



GHENOVA

ENGINEERING THE FUTURE

GHENOVA WORLDWIDE & MAIN FIGURES

GHENOVA is an international company that offers multidisciplinary ENGINEERING and CONSULTING services, as well as DIGITAL SERVICES, providing solutions for sectors such as SECURITY and DEFENSE, NAVAL and OFFSHORE, ENERGY, INDUSTRY and WATER, INFRASTRUCTURE, and PORTS.



+1075

Staff, 65% hold a bachelor's or master's degree

21

Offices, worldwide

20

Countries, with currently running projects

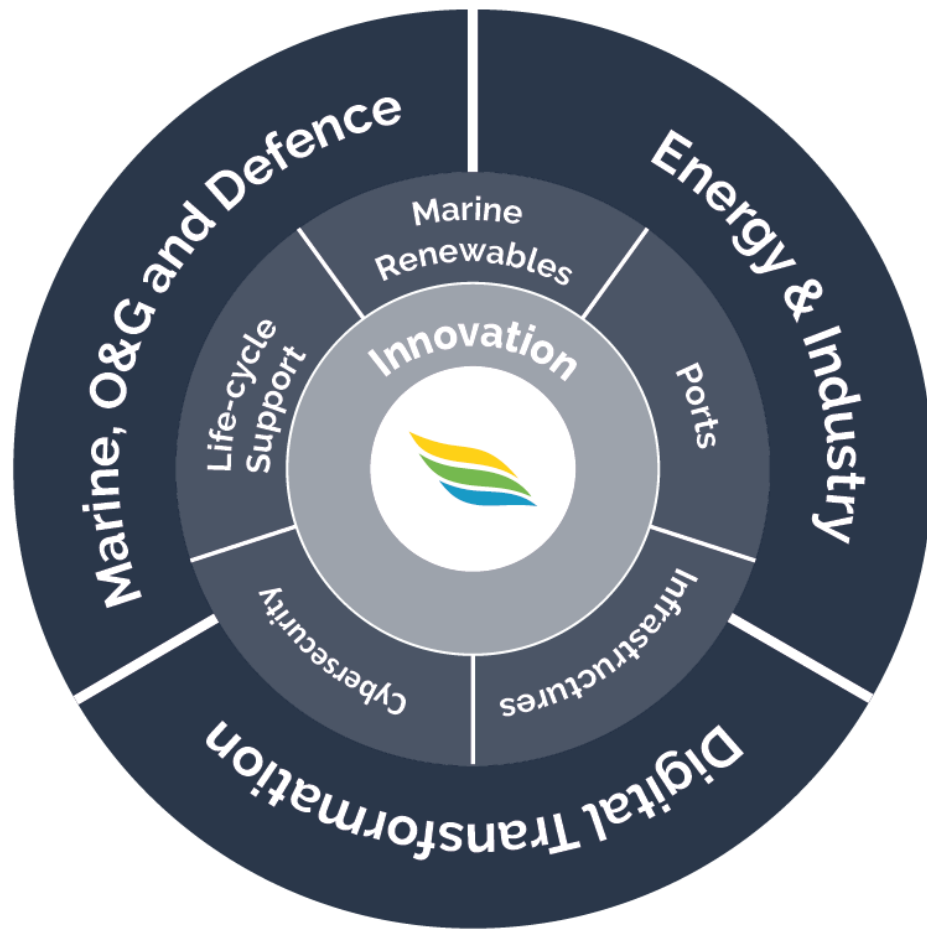
+55M€

2024, turnover



● Offices





OUR SECTORS

WHO WE ARE

- GHENOVA is an international company that offers multidisciplinary engineering and consulting services.
- Our commitment to innovation makes us the reference company in the sector in Europe and Latin America.
- Our verticals are Marine and Defense, Energy&Industry&Water Solutions and Digital Transformation.
- We have offices in 8 countries and work on international projects in more than 25 countries.

MARINE, OIL & GAS
AND DEFENSE

ENERGY, INDUSTRY
AND WATER

DIGITAL
TRANSFORMATION



GHENOVA SERVICES & CAPABILITIES CONSULTING & ENGINEERING



CONSULTING

- Owner Support:
 - Search for the ideal location for the project
 - Analysis of the available energy resources
 - Selection of the technology in compliance with current regulations
 - Energy production evaluation
 - Market studies and based on that, profitability analysis of the installation and financing: feasibility studies
 - Regulation and codes studies, permitting
- Due Diligences
- Energy optimization of Plants
- Study of Alternatives to Energy Storage

VALUE ENGINEERING

- Conceptual Engineering
- Basic Engineering
- Technology Definition
- Performance guarantees
- Proposal Engineering
- FEED
- Environmental Studies

PROJECT ENGINEERING

- Detailed Engineering
- Project Management
- Purchase & Contract Support
- Construction Assistance
- Commissioning Assistance
- Performance Tests
- Training Support

A banner with a dark background featuring a grid and circuit-like patterns. The text "INTEGRATED SOLUTIONS" is written in large, white, bold, sans-serif capital letters across the center.

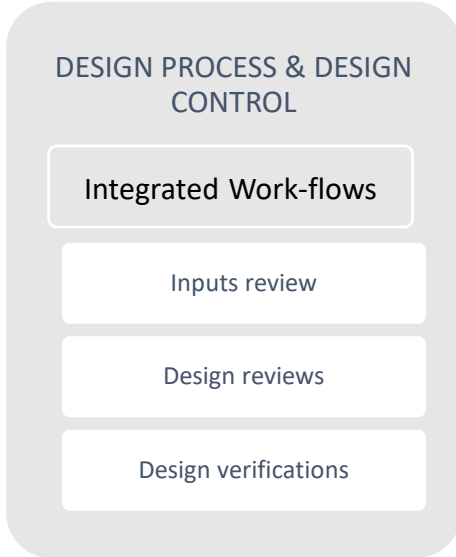
INTEGRATED SOLUTIONS



PROJECT MANAGEMENT MODEL

MANAGEMENT MODEL: Quality, Standardization & Control

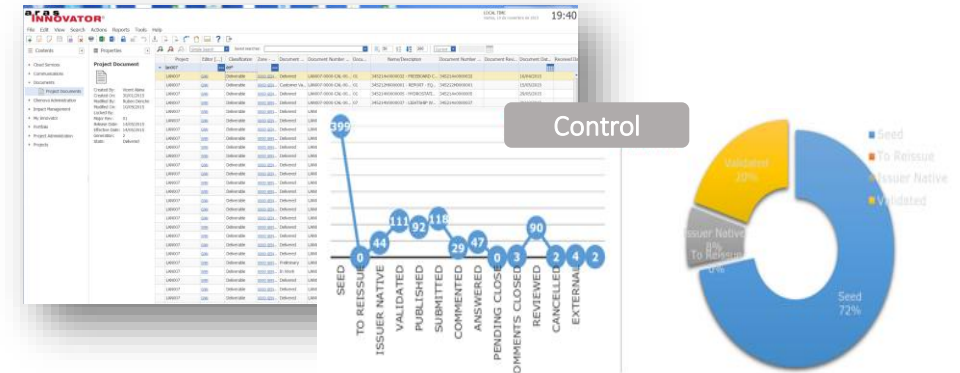
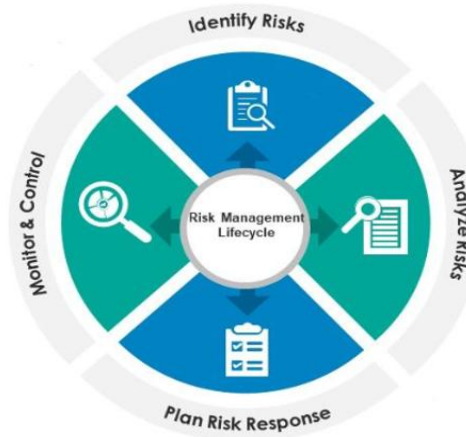
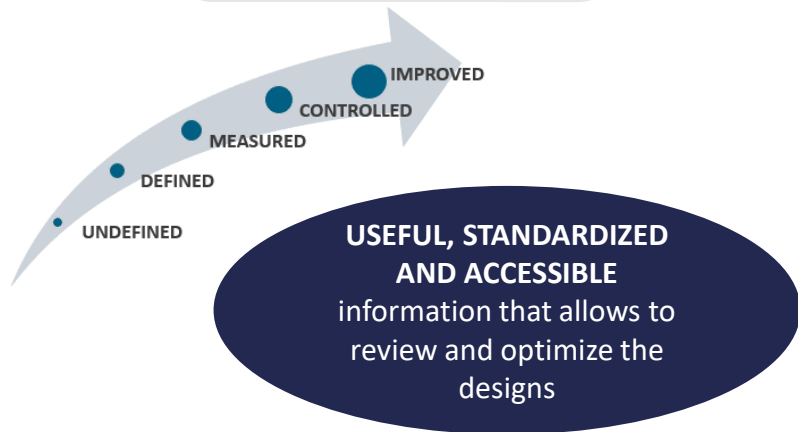
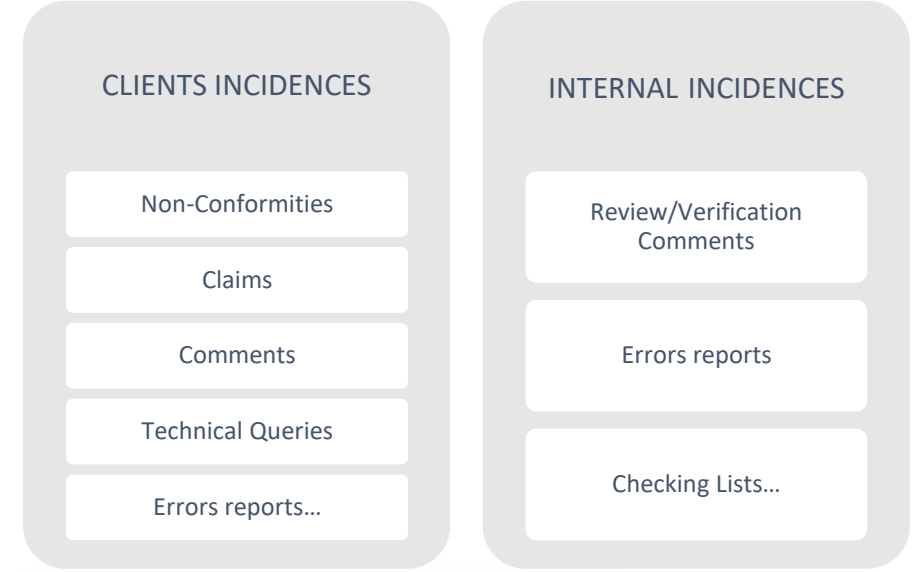
QUALITY CONTROL PLAN



RISK CONTROL



IMPACTS MANAGEMENT



The background image shows an industrial facility with several large, white, spherical storage tanks supported by blue metal structures. In the foreground, there are rows of solar panels. The sky is blue with some clouds. The overall scene is dimly lit, suggesting a dusk or dawn setting.

PORTFOLIO

GHENOVA ENERGY & WATER SOLUTIONS



THERMAL GENERATION.

