab Emirates (UAE), specifically in Abu Dhabi, at the end of 2022.

This new office, which will join those already established in Brazil, Chile, Colombia, USA, Spain, India, Mexico, Peru and Portugal, will allow **INERCO** to expand its activities and business in the HSEEC Consultancy, Environmental Technologies and Engineering, and Energy Technologies and Decarbonisation lines, highlighting the transfer of **INERCO's** knowledge and our developments in Industrial Safety together with the rest of the services and business lines.



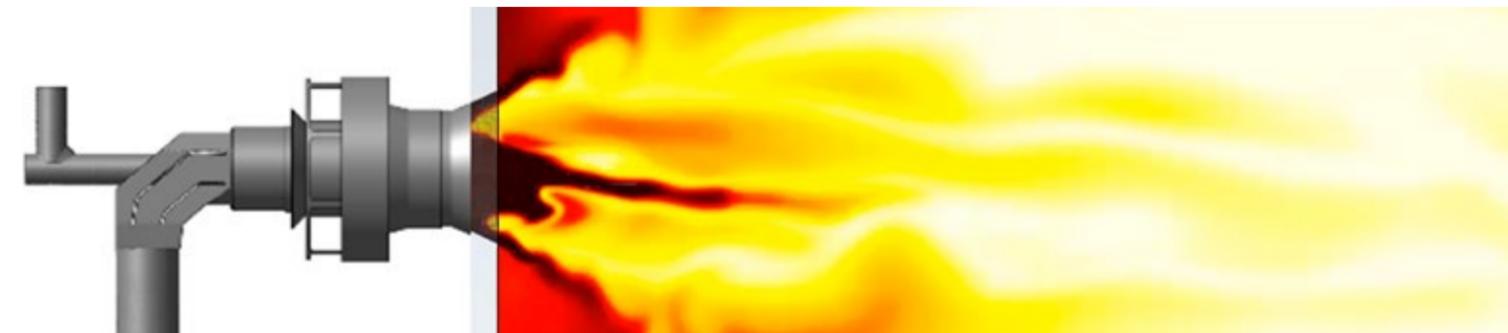
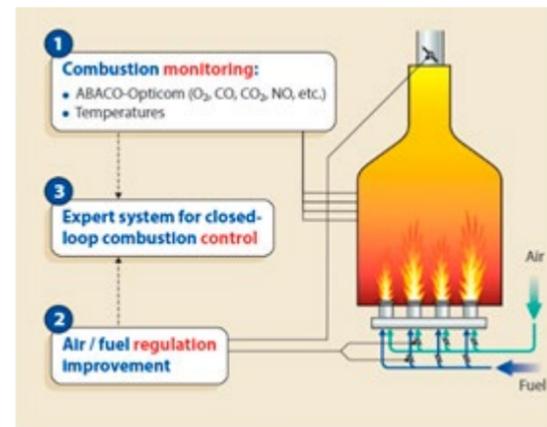


India

INERCO has successfully executed in 2022 the **warranty tests** of the burner project (front and back-up) and the OFA (Over Fire Air) combustion air stratification system of the Bandel Thermal Power Station plant in Bandapara (West Bengal), for the WEST BENGAL POWER DEVELOPMENT CORPORATION.

Technologically, the application of **INERCO's CO and NO_x emission control and abatement technology for refinery furnaces in combustion systems (ABACO)** has been published in the specialist journal '[PTQ Q4's Revamps supplement](#)'.

In addition, **INERCO** and the Indian company YARA have signed a commercial agreement to promote **INERCO's** combustion emission abatement technologies (based on primary measures) in India, including the joint execution of EPC projects that may arise in this respect.



Source: INERCO



Mexico

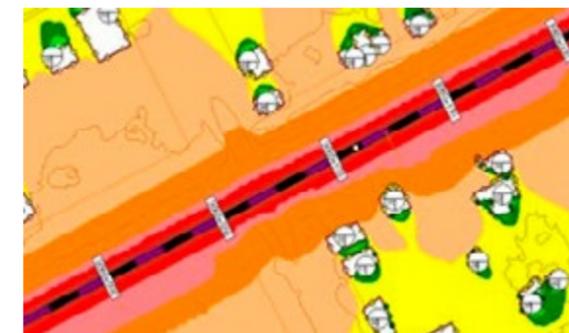
In 2022, **INERCO** maintained intense collaboration with the Mexican industrial sector. In the field of the Environment, **INERCO** signed a Framework Contract for the preparation of an **Emissions Trading System** (ETS) in Mexico with G.I.Z. (German Society for International Cooperation) to provide comprehensive advice on Emissions Trading and to the Ministry of the Environment and Natural Resources (SEMARNAT). Also for the industrial sector, it is worth highlighting the **environmental and safety compliance** audits carried out for COCA COLA, in terms of waste, water and others, at different facilities in Mexico.