UTE RIO GRANDE Natural Gas Combined Cycle Plant

Location: Jabequara, BRAZIL

Scope: FEED studies
 Development: 2019
 Power Output: 1,238 MW
 Plant Configuration: 2 x 2 x 1 (two (2) gas turbines Mitsubishi Hitachi Power Systems modelo MS01JAC, two (2) HRSGs and one (1) steam turbine)



TERMOELÉCTRICA DE WARNES Combined Cycle Plant

Location: Carnes, Santa Cruz, BOLIVIA

Client: TSK-SIEMENS
 Scope: Detail Engineering
 Final Client: ENDE ANDINA
 Development: 2016-2019
 Power Output: 377 MW
 Plant Configuration: Closed Combined Cycle Plant (3 modules of 2 GT + 2 HRSG + 1 ST and 1 module of 3 GT + 2 HRSG + 1 ST)



TISZA Combined Cycle Thermal Power Plant

Location: Tiszaujvaros, HUNGARY

Client: ÇALIK ENERJI
 Final Client: MVM ENERGIA
 Scope: BID Engineering
 Development: 2023
 Power Output: 2x530 MW
 Plant Configuration: 2 Blocks of Ansaldo1+1 GT26 (2 stages)



TEMANE Combined Cycle Thermal Power Plant

Location: Temane, Inhambane, MOZAMBIQUE

Client: TSK
 Final Client: GLOBELEQ-SASOL-EDM
 Development: 2021-2022
 Power Output: 450 MW
 Plant Configuration: Closed Combined Cycle Plant (1 x (5x1) Siemens SGT800)



GHENOVA scope of works:
Detailed Engineering, M&P, Civil & Piping Disciplines.

Civil Detailed Engineering including Foundation, Steel & Concrete Structures and Buried Networks design
 Piping Detailed Engineering, 3D Model Piping routings and Support Design
 M&P Procurement Engineering

UTE AZULAO Combined Cycle Thermal Power Plant

Location: Silves, Amazonas, BRAZIL

Client: TENENGE
 Final Client: ENEVA
 Development: 2023-2024
 Power Output: 960 MW
 Plant Configuration: Closed Combined Cycle Plant 590 MW (1 x 1 x 1) + OCGT 360 MW



GHENOVA scope of works:
Value Engineering & Detailed Engineering, Civil Discipline.

Civil Detailed Engineering including Geotechnical Report, Piles, Soil Improvement, Foundation of Critical (GT & ST) and Non-Critical Equipment and Buried Networks design

LEUNA REFINERY

Location: GERMANY

Client: MMEC (and TOTAL afterwards)

Scope: Tech. Assistance. Piping & Mechanical for oil refinery revamp project

Development: 2018-2019



CENTAURO NORTE GAS DUCT

Location: Baja California – Sonora

Client: VIRTUS

Scope: Detailed Engineering

Development: 2024-2025



CABORCA COMPRESSION GAS STATION

Location: Baja California – Sonora

Client: CARSO

Scope: Detailed Engineering

Development: 2024-2025



CABINDA REFINERY

Location: Malembo, CABINDA

Client: OEC

Development: 2021-2025



SHATLYK COMPRESSION GAS STATION

Location: Mary velayet of the Oguzhan Etrap of Turkmenistan

Client: ÇALIK ENERJI

Development: 2024-2025



GHENOVA Scope of Works:

Consistency Analysis of the basic design/FEED and Detailed Engineering of all disciplines, Process and Mechanical, Piping, Civil, Structures and Architecture, Electrical and Instrumentation and Control.

Engineering Services related to Supply Engineering, Test and Commissioning Support and As Builts.

GHENOVA scope of works:

DETAILED ENGINEERING

- Layout engineering
- Process engineering
- Civil engineering
- Mechanical engineering
- Electrical engineering
- Instrumentation and control engineering
- Safety systems (DCI, F&G)- Pre-commissioning, commissioning, start-up and warranty procedures
- Documentation for permits and legalizations
- Purchasing support

ENERGY RECOVERY.

TUAS NEXUS Integrated Waste Management Facility

Client: KEPPEL SEGHERS
End Consumer: National Environmental Agency Singapore
Scope: Flue gas treatment supply chain & Detailed engineering MEP boiler
Engineering development: 2021-2022
Processing capacity: 1,000,000 tons/year
Power: 80 MW
Location: Tuas Peninsula, SINGAPORE



HONG KONG Integrated Waste Management Facility

Client: KEPPEL SEGHERS
End Consumer: Environmental Protection Department
Scope: Detailed engineering MEP boiler
Engineering development: 2020-ongoing
Processing capacity: 1,000,000 tons/year
Power: 80 MW
Location: Hong Kong, CHINA



EAST ROCKINGHAM Waste to Energy Plant

Client: Acciona Industrial
End Consumer: Australian Renewable Energy Agency
Scope: Basic and detail engineering
Engineering development: 2020-2021
Processing capacity: 300,000 tons/year
Power: 28,9 MW
Location: East Rockingham, AUSTRALIA



Client: ACCIONA

End Consumer ENFINIUM

Engineering development 2021-ongoing

Location: West Bromwich, UK

Boiler Technology: Volund



KELVIN EfW Plant 49 MW 370.000 Tn/year

Scope of Work:

Basic and Detailed Engineering of all disciplines Process and Mechanical, Piping, Civil, Structural and Architectural, Electrical, Instrumentation and Control and Integration. Also, Engineering Services related to Supply Engineering, Test and Commissioning Support, O&M Manuals and As Builts.

End Consumer: ACCIONA ENERGIA

Engineering development: 2022-ongoing

Location: Logrosán, Cáceres, ESPAÑA

Combustible: 100% B.6 + 10% B.8

Boiler Technology: BWE



BIOMASS PLANT LOGROSÁN 50 MW

Scope of Work:

Basic and Detailed Engineering of all disciplines Process and Mechanical, Piping, Civil, Structural and Architectural, Electrical, Instrumentation and Control and Integration. Also, Engineering Services related to Supply Engineering, Test and Commissioning Support, O&M Manuals and As Builts.

DECARBONIZATION.

CARBON CAPTURE. TEXEIRA BIOETHANOL PLANT

Customer: VERTEX

Engineering development: 2024-2025

Location: Galicia-SPAIN

Scope: CAPEX/OPEX Engineering. Basic 3D Model



CARBON CAPTURE. LHOIST CALCC RETY

Customer: AIR LIQUIDE

Engineering development: 2023

Location: Rety-FRANCE

Scope: Civil FEED engineering



Customer: DURO FELGUERA

Engineering development: 2024-2025

Location: Castrillón-Asturias-SPAIN



Customer: RDG-RECURSOS DE GALICIA

Engineering development: 2025-2026

Location: Galicia-SPAIN

Scope of Work:

Consultancy for energy-environmental analysis, characterization and optimization. The axes of this work, which will be carried out over the next 12 months, are the combination of technological innovation, artificial intelligence and the active participation of the business fabric.

AZSA DECARBONIZATION WORKS

GHENOVA scope of works:

Basic Engineering, Multidisciplinary works.

- Basic Engineering. The main objective of this documentation is to prepare a technical specification of the project to be put out to tender for its execution by a company specialized in "turnkey" projects (EPC).
- Develop a guide for project closure management (minimum requirements for mechanical assembly closure and completion of commissioning tests)
- Preliminary project for the execution of civil works (turbine warehouse).

GALICIA INDUSTRIAL PARKS & PORTS DECARBONIZATION CONSULTANCY



BIOFUELS.

GRANDPUITS TEPEAR PLANT

Client: PLASTIC ENERGY & TOTAL ENERGIES
 Engineering development 2023-2024
 Location: Grandpuits, FRANCE
 Fuel: Plastic Flakes
 Output: Tacoil



Scope of Work:
 Detail Engineering, of all disciplines, including activation & Q.

FRAMEWORK AGREEMENT: Basic technical project

Location: Spain
 Client: RIC ENERGY
 Year: 2023 – 2024



ECLOSION Project (R+D project in progress)

- ∞ Development of new processes on production, storage and transport of green hydrogen and biomethane from sewage sludge, organic fraction of municipal solid waste, agricultural and livestock waste.



Location: Castilla la Mancha, España

Client: ENER FREE

Development: 2023 – 2024

Capacity: 4600,85 kWt

Ghenova Scope:

Complete basic and detailed design including selection of best technological providers, Deodorizing System design, Upgrading, EPC supervisión.

VILLALUENGA BIOGAS PLANT



HUELVA MOEVE GAN

Location: Huelva, Andalucia, SPAIN

Client: EIFFAGE-AIR LIQUIDE

Final Client: MOEVE

Development: 2025-2026



GHENOVA scope of works:

Layout engineering

- Process engineering
- Civil engineering
- Mechanical engineering
- Electrical engineering
- Instrumentation and control engineering
- Safety systems (DCI, F&G)- Pre-commissioning, commissioning, commissioning, start-up and warranty procedures
- Documentation for permits and legalizations
- Purchasing support
- Facultative Site Management

RENEWABLES.

ALPHA & BETA WIND FARM 492 MW

Client: STANDARDKESSEL BAUMGARTE
End Consumer: METKA
Scope: Detail piping engineering of the Water-steam cycle
Engineering development: 2020-2022
Processing capacity: 400,000 tons/year
Power: 49 MW
Location: UK



SOLANA THERMOSOLAR PLANT

Client: ABENGOA SOLAR
End Consumer: Atlantica Yield and Liberty Interactive Corp.
Scope: Multidisciplinary detailed engineering
Engineering development: 2010-2012
Power: 280 MWe
Location: Arizona, UNITED STATES



TORRE DES VARGENS SOLAR PLANT PV + BESS STORAGE

Client: FFV
Scope: Basic engineering
Engineering development: 2022-2023
Power: 87,5 MW
Location: PORTUGAL



Customer: SOLTEC

Engineering development: 2021-2022

Location: San José Province, COLOMBIA

Power Output: 565 MW



PV SOLAR PLANT GUAYEPO

Scope of Work:

BoP Detailed Engineering.

- Layout analysis and production studies.
- Earthworks studies and adaptation of solar tracker limitations.
- Analysis of technical documentation from suppliers.
- Detailed civil, electrical and electromechanical design of the BoP.
- Technical meetings with the end client and suppliers.

Client: RGREEN INVEST

Engineering development: 2022

Electrolyser: 5 MW



HYBRIDISATION PROJECT PV+H2

Scope of Work:

The project consists of analyzing the investment in a photovoltaic + hydrogen project in France. The hydrogen produced in the electrolyzer will be fed into a fuel cell. The fuel cell will generate electricity that will be used by the port's ships. The objective is to replace old diesel engines with electric engines that use green energy.

MARINE RENEWABLES.

In the area of marine renewables, we develop **Consultancy Services to the Administration.**

- Prospective and Strategy Studies. Opportunities Analysis (SWOT)
- Market Studies and Capacity Analysis
- Environmental Impact Studies
- Definition of permits for construction and operations
- Preparation of permit application guidelines
- Property Engineering

And engineering work for the value chain (technologists, manufacturers, developers) throughout all phases of projects

- Feasibility Studies
- Preliminary-Front End Engineering and Design (pre-FEED)
- Front End Engineering and Design (FEED)
- Detailed Design

In addition to providing **Transversal Services.**

- Synergy with the Digital Solutions Area also allows us to offer a wide range of digitalisation and cybersecurity services, such as Digital Twins and Industry 4.0 developments.
- Life Cycle Support for offshore assets (e.g. electrical substations).





Marine Renewables. PORTFOLIO.

WIKINGER

Client: NAVANTIA

Engineering

development: 2014-2015

Scope: Jacket
construction design



HYWIND

Client: FRAM MARINE AS-STATOIL

Engineering development: 2013

Scope: Conceptual design. 3D model
and structure detail support



SEATOWER

Client: FRAM MARINE AS

Engineering development:
2013-2014

Scope: Design of transport
manoeuvres, structural
calculations



Customer: DRAGADOS OFFSHORE

Final Customer: TENNET

Development: 2018-2019



OSS DOLWIN 6

GHENOVA's work scope (SUMMARY)

- Piping Engineering: Basic and Detail
- Design of the piping according to "SIEMENS Design" specifications and procedures and to the internal norms applicable from client of DOLWIN 6

Customer: NAVANTIA SEANERGIES

Final Customer: AVANGRID

Development: 2024-2027



NEW ENGLAND WIND 1

GHENOVA's work scope (SUMMARY)

Owner Engineering (Navantia Seanergies)

Engineering project leader, planning, organizing, directing, and controlling the entire engineering development process carried out by the different subcontractors to ensure the correct execution of the project in accordance with the Client's requirements and the deadlines stipulated in the schedule

HYDROGEN.