In terms of industrial safety, **Petróleos Mexicanos (PEMEX)** once again relied on the specialised team of **INERCO** Mexico to carry out **risk analyses** and protection layers for the amine regeneration unit and the water treatment plant at the Miguel Hidalgo Refinery in Tula. SAMSUNG also contracted **INERCO** to develop the **safety requirements** specifications (SRS) for the emergency shutdown system of the Olmeca (or Dos Bocas) refinery of PEMEX, and **HAZOP studies** were carried out for different plants of the company ORBIA in Jalisco, Matamoros and Tlaxcala.

In the area of Occupational Risk Prevention, a highlight was the updating of an **ATEX study** for an industrial plant in Toluca, where the classification of areas and the document against explosions were corroborated. Likewise, different training activities were carried out for instructors at chemical plants in Tijuana Baja California, Cuauhtémoc Chihuahua and Los Mochis Sinaloa.

INERCO's extensive support to companies in the hydrocarbon sector in complying with administrative provisions related to the prevention and **integral control of methane emissions** has also resulted in the formation of a multidisciplinary group focused on carrying out methane emissions diagnostics and preparing all the associated documentation and plans.

Finally, the development of acoustic solutions by the **INERCO** team in Mexico allows us to highlight, in addition to the supply of **acoustic screens and silencers**, the consultancy and **acoustic impact studies** (pre-operational and predictive) and vibration studies developed by **INERCO** for the different consortiums awarded the Mayan Train infrastructure works.





Peru

INERCO's growth in Peru in 2022 is an unprecedented milestone, a direct consequence of **INERCO** Peru's positioning and experience in the fields of Environment and Social Management. This has resulted in the award of the contract (for USD 7.4 million) and the development of the environmental impact study that will enable the **environmental certification of the Nueva Carretera Central road project** to be processed and obtained, granted by Provias Nacional, the agency of the Ministry of Transport and Communications responsible for the development of national road infrastructure in Peru. Obtaining the environmental certification will be a key milestone in turning this project into reality, which will link the coast with the Peruvian highlands through a first-class 186 km long highway. The service is being developed by an **INERCO** team of more than 30 national and international specialists.

In terms of **environmental certifications**, **INERCO** was awarded the contract by FENIX POWER (COLBÚN Group) for the preparation and processing of the environmental impact study for the Tres Quebradas wind farm, located in the regions of Arequipa and Nazca, with capacity of 180 MWe and an interconnection through a line of around 77 km, or the approval obtained for the environmental impact studies of the COBRA Group's 220 kV Enlace Pariñas - Tumbes and 220 kV Tingo María - Aguaytía transmission line projects, both projects included in the current national transmission plan and key to reinforcing the national interconnected electricity system.

In **social matters**, **INERCO's** team specialising in this area is carrying out for CEPASA **the characterisation of the productive components** of the Primavera, Los Ángeles and Macuya villages, in the area of influence of Block 131 (Pucallpa), to identify opportunities that translate into the articulation of production chains with regional, national and international markets.





Portugal

The development of **INERCO**'s activity in Portugal during the year 2022 has been characterised by the **positive evolution of sales**, based on the assistance and support to our clients in the field of Industrial Safety and Occupational Risk Prevention. Thus, our extensive experience in both fields has enabled us to undertake projects such as the studies developed by applying the **Human HAZOP** methodology for the facilities of Compañía Logística de Combustibles (CLC), or the development of **risk analysis and HAZOP studies** for REPSOL POLÍMEROS for the ALBA Project, as well as advice on updating the **documentation of serious accidents** for many companies affected by these regulations.

For the Oil&Gas sector, **INERCO** has initiated work on the physical protection of installations, while for the explosives sector it has developed the analyses and associated documentation on serious accidents in different companies in the sector. In addition, **INERCO** has provided consultancy services for **projects for renewable hydrogen production facilities**.

Finally, in coordination with our team of specialists in emissions trading in the Environment Division in Spain, **INERCO** has developed analyses associated with the reduction of the carbon footprint and the profitability of waste flows, aspects of significant importance in a current scenario characterised by high energy costs and the price of CO₂ allowances.



Source: REPSOL





Other countries

INERCO, as a global company providing **decarbonisation and sustainability** services for the industrial sector, has developed projects throughout 2022 in different countries, beyond those where we have operational headquarters.

Thus, the **international expansion** of our line of continuous **monitoring solutions continued** to progress, with the realisation in 2022 of the second continuous emissions monitoring project for EGE HAINA, an electricity generator in the Dominican Republic, including design, procurement, integration, supply, assembly and commissioning of the new equipment.

Similarly, the positioning of **VIRA GAS**, our line for monitoring fugitive emissions of methane and other greenhouse gases (using LDAR technology) developed together with **ENAGAS**, has enabled us to support various customers, such as **ENDESA**, in complying with state regulations for the control and reporting of methane emissions, progress was made with others in assessing the situation prior to the imminent publication of regulations for the control and reduction of fugitive methane emissions in countries such as Italy, Greece, Albania and Argentina, as well as in Spain, Mexico, Chile and Peru.

The renewal of contracts for the **characterisation and optimisation of sulphur plants** has allowed us to incorporate clients in new territories, as was the case of the first work carried out in Saudi Arabia for the SAUDI company ARAMCO, all in collaboration with our partner Sulfur Recovery Engineering.

As a result of this expansion of **INERCO's** value-added services to other countries, services such as the **safety study** developed for the RKF Project of the CEPSA and SONATRACH companies in Algeria, presented to the Algerian authorities to obtain the necessary permits for the project's major accident safety.

Other technological developments include more than 50 **acoustic vent silencers**,

manufactured and supplied by **INERCO Acoustics** in 2022 to refining, petrochemical and combined cycle facilities in countries such as Turkey, Poland and the United States, in collaboration with the main international operators, engineering companies and valve manufacturers. The manufacture of these silencers is carried out in short lead times and satisfying all the specifications established by the different clients, a fact that places **INERCO** as a world leader and at the forefront of this equipment, which incorporates the most innovative, efficient and competitive designs on the market.