FUTURETECH H2 CONSULTANCY

Location: Alentejo and Andalucía, PORTUGAL & SPAIN

Client: FEDEME

Program: Futuretech – H2

Development: 2024



FEASIBILITY STUDY H2 DUCTS

Location: Campo de Gibraltar, Andalucía, SPAIN

Client: AGI, Asociación de Grandes Empresarios del Campo de Gibraltar

Development: 2023-2024



SOEC JOB 0 PROJECT

Location: Region Midtjylland, Denmark

Client: IDESA

Final Client: TOPSOE

Development: 2024

H2 production: 54 kg/h (482 Nm3/h) corresponding to two cores operating at next generation conditions of 130 NI/h/cell @ 150 cells nr. Stack



HUELVA GREEN HYDROGEN 160 MW BASIC ENGINEERING

Location: Huelva, Spain

Client: TRINA SOLAR

Final Client: TRINA SOLAR

Development: 2025

H2 production: 160MW H2 Plant, 16,000T/yr H2 production



GHENOVA scope of works:

Bid Engineering according to following scope:

1. Process Design and Flow Diagram
2. Civil and Structural Engineering
3. Water Supply and Treatment
4. Hydrogen Purification and Compression
5. Hydrogen Storage
6. Piping and Distribution System
7. Safety, Instrumentation, and Control Systems
8. Electrical Design
9. Utilities and Infrastructure
10. Project Schedule and Planning

ZERO EMISION ALTERNATIVE FUELS FOR SHIPPING

Location: Spain

Client: NAVANTIA

Development: 2024-2025



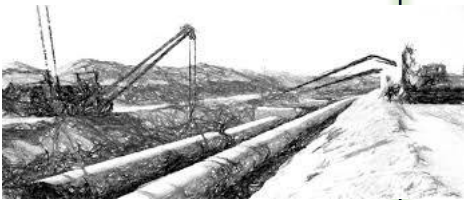
GHENOVA scope of works:

The project explores new propulsion technologies for shipping with renewable fuels, both biological and non-biological origin (hydrogen and derivatives), implementing novel propulsion and power generation architectures, in order to obtain more efficient onboard systems design with lower emissions and to be in compliance with the new maritime regulations

WATER CYCLE.

ABHA METROPOLITAN WTS – PIPELINE

Client: PIPELAB
Contractor: SSEM (SAUDI SERVICES FOR ELECTRO MECHANIC WORKS CO.)
Final Client: SWCC (SALINE WATER CORPORATION)
Scope: Detailed civil, piping and electrical engineering
Engineering development: 2022-2023
Location: Abha Region (SAUDI ARABIA)



MIRFA II REVERSE OSMOSIS IWP

Client: Acciona Agua
Final Client: EWEC, Emirates Water and Electricity Company
Development: 2022
Processing potable water capacity: 80 or 120 MIGD



AL HAER INDEPENDENT SEWAGE TREATMENT PLANT

Location: Al Haer, Riyadh (SAUDI ARABIA)
Client: Acciona Agua
Final Client: Saudi Water Partnership Company
Development: 2023
Processing water capacity: 200,000 of m3/day



DESALINATION PLANT SWRO CASABLANCA

Client: ACCIONA AGUA
End Consumer: Office National de l'Electricité et de l'Eau Potable, Royaume Du Maroc
Engineering development: 2022
Location: El Yadida, Casablanca (MOROCCO)
Processing capacity: 200,000,000 m3/year



Scope of Work:

- Civil CAPEX engineering, including design of foundations, steel and concrete structures and buried networks.
- Basic Photovoltaic Project for Self-Consumption

Collaborator: PIPELAB

Contractor: MAPA

Final Client: SWCC (SALINE WATER CORPORATION)

Development: 2024-2025



RAS ALKHAIR RIYADH WTS

Scope of Work:

- Detailed Engineering for pipeline buried network. Civil Works, mechanical stations engineering, electrical Supply & MTO

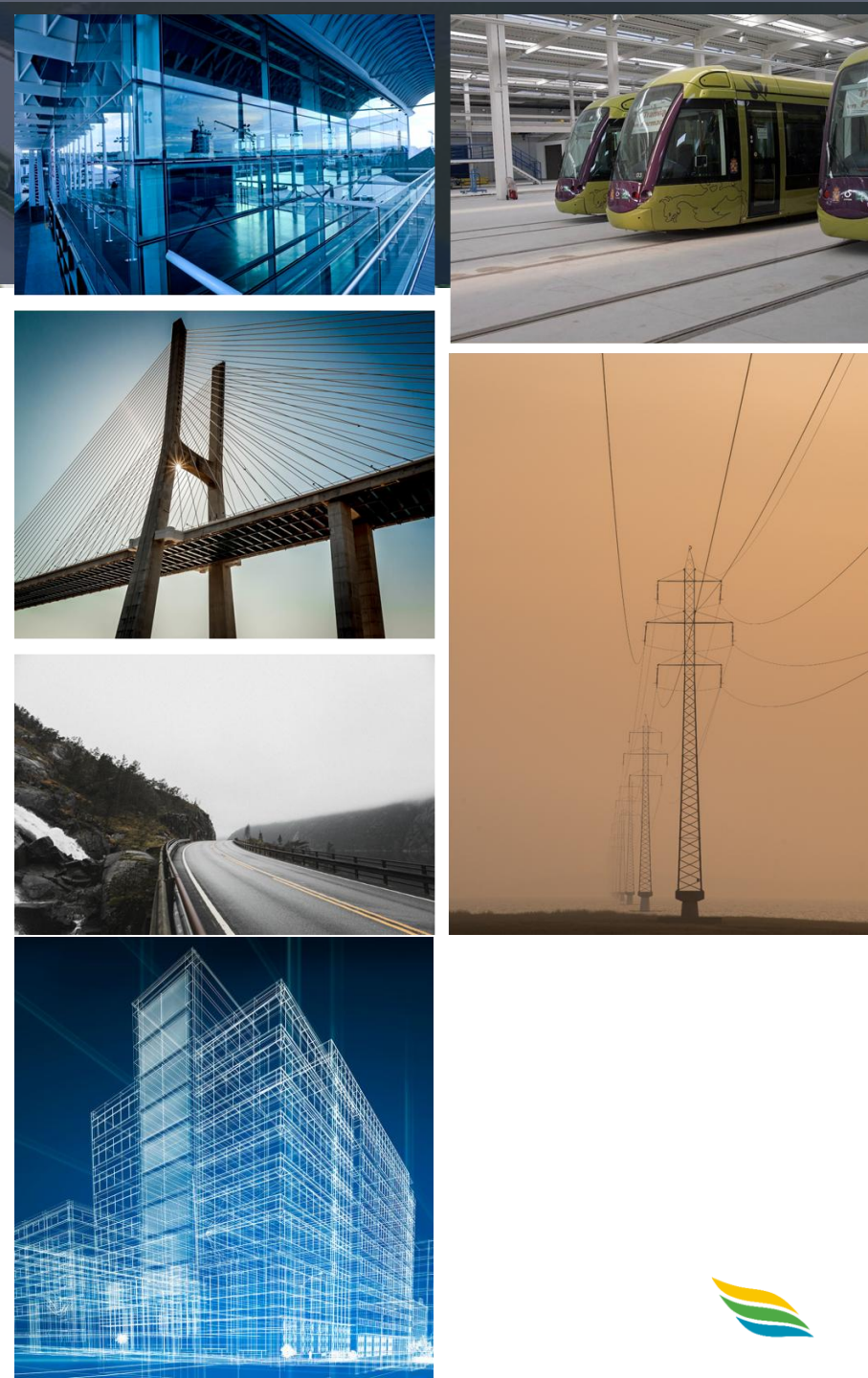
INFRASTRUCTURES.

The scope of work in the infrastructure area is divided into three main fields: **transportation, environment, and building construction**. In all of these, our company has more than twenty years of experience and incorporates the most advanced technologies, which have allowed it to establish itself solidly in the field of civil engineering.

GHENOVA provides comprehensive consulting services throughout all phases of infrastructure projects, including:

- feasibility studies,
- final design,
- demand studies,
- construction supervision.

Want more information about Ghenova's Infrastructure activities? [Click here](#)





Infrastructure. **PORTFOLIO.** *Main references.*

BUENA VISTA HIGHWAY

Client: ADMINISTRADORA BOLIVIANA DE CARRETERAS

Engineering development: 2020-2025

Scope: Project review, construction supervision and subsequent maintenance.



NAVANTIA DRY DOCK

Client: NAVANTIA

Engineering development: 2023-2025

Scope of Work:

Drafting of the project, construction management, execution management and health and safety coordination of the repairs of leaks in the Navantia-Puerto Real dry dock.



HANGAR OF THE FIFTH AIRCRAFT SQUADRON, ROTA NAVAL BASE

Client: SPANISH NAVY. ROTA ARSENAL

Engineering development: 2025-2026

Scope of Work:

Construction Project management, health and safety coordination.



DIVERS TRAINING CENTER

Client: SPANISH NAVY. CARTAGENA ARSENAL

Engineering development: 2025

Scope of Work:

Drafting of the Project for the construction of the training center for underwater activities and submarine escape. Spanish Navy



DIGITAL TWIN CENTER OF EXCELLENCE

Client: NAVANTIA

Engineering development: 2024-2025

Scope of Work:

Construction Project management, health and safety coordination.



OPS Master Plan for Spanish Ports

Client:
Scope: Technical Consultancy for Boats Power Supply
Engineering development: 2023
Location: Spain



ALGECIRAS OPS Engineering Services

Client: Autoridad Portuaria de Algeciras
Scope: Basic Design, Bid Support and Detailed Engineering
Engineering development: 2024-2025



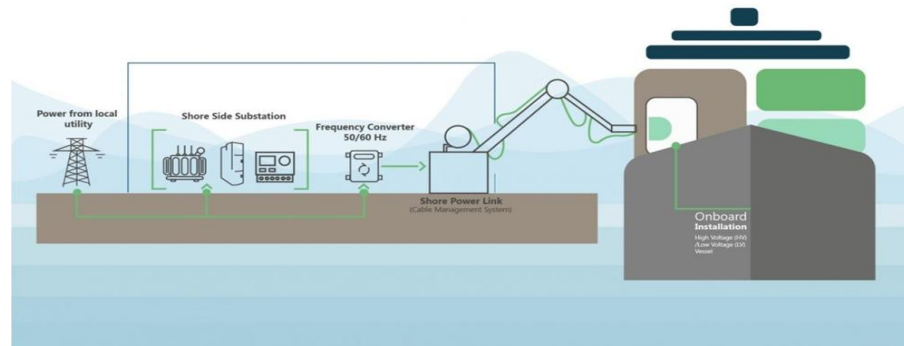
VIGO PORT FISH TERMINAL MASTER PLAN

Client: Autoridad Portuaria de Vigo
Scope: Basic Project Development
Engineering development: 2025



Client: IBERDROLA
Engineering development 2025-ongoing
Location: Spain

OPS FRAMEWORK



Scope of Work:

Engineering Services for stages of design:

- Permitting
- Technical Assistance
- Bid Engineering
- Basic & Detailed Engineering
- Site Supervision

Client: Autoridad Portuaria de Sevilla
Engineering development: 2025-ongoing
Location: Sevilla, ESPAÑA

HYDEA Consultancy & OPS Basic Design



Scope of Work:

1. Technical assistance in project audits and justifications
2. Development of a strategic action plan for the implementation of hydrogen in the port
3. Development of a use case for cold ironing with hydrogen at the container terminal
4. Monitoring of a pilot project with a hydrogen terminal tractor and organisation of calls for technological testing

DIGITAL SERVICES





Our Value: Your Dedicated Technology Partner for Sustainable Success

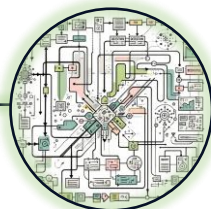
Engineering Excellence Meets Cutting-Edge Technology



System Integration

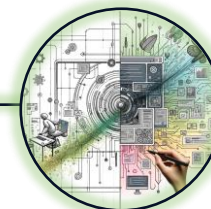
Our know-how & knowledge

In today's dynamic and interconnected world, businesses rely on a complex interplay of legacy and modern systems, spanning physical infrastructure, digital platforms, and increasingly interconnected cyber-physical systems. **We specialize in seamlessly integrating these diverse elements, creating a cohesive and efficient business ecosystem**, ensuring optimal performance, enhanced efficiency, and a unified business landscape. **We help you achieve optimal performance, enhanced efficiency, and drive future growth.**



Data Intelligence

Businesses generate vast amounts of data. However, true value lies in the ability to transform that raw data into actionable insights. We specialize in the complete data management lifecycle: from intelligent data collection from diverse sources, through powerful data exploitation and analysis, to clear and concise visualizations that reveal hidden insights. **We transform your data into business intelligence, enabling you to optimize operations, improve efficiency, and achieve your strategic objectives.**



Decision-Making Support

Effective data management has become a cornerstone for driving profitability and competitiveness. Process optimization and strategic decision-making are key to any company's growth and profitability. By leveraging the power of data analytics, your company can quickly adapt to market changes, optimize its resources, and achieve sustainable success. **We help you extract maximum value from your data, transforming it into insights that drive operational efficiency, reduce costs, improving process, and enhance decision-making.**

Our Technologies

Ad hoc Software Development

Artificial Intelligence

Operational Intelligence

GIS

BIM
Methodology

Electronics & IoT Design, development and integration

Statistics, Mathematical Methods and Machine Learning

+130 professionals, 90% of whom are engineers or scientists

CYBERSECURITY



Ghenova provides Cybersecurity services and solutions to clients, especially in the areas of advisory/consultancy, auditing, awareness and training.

In addition, the Cybersecurity area contributes to the enhancement of corporate cybersecurity and to improving Ghenova's response capacity to cybersecurity incidents.

It also supports other business areas of the company, providing advice on the definition or interpretation of cybersecurity requirements, as well as resources for tenders and projects involving other verticals and which include cybersecurity aspects (technical or contractual solvency requirements, technical profiles, etc.).

PRODUCTS AND SERVICES

Consultancy

- Digital transformation processes.
- Design and implementation of Cybersecurity solutions.
- Development of procedures and information security management plans.
- Evaluation of cybersecurity risks and threats.
- Generation of mitigation plans.
- Development of corporate cybersecurity strategies.
- Support/advice in the preparation of audits.
- Support/advice in corporate cybersecurity certification processes.
- Assessment and improvement of corporate cyber hygiene.

Audit

- Analysis of cybersecurity risks.
- Detection of vulnerabilities in corporate systems.
- Audits of compliance with standards and regulations.
- Penetration tests (internal/external).

Training and Awareness

- Development of cybersecurity awareness and culture activities.
- Anti-phishing campaigns adapted to the client.
- Workshops and awareness campaigns.
- Specific courses on cybersecurity regulations.



SYSTEMS INTEGRATION

SICP INTEFRATION

Client: NAVANTIA
Engineering development: 2020 - 2023
Scope of Work: 2D/3D mimic design, functional and detailed design, life cycle, training course.



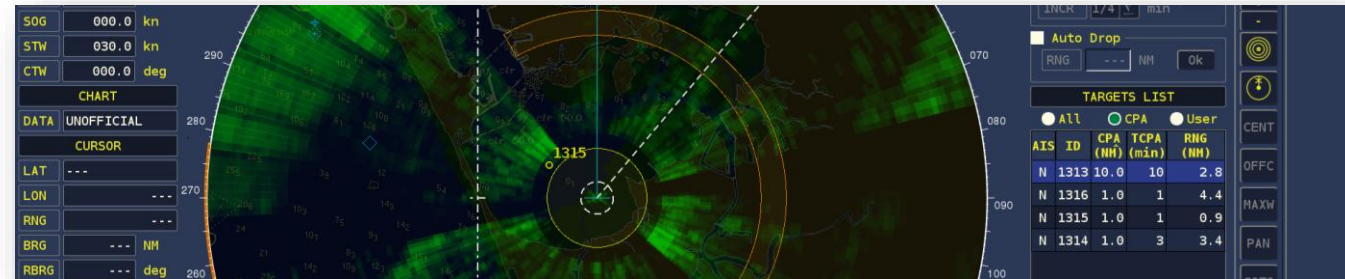
CARTA DIGITAL 10

Client: CENTRO GEOGRAFICO EJERCITO TIERRA
Engineering development: 2020 - 2023
Scope of Work: Development of a GIS tool for operations planning. 2D-3D geospatial info



INTEGRATED NAVIGATION SYSTEM, INTEGRATED BRIDGE

Client: NAVANTIA
Engineering development: 2020 - 2025
Scope of Work: Complete development of the entire visual interface of the navigation radar for the MINERVA integrated bridge. 100% functional integration with X and S band radars.



COMBAT SYSTEM INTEGRATION

Client: NAVANTIA
Engineering development: 2016 - 2025
Scope of Work: Within the CATIZ and SCOMBA programs, collaboration for specification, software development, infrastructure preparation and validation testing of HMIs and tactical service.



DIGITAL TRANSFORMATION

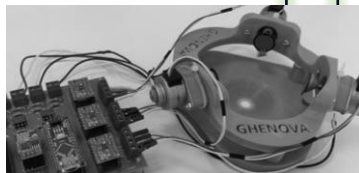
ARPODES

Client: PROPRIETARY PRODUCT - TROPS

Engineering development: 2022 - 2024

Scope of Work: Development of a non-invasive fruit ripening system. IoT + Deep Learning.

Ghenova asset



VentanAI

Client: GRUPO GAVIOTA

Engineering development: 2022 - 2023

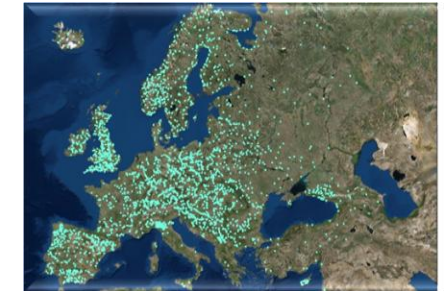
Scope of Work: IoT electronics in windows for environmental management



Client: COMISIÓN EUROPEA (JRC)

Engineering development: 2012 -2026

Scope of Work: For the European Copernicus program. Development, implementation and operation of a system for real-time collection of river flows in Europe. More than 200k daily data managed. Generating advanced data analytics services.



EFAS - HDMS

SMART FACTORIES

The design, development, implementation, and commissioning of a digital twin for bottling have been carried out, aimed at developing an algorithm to optimize the production process. Additionally, specific IoT components were developed to provide the system with data from older machines that lacked certain variables. This approach identifies the most efficient production line arrangements and optimal machine configurations, reducing downtime and maximizing production.



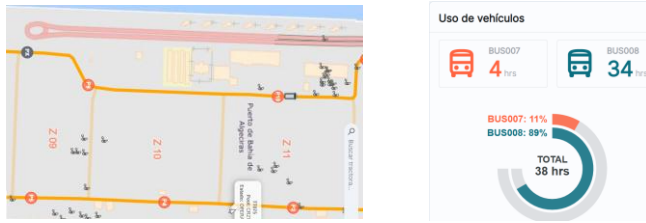
SMARTPORTS & LOGISTICS

PORTFLOW MOBILITY

Client: APM TERMINALS

Engineering development: 2023 - 2025

Smart platform for real-time coordination of personnel, vehicles, and routes in port operations, with synchronized transit, delay insights, and scalable integration.



LIFESHIFT NOMINATION

Client: APM TERMINALS

Engineering development: 2024 -

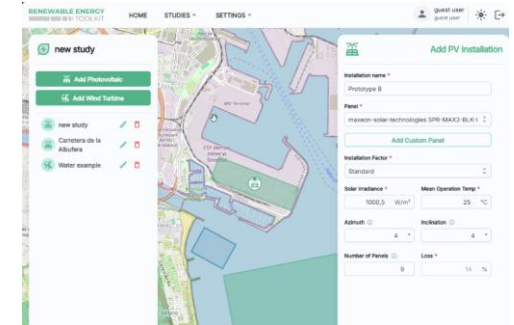
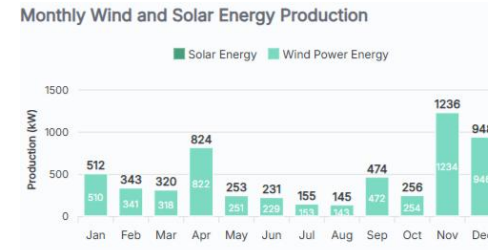
Real-time equipment assignment system based on automated algorithms



Client: VALENCIA PORT AUTHORITY

Engineering development: 2024-2025

Energy planning tool for port environments, enabling simulation of solar and wind installations over specific locations with customized configurations. Integrates historical meteorological data and models hybrid projects to estimate aggregated production. Includes comparative dashboards and exportable visual reports with key performance and investment metrics.



RENEWPORT

Client: APM TERMINALS

Engineering development: 2023 -2025

Proprietary and modular electronic solution for equipment tracking, operational control, and user management in industrial environments. Designed for multi-scenario use with digital sensors, secure wired/wireless communication, and real-time decision logic. Its configurable architecture dynamically loads the appropriate control model, enabling seamless API integration and scalable deployment within an open design.



GH SMART OPS



LIFE CYCLE SUPPORT



LIFE CYCLE SUPPORT



SIMAN (Integrated Maintenance System).

- We offer a wide range of complex organisations and institutions efficient planning and execution of **asset maintenance**, whether at individual, corporate or fleet level.
- **Experts in Maintenance Engineering.**
- We commercialise **intelligent systems** to improve the efficiency and performance of industries.

INTEGRATED MAINTENANCE MANAGEMENT SYSTEM

SIMAN is an integrated maintenance system that allows to control and manage corrective and preventive maintenance tasks together with all the necessary associated information.

Modules: Configuration tree, Maintenance, Warehouses, Orders, Personnel, ISM, documentation, reports generator,...





Life Cycle Support. PORTFOLIO.



RCWS SENTINEL

Client: ESCRIBANO M&E

Scope: Initial proposal for support (PIDA) to the Spanish navy

Development: 2021



BLUE GIANT

Client: RINA

Scope: FMECA DP3

Engineering development: 2024



COASTAL HYDROGRAPHIC

Client: NAVANTIA

Scope: ILS documentation

Engineering development: 2025-26



CDPA VCR 8X8

Client: MENPRO

Scope: Fmeca and ramt studio for vcr 8x8 vcr power distribution box

Engineering development: 2021



D-EIMOS

Client: EXPAL SYSTEM

Scope: ILS and technical publications

Engineering development: 2022-2023



Customer: INDRA

Development: 2022-2025

Integrated Logistic Support



GHENOVA's work scope (SUMMARY)

ILS (Integrated Logistics Support) and technical documentation, several systems: (GRUNOMAC, GRUCEMAC, Antidron Crown-n, Lanza 3D, AU212 ESPACIO, ELINT A/B, COMSSIC, SIM TIGRE, AURA, TIGRE MKIII, GEODE, ARS-M, LTR-25 AURA...)