Source: ARAMCO



Source: INERCO



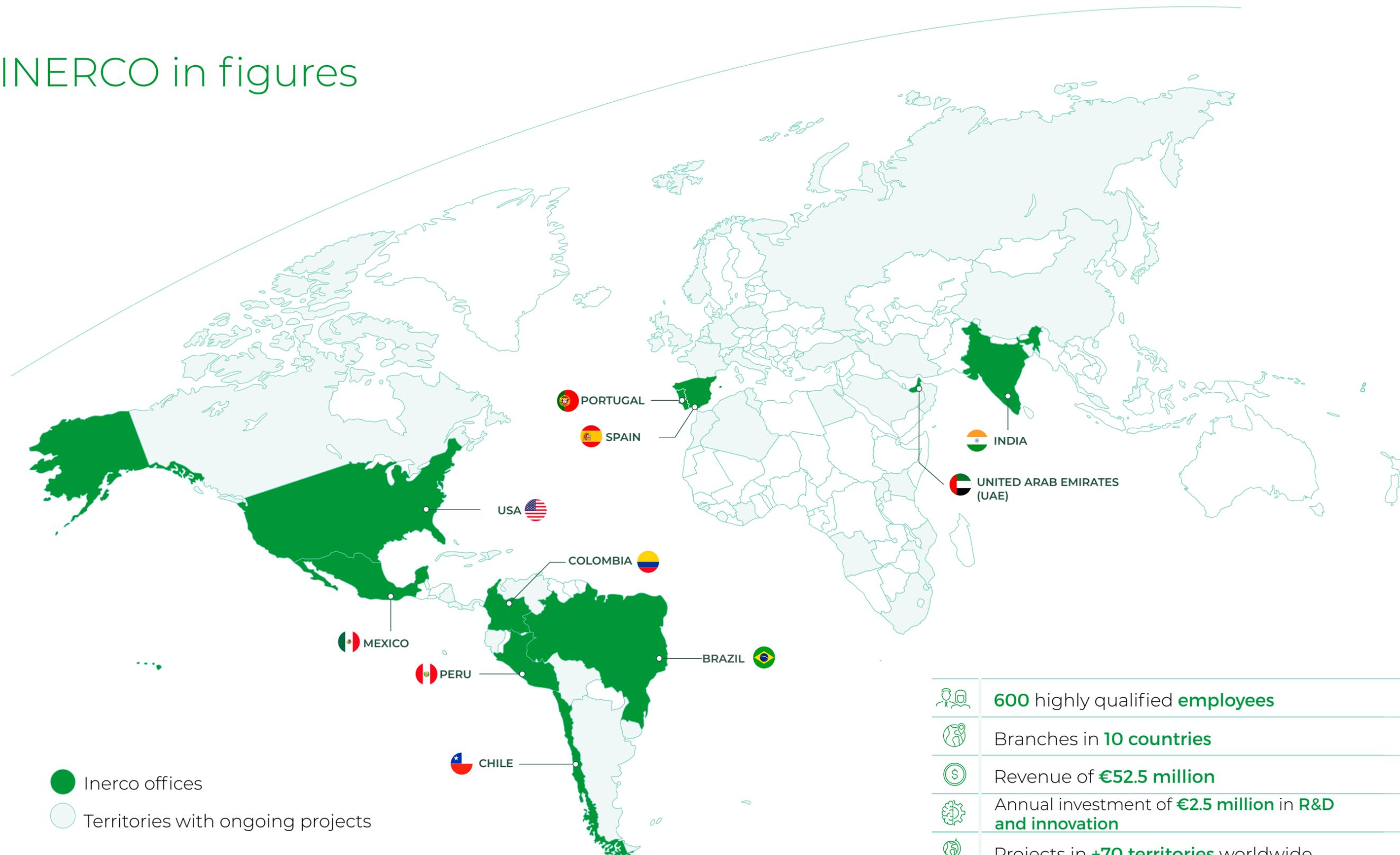
Source: INERCO



INERCO IN FIGURES



INERCO in figures



	600 highly qualified employees
	Branches in 10 countries
	Revenue of €52.5 million
	Annual investment of €2.5 million in R&D and innovation
	Projects in +70 territories worldwide