Customer: NAVANTIA

Development: 2025-2026

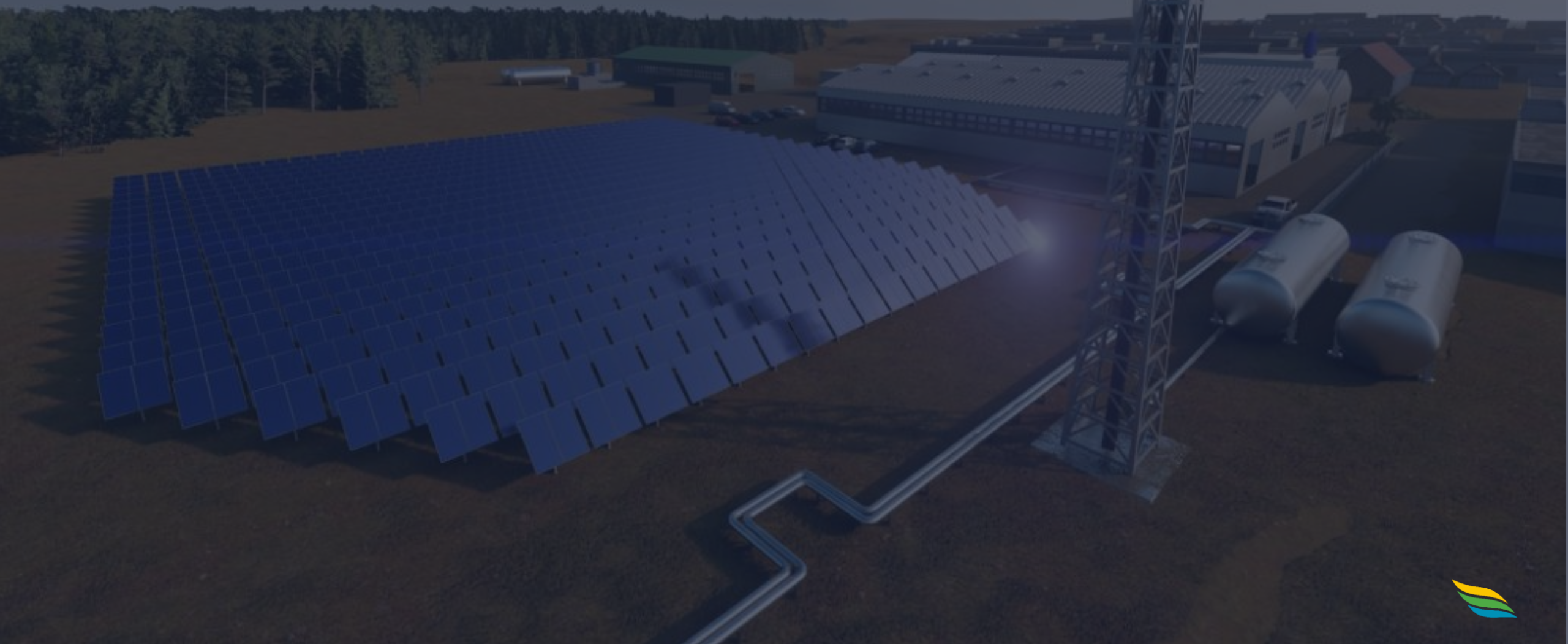
BAM-IS. Integrated Logistic Support



GHENOVA's work scope (SUMMARY)

- ILS Management
- ETC and VFI Management
- Configuration Management
- Obsolescence Management/Mitigation
- Logistic Support Analysis
- Maintenance Plan
- Maintenance Plan During Construction
- Support Equipment and Measurement Devices Plan
- Provisioning Plan
- Documentation Plan
- Training Plan

RESEARCH, DEVELOPMENT and INNOVATION



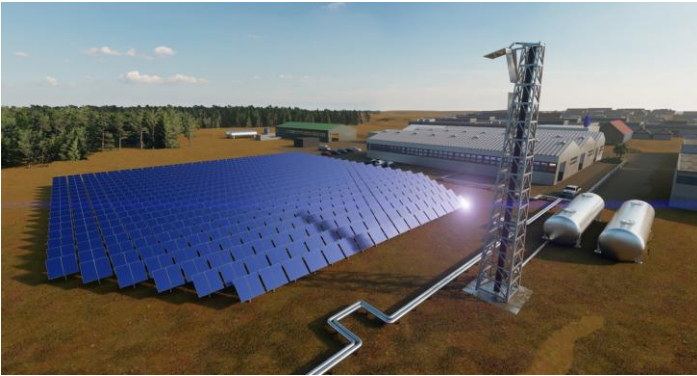


RESEARCH & DEVELOPMENT AND INNOVATION

- At GHENOVA we have been committed to Research, Development and Innovation for more than 15 years, as a strategy to stay at the forefront of design technologies and to develop new products and businesses. We align ourselves with the research vectors for **decarbonisation** and **digital transformation** in the Energy, Industry, Naval, Defence and Infrastructure sectors.
- We have more than 25 projects developed with financial support from private and public bodies such as CTA, CDTI and the EC (Horizon 2020) and experience in leading consortia for R&D&I projects.

BLUE SOLAR.

PHOTOVOLTAIC PLANT WITH THERMAL COGENERATION



Bluesolar has started building its first pilot plant at the headquarters of the Institute of Concentration Photovoltaic Systems (ISFOC) located in Puertollano with a new technology that promises to be the great solution in efficiency, profitability and storage in the energy sector.

e-SHyIPS.

ECOSYSTEMIC KNOWLEDGE IN STANDARDS FOR HYDROGEN IMPLEMENTATION ON PASSENGER SHIPS



The e-SHyIPS project is a European initiative focused on enabling the safe use of hydrogen as a fuel for passenger ships. It aims to develop a regulatory and safety framework to address the lack of international standards in this area. The project involves simulations, laboratory experiments, and system design to study hydrogen behavior, ship safety, and fuel containment. Key areas of research include ship design, hydrogen storage, safety systems, and port bunkering operations. Overall, e-SHyIPS supports the transition to cleaner maritime transport in line with global emission reduction goals.

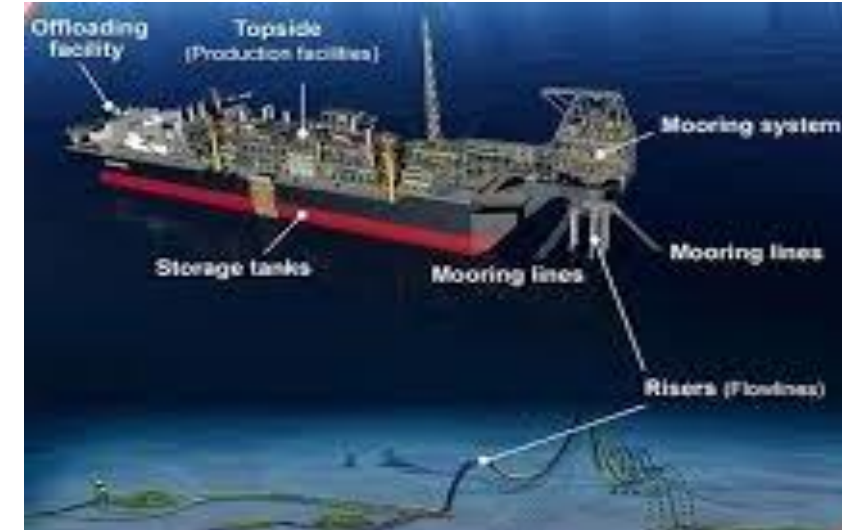
Offshore Recent Project References



NEON FPSO
(50,000bopd 1,7MMSm³/d)
NEON FIELD
KAROON - BRAZIL



P78 FPSO
SEATRIUM
PETROBRAS - BRAZIL



KAMINHO FPSO
SAIPEM
TOTALENERGIES - ANGOLA



PPM/PCE Platform
PAMPO and ENCHOVA
TRIDENT - BRAZIL



PROSPERITY FPSO
SBM
EXXONMOBIL - GUYANA



ALM. TAMANDARÉ FPSO
SBM
PETROBRAS - BRAZIL



LIZA FPSO
SBM
EXXONMOBIL - GUYANA



JUDY OIL PLATFORM
DRAGADOS OFFSHORE
CONOCOPHILLIPS - UK

Offshore Key Project References



145,7K BW LNGC - FSRU
FRSU CONVERSION
BW LNG - HANWHA



155,000 CBM LNG Carrier
LNG Reliquefaction System
FLAG - MALTA



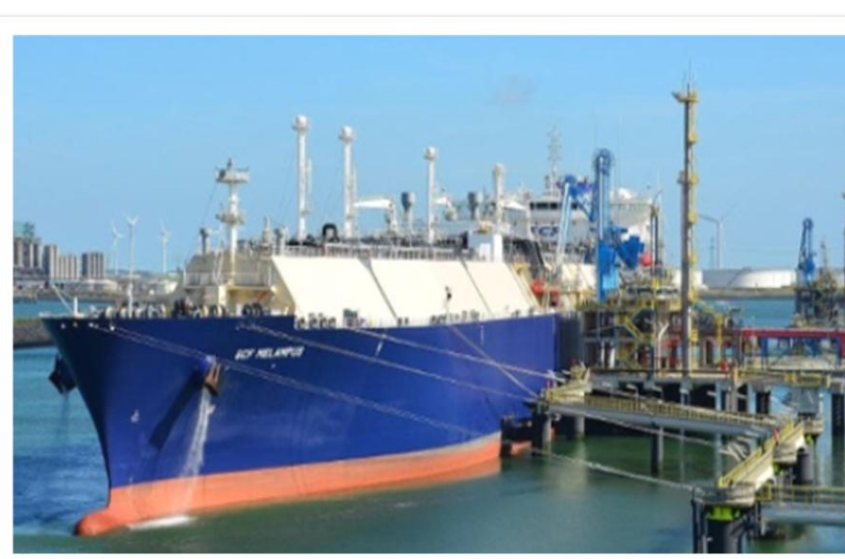
160,000 CBM LNG Carrier
LNG Reliquefaction System
FLAG – MARSHALL ISLAND



162,000 CBM LNG Carrier
LNG Reliquefaction System
FLAG – MARSHALL ISLAND



160,000 CBM LNG CARRIER
LNG Reliquefaction retrofit
FLAG – MARSHALL ISLAND



170,200 CBM LNG Carrier
LNG Reliquefaction Basic/Detail
FLAG - LIBERIA



SERVICE OPER. VESSEL
OSOV Conversion Study



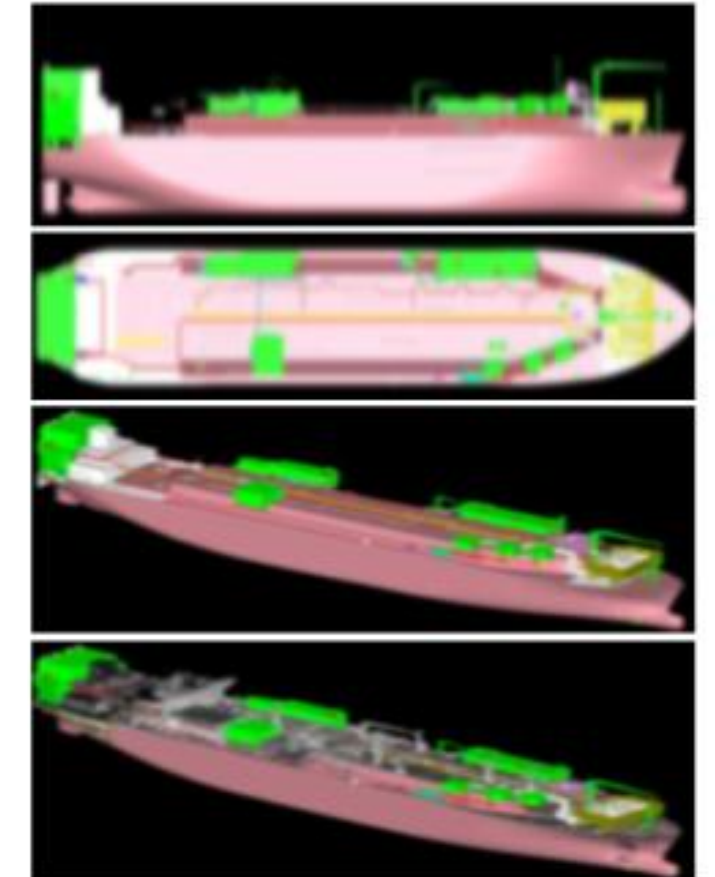
LCO2 Carrier
87K LCO2 Carrier

Offshore Key Project References

Expertise: Basic, Detail & Production Design for LNG Carriers, FSRU Conversions, and Retrofits

Client Base: Global shipowners and EPCs including Hanwha, MOL, and BW LNG

Project	Scope	Vessel / Capacity	Main Activities
145K FSRU Conversion (BW BENUÉ – H.2224)	Full Engineering (Basic, Detail & Production)	145,700 m ³	Regas modules, hull reinforcement, electrical, stability, MTO
125K FSRU Conversion (1st & 2nd)	Technical Assistance	125,000 m ³	Drawing review, FAT attendance, gas trial support
263K FSRU Upgrade	HP Vaporizer Capacity Upgrade	263,000 m ³	Dock spec & drawing approval for all disciplines
210K New-Build FSRU FEED	Concept & Basic Design	210,000 m ³	Regas concept, P&ID, H&M balance, electrical load
160K & 162K LNGC Retrofit	Sub-Cooling Unit Retrofit	160–162 k m ³	Detail & Production design, cryogenic piping stress analysis



Offshore Key Project References



DUQUES DE ALBA
PORT OF HUELVA
SPAIN



NAVANTIA DRYDOCK
PUERTO REAL
SPAIN



SUFAS PIPELINE
PDVSA
VENEZUELA



CABORCA COMPRESSION GAS
CARSO
BAJA CALIFORNIA - SONORA



CENTAURO NORTE GAS DUCT
TENENGE - ENEVA
SONORA – BAJA CALIFORNIA



AZULAO GAS TREAT. STATION
TENENGE - ENEVA
BRAZIL

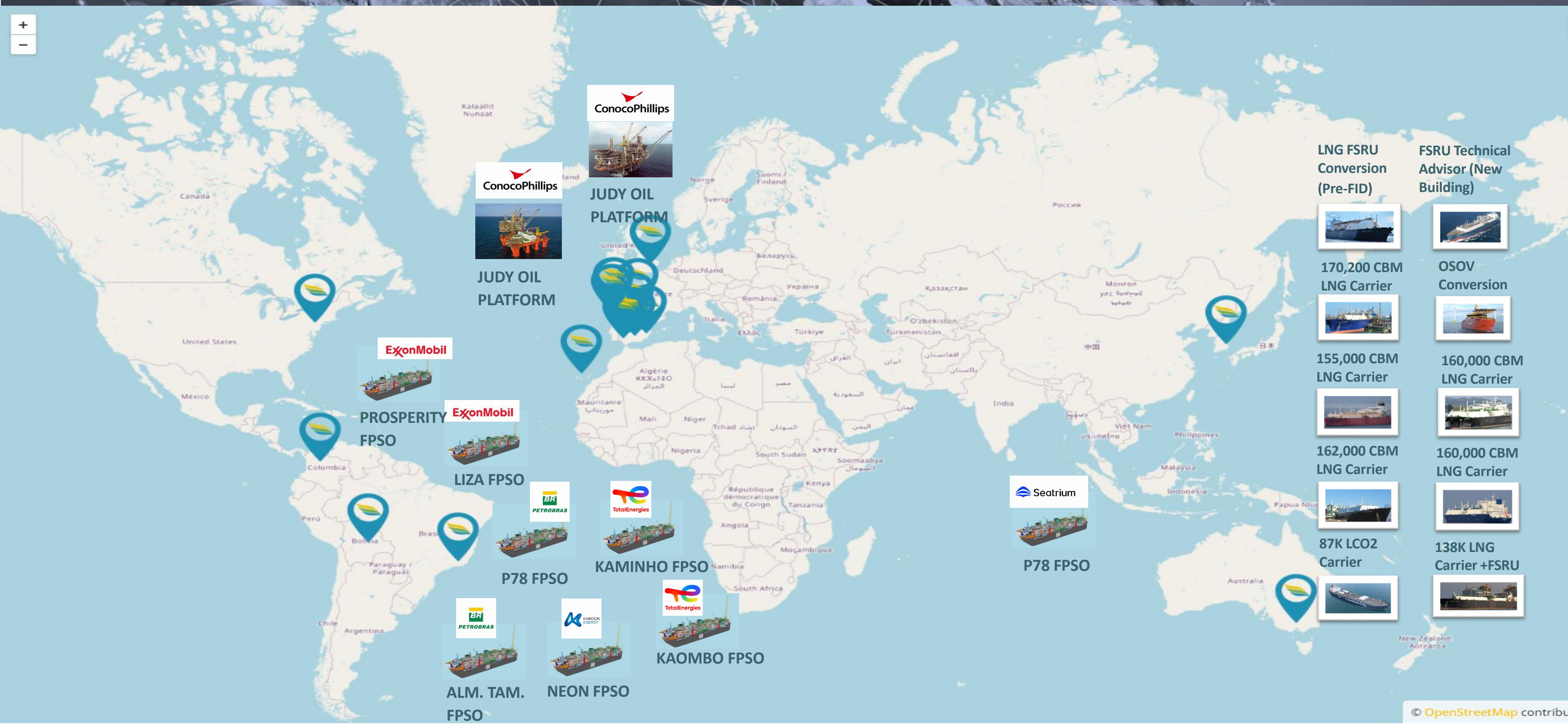


LNG TERMINAL
ACCIONA
BRAZIL



GNV PROJECT
GLP PIPELINES
CORPOVEN

GHENOVA. IN THE WORLD.



LNG FSRU Conversion (Pre-FID)



170,200 CBM LNG Carrier



155,000 CBM LNG Carrier



162,000 CBM LNG Carrier



87K LCO2 Carrier



FSRU Technical Advisor (New Building)



OSO Conversion



160,000 CBM LNG Carrier



160,000 CBM LNG Carrier



138K LNG Carrier +FSRU



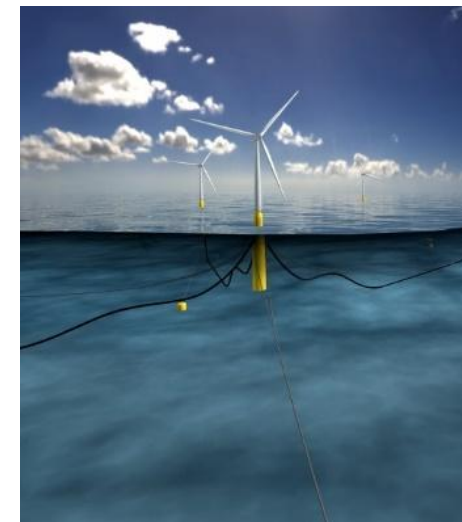
Renewables - Offshore Wind Farms



WIKINGER



WINDFLOAT ATLANTIC



HYWIND



SEATOWER

PROYECTS I+D



 WIP 10+



 W2P - HERA



 MIAMI

PASSENGER VESSELS

More 35 referencies in cruises in the last 20years.



CHANTIERS
DE L'ATLANTIQUE

MEYER TURKU
SHIPYARD 1737

WestSEA
VIANA SHIPYARD

HELSINKI
SHIPYARD

FEADSHIP

AMELS

NAVIERA
ARMAS

LÜRSSEN

NOBISKRUG

FINCANTIERI

MYSTIC
CRUISES

oceAnco

Astillero
BARRERAS

AERIUS
Marine HVAC since 1838

CRYSTAL
CRUISES

NOVIS
GROUP

DAMEN

AXIMA
UNE MARQUE DE EQUANS

Miscellaneous Vessels

LA NAVAL

161 m cable laying vessel

LIVING STONE



IHC MERWEDE

164 m cutter suction dredge

SPARTACUS



IHC MERWEDE

83 m reel lay vessel

REEL LAY VESSEL



LNG BUNKERING

119 m LNG bunkering

REGANOSA



WAVEWALKER

32 x 32 m dredger

NEPTUNE SHIPYARD



LPG FLEET

4000/7000/12000 LPG Carriers

VARD PROMAR



Offshore

EEP
180 m Drillship
PITUBA



HJ BARRERAS
131 m FLOTEL
REFORMA PEMEX



GARDLINE
Wind Farm Accom. Vessel
WAV (Concept)