PRESENTATION

INNOVATION AND
DIGITISATION

SUSTAINABILITY
AND ESG CRITERIA

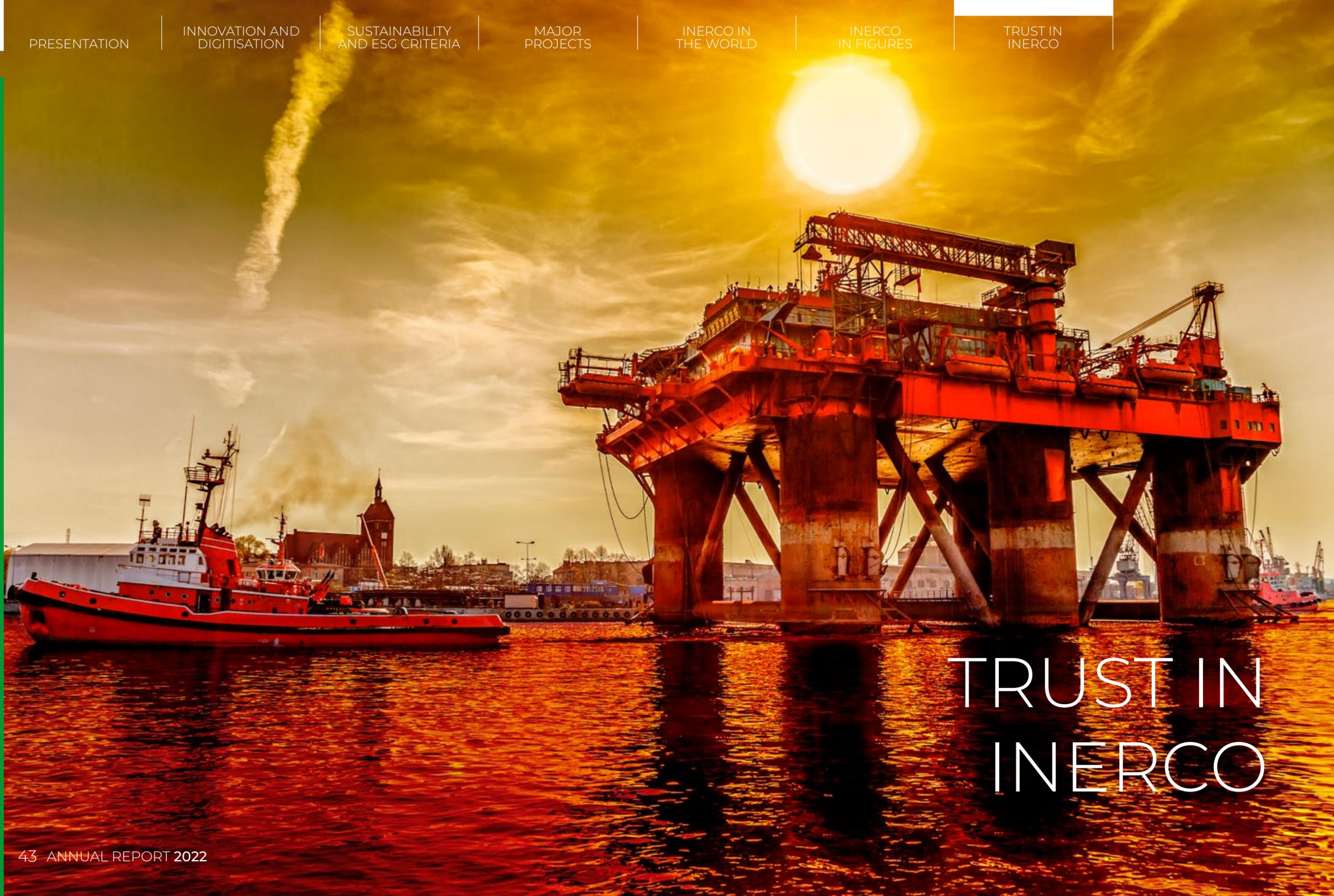
MAJOR
PROJECTS

INERCO IN
THE WORLD

INERCO
IN FIGURES

TRUST IN
INERCO

INERCO



TRUST IN
INERCO



They trust INERCO

OIL & GAS



CHEMICAL AND PETROCHEMICAL



*SOME REFERENCES



They trust INERCO

ELECTRICITY AND GAS



ENGINEERING AND INFRASTRUCTURE



*SOME REFERENCES



They trust INERCO

PULP AND PAPER



MINING



*SOME REFERENCES

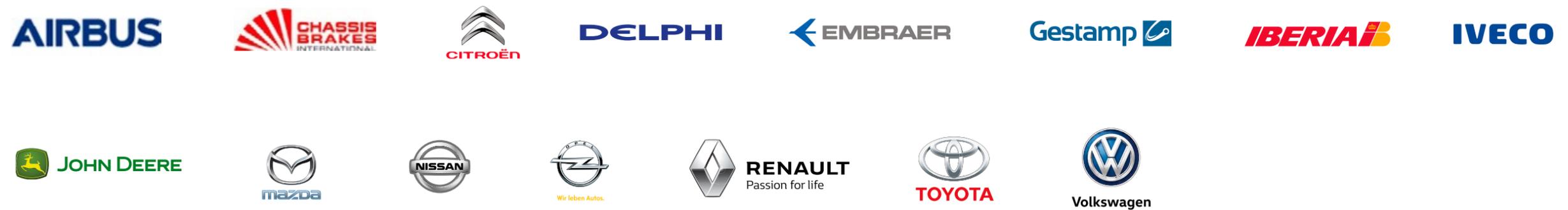


They trust INERCO

CEMENT, STEEL AND METALLURGICAL INDUSTRIES



AERONAUTICS, AUTOMOBILE, TRANSPORT



*SOME REFERENCES



They trust INERCO

PORTS



PHARMACEUTICALS



AGRI-FOOD



*SOME REFERENCES



Confían en INERCO

OTHERS



PUBLIC INSTITUTIONS



*SOME REFERENCES



INERCO 

2022

ANNUAL REPORT

info@inerco.com
inerco.com