KAOMBO
333 m VLCC to FPSO conversion
SOFRESID



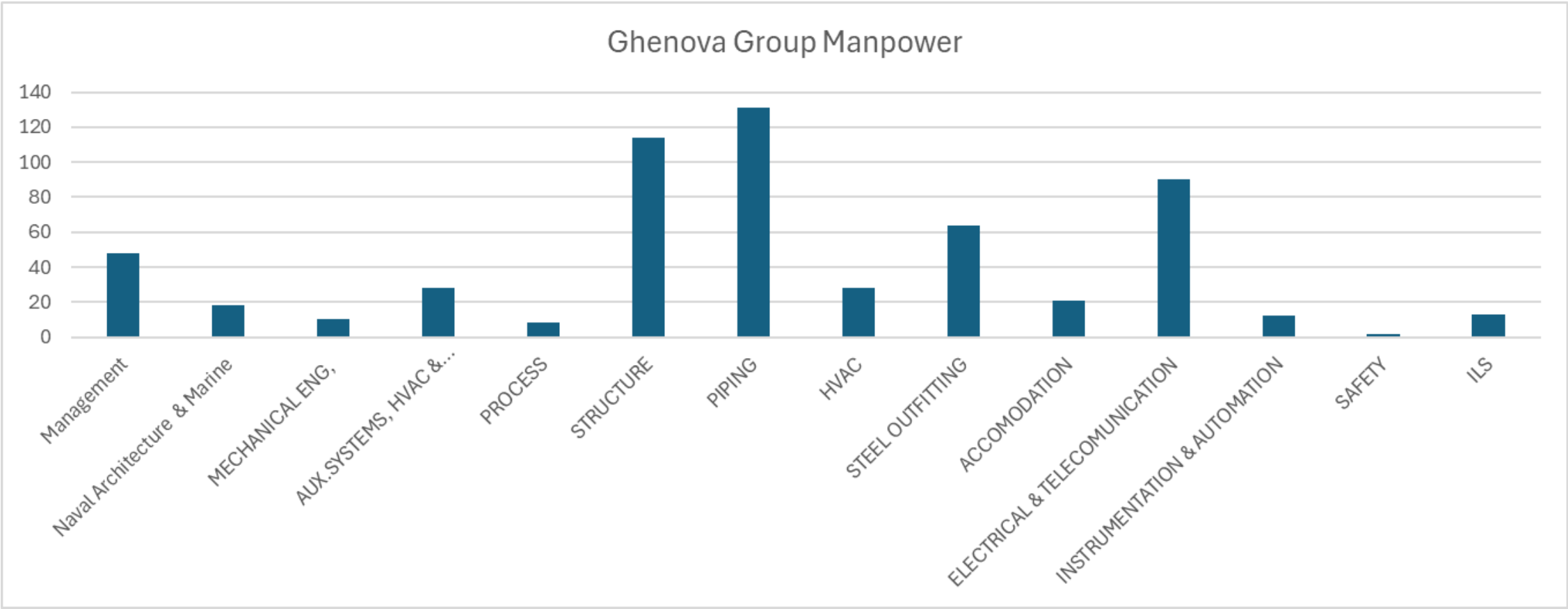
WIKINGER
650 t, 62 m jacket
NAVANTIA



JASMINE PLATFORM
18.225 t platform
DRAGADOS OFFSHORE



Group Manpower – Offshore



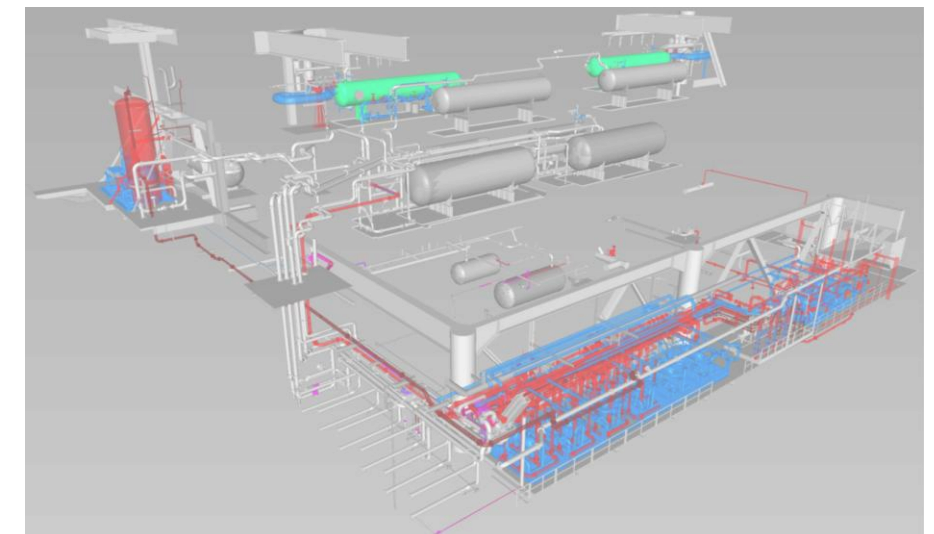
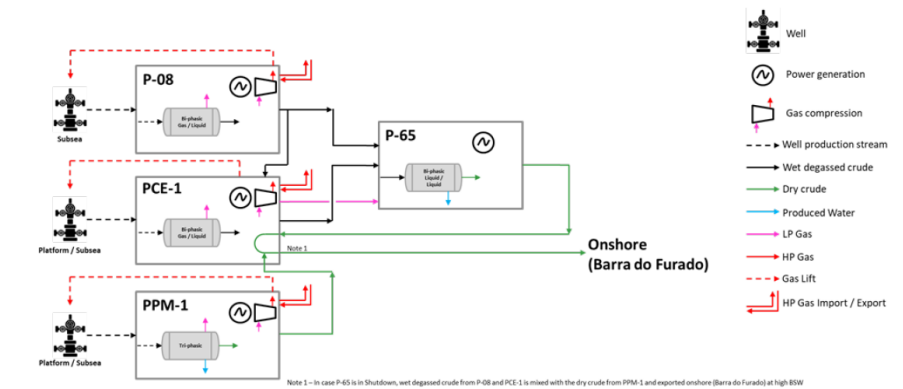
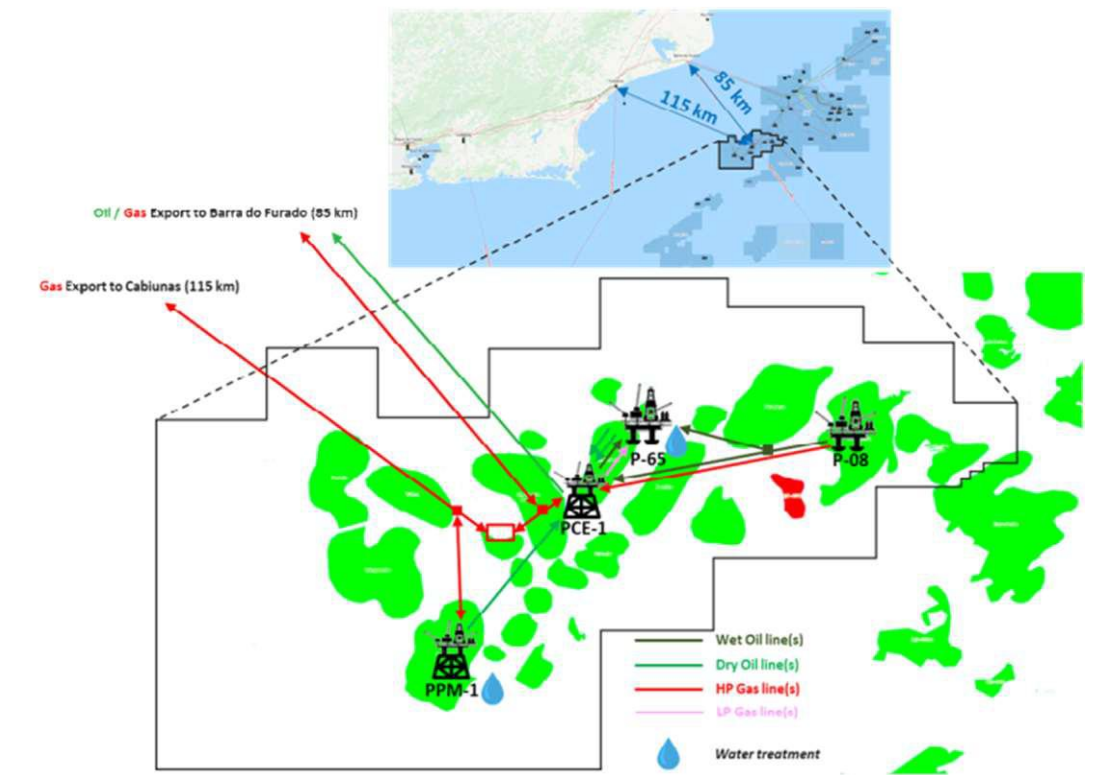
	MANAGEMENT	CONFIGURATION MANAGEMENT	NAVAL ARCHITECTURE		MECHANICAL ENG,	AUX.SYSTEMS, HVAC & PROPULSION	PROCESS	STRUCTURE			OUTFITTING				ELECTRICAL & TELECOMMUNICATION		INSTRUMENTATION & AUTOMATION	SAFETY	ILS
			GENERAL ARRANGEMENT & VARIOUS	WEIGHT CONTROL & STABILITY				STRUCTURE		FEA	PIPING	HVAC	STEEL OUTFITTING	ACCOMODATION	BASIC	DETAIL			
								BASIC	DETAIL										
SENIOR	32	2	7	1	8	13	8	14	30	11	79	12	20	10	23	31	12	1	3
M	6	0	3	1	2	6	0	3	11	2	15	5	4	5	3	5	0	1	3
JUNIOR	7	1	3	3	0	9	0	2	33	8	37	11	40	6	3	25	0	0	7
Subtotal	45	3	13	5	10	28	8	19	74	21	131	28	64	21	29	61	12	2	13
TOTAL	587																		

Proj. References



TRIDENT Energy – TOPSIDES DETAIL DESIGN

- **Location:** Trident Energy do Brasil (COMPANY) has been operating the **Pampo** and **Enchova** Clusters in the Campos basin shallow waters, offshore Rio de Janeiro, Brazil, since July 2020.
- **Assets:** PPM-1, PCE-1, P-08 and P-65
- **Current Facilities:** Oil export via 24" pipeline, gas lift/utilities, produced water overboard
- **Need for PW1:** Debottleneck produced water treatment to meet production targets
- **Duration:** 10 months



PROJECT: NEON FEED DEVELOPMENT



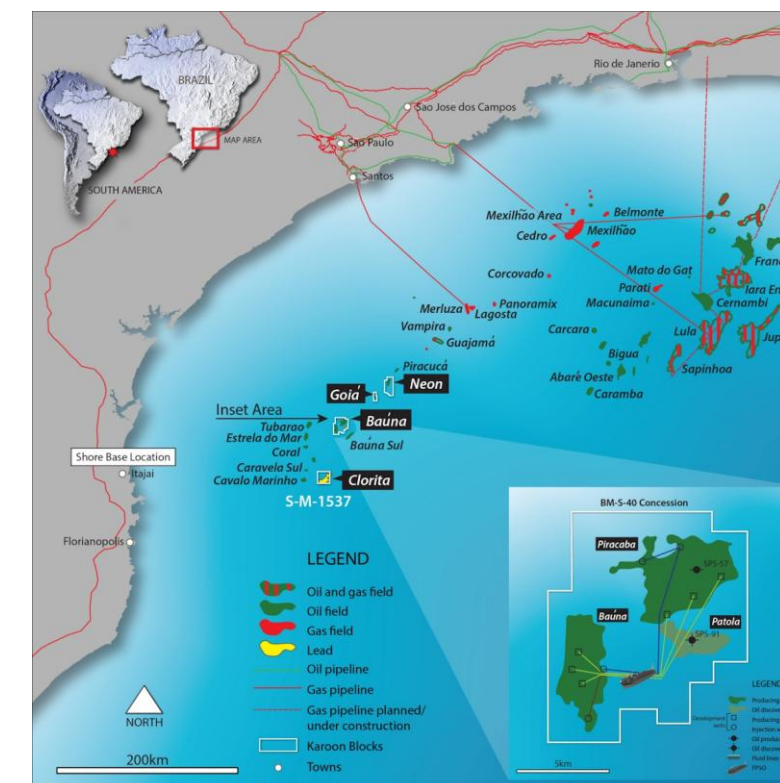
LOCALIZATION: NEON FIELD

Client: KAROOON - BRAZIL

Objective: Maximize asset reuse, reduce CAPEX, ensure regulatory compliance, and achieve First Oil.

Scope of work

- Technical definition for topsides, hull, mooring system, riser interfaces, and subsea tie-ins.
- Execution of critical studies: hull structural assessment, mooring design, hazid, and installation engineering.
- Assessment of Brazilian regulatory compliance: NR-10, NR-37, INMETRO, ANP, and DPC requirements.
- Engagement with shipyards to evaluate execution capacity and develop strategy).
- CLASS III(aace) cost estimate +/-15% aligned with regulator and class expectations.
- Development of EPCI execution plan and final bid dossier.
- Definition of early procurement strategy for critical equipment(e.G. Compressors) to mitigate EPC schedule risks.



PROJECT: OWNERS ENGINEERING



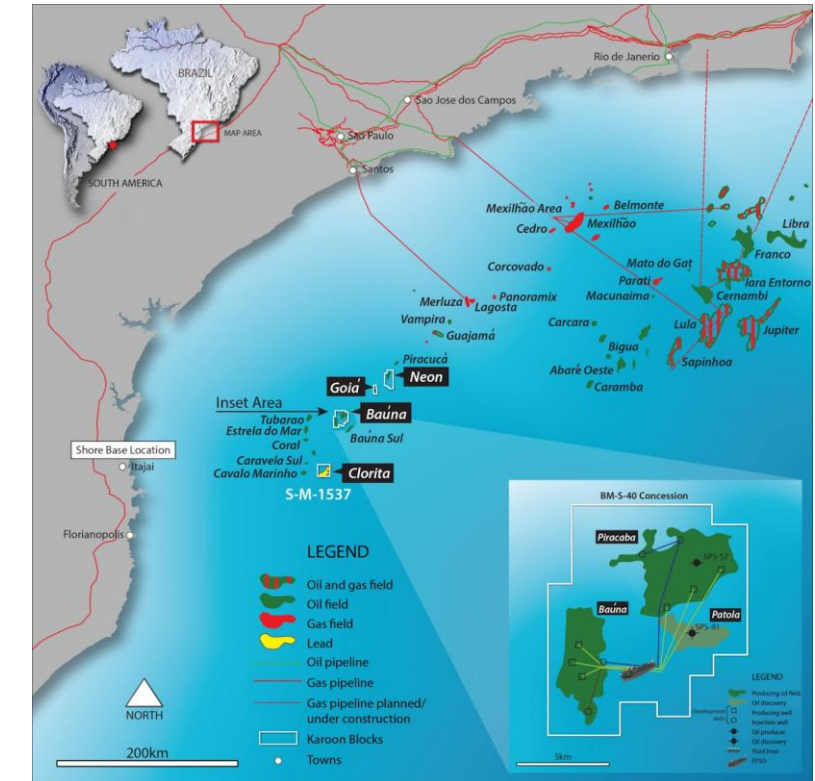
LOCALIZATION: NEON FIELD

Client: KAROOON - BRAZIL

Objective: Support Karoon in the development and implementation of the neon field project by providing technical assurance, multidisciplinary engineering reviews, and interface coordination throughout the project lifecycle, ensuring safety, cost-effectiveness, and compliance with applicable standards and regulations.

Scope of work

- Multidisciplinary review and validation of engineering deliverables (Structural, Piping, Electrical, Instrumentation, Subsea Etc.);
- Technical support and interface coordination between client, contractors, and regulatory agencies;
- Monitoring of design compliance with Brazilian regulatory framework and international offshore standards (e.g., API, ISO, NORMAM);
- Support in HAZID/HAZOP and constructability reviews;
- Assistance in procurement technical evaluations and vendor document reviews;
- Support during construction, integration, commissioning, and offshore installation phases;
- Periodic reporting and technical documentation management.



FPSO: Petrobras 78

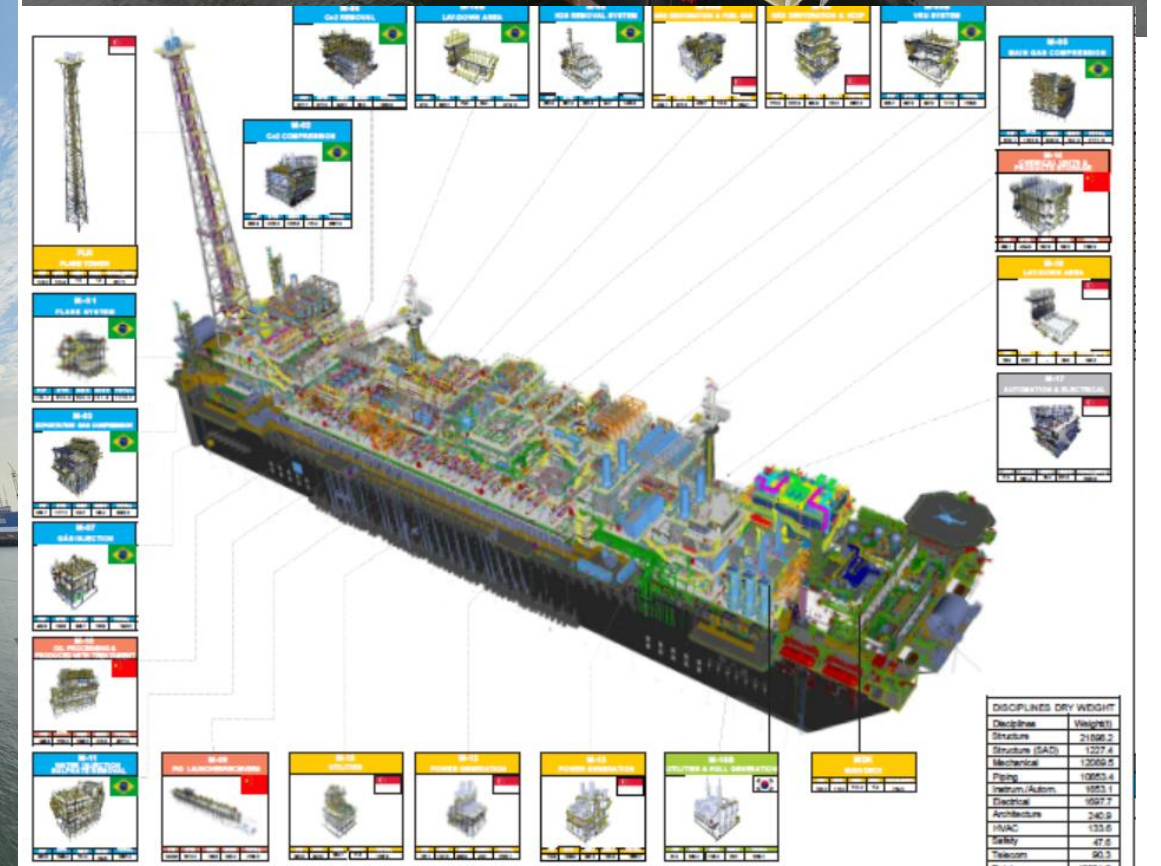
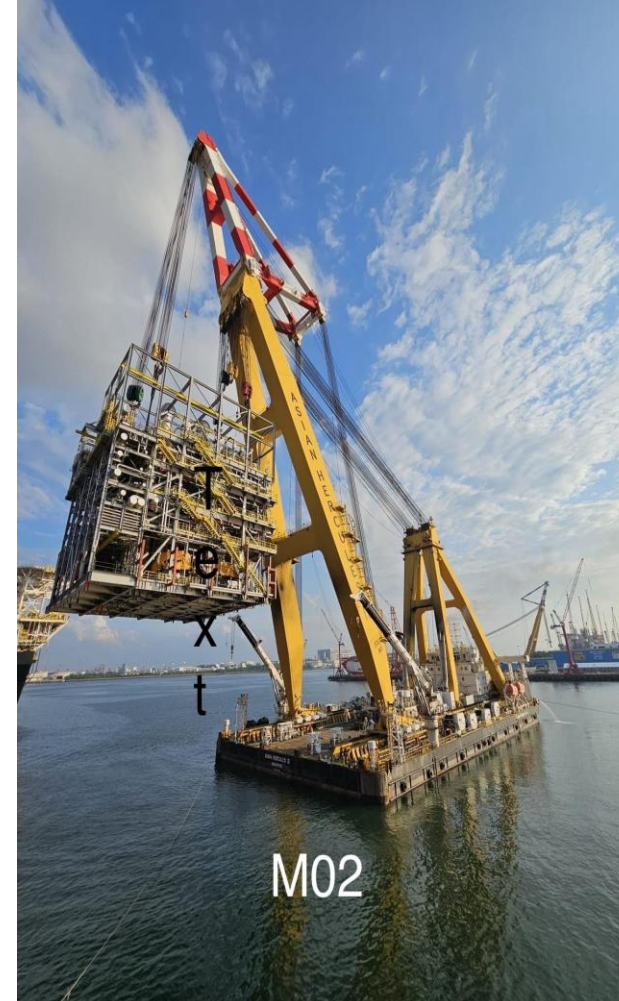
FPSOs program _ Brazil.

Shipyard: Integration in Asia.

On going Project.

Scope of work

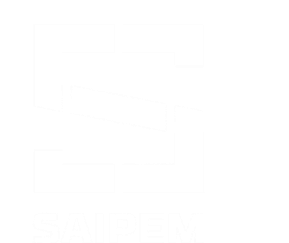
- Started by Doris Engineering Brazil. Now under Ghenova Engineering scope.
- Detail Design.
- Procurement technical support.
- Construction & Commissioning Technical support
- Integration in Asia
- Works being executed in Singapore and Brazil (Ghenova Offices in Rio)



PROJECT: CONVERSION OF KAMINHO FPSO

LOCALIZATION: ANGOLA

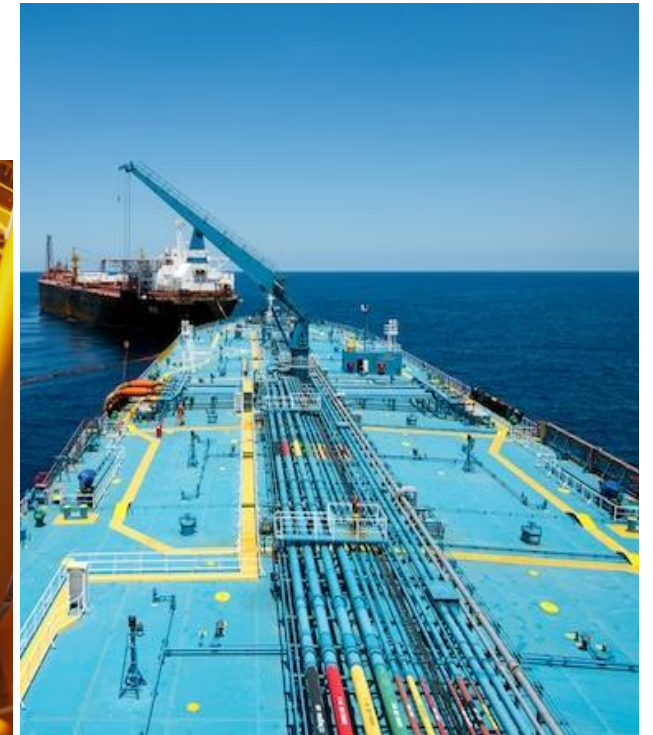
Client: EKIUM/SAIPEM



Objective: To deliver the FPSO KAMINHO based on Hull Conversion program, ensuring high production capacity, efficient gas treatment and water injection, and robust storage capability, all tailored for deepwater deployment and aligned with standardized, modular design principles.

Scope of work

- Hull Conversion Basic & Detail Design
- Crane Pedestal and Flare tower integration analysis
- FE Model Update.
- Fine mesh modeling
- Yield, Buckling and Fatigue strength check
- Report for Class Approval
- Marine Systems



FPSO Conversion

Cliente: Sofresid

CLASS BV

Designed to have the following main characteristics and functions:

VLCC Conversion to operate in a African country. To be converted in Indonesia.

Software: Aveva Marine.

IMO	9387542
SHIPYARD	Saipem's Karimun Island Yard
OWNER	Saipem S.A.
CS	BV

- ▶ **Length overall** 333,13 m
- ▶ **Beam** 60 m
- ▶ **Draught** 22 m
- ▶ **DWT** 315.981T



Scope of work

Detail engineering: conversion VLCC to FPSO, 3D Model of Olympia VLCC . Update 3D model and new construction plans using Aveva Marine.

With multidisciplinary team at client premises and a team working from Spanish offices. Hull and outfitting.

Hh: 25.350 ongoing.

Client: SBM Offshore

Projects:

- FPSO – Fast4Ward Hull.
- LIZA FPSO – Guyana. ExxonMobil
- Prosperity FPSO – Guyana. ExxonMobil
- Almirante Tamandare FPSO – Brasil. Petrobras

Scope of work

Hull basic design support.

- Team of engineers working in Schiedam doing hull basic design under SBM supervision, then from Seville offices.

Software: Aveva Marine

FEM and Fatigue analysis:

- Hull FEM studies and fatigues analysis. Several Top Sides and Hull elements.

Software: FEMAP, SDC Verifier

- **Update Aveva 3D model** documentation for FPSO 2 and revise all new documentation generated by Chinese shipyards.

- **Electrical engineering:** FPSO suppliers documentation revision.

Work done from Ghenova offices in Seville.



Ghenova is qualified by SBM as service support supplier on naval architecture and structural, piping and mechanical design.

IMO	-
YEAR	2015- on going
SHIPYARDS	TBD
Client	SBM Offshore
CS	ABS

Jasmine offshore Oil Platforms

-EPC Contractor: Dragados Offshore

-Operator: ConocoPhillips

SCOPE OF WORK

- Structural design.
- Piping & HVAC, cable trays design in PDMS software.
- Outfitting detail design, including Living quarters.
- Electrical design - ETAP.
- Production Engineering (two new topsides/bridges).
- Workshop Drawing of Primary and Secondary Structure of Wellhead, Processing and Riser Platform, using BOCAD and Autocad.





GHENOVA

ENGINEERING THE FUTURE

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GHENOVA ingeniería



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