

PROGRESSING WITH FULL ENERGY



BEOG

OFFSHORE EOLIC ENERGIES

BASQUE EOLIC OFFSHORE GROUP

EXPERTISE

TECHNOLOGY, RESEARCH...

KNOW HOW

RELIABILITY

COMPANIES NETWORK

Sum of efforts



BEOG
BASQUE EOLIC OFFSHORE GROUP
www.beog.es



The strength of our network

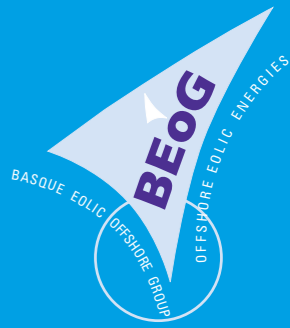
The River and Port of Bilbao lie at the heart of the Basque Country's history and its industrial and economic development. They are a focal point that has given rise to one of the most important settings for the marine industry in the Basque Country (Northern Spain). They are a kernel that over the years has flourished and spread throughout the Basque Country in an ongoing process of transformation into more advanced and innovative technology. This is the context for the creation of an industrial wind power project called Plataforma BEÓG (Basque Eolic Offshore Group), responding to an initiative rolled out by several firms grouped into the sectorial

Cluster Foro Marítimo Vasco (The Basque Maritime Forum).

This is a consolidated, powerful group, comprising over 40 highly specialised firms that are ready to provide a suitable response in the market of offshore wind power energies - one that requires holistic and highly competitive solutions.



With the same course



Presentation

The **BEÓG** (Basque Eolic Offshore Group) platform arises from the creativity and dynamism of a group of companies belonging to the Basque Maritime Forum and linked to a variety of industrial sectors related directly or indirectly to the sphere of eolic energy.

Its objective is to translate its combined resources and project development capacity to a sector with high growth potential.

The **BEÓG** platform contributes the sum total of an important series of added values:

- Experience shipbuilding, and the manufacture of the basic components of turbines, foundations, towers, generators, control systems and mooring systems etc.
- Knowledge of and compliance with classification rules and processes for marine structures.
- Design capacity (shipbuilding, structures and mooring lines).
- A reliable network of local suppliers and excellent individual reputation.

The companies that created **BEÓG** have given rise to an ever growing network of inter-related companies providing solutions in the Offshore Wind Power sector.



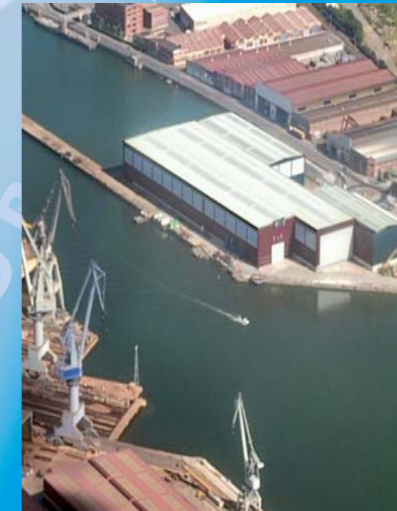
ASTILLEROS DE MURUETA, S.A. is a medium size shipyard with two construction facilities (Gernika and Erandio-Bilbao) established in 1943 and with experience in designing and building all kind of vessels (general & container cargo vessels, tuna purse seiners, dredgers, supply vessels, etc...)



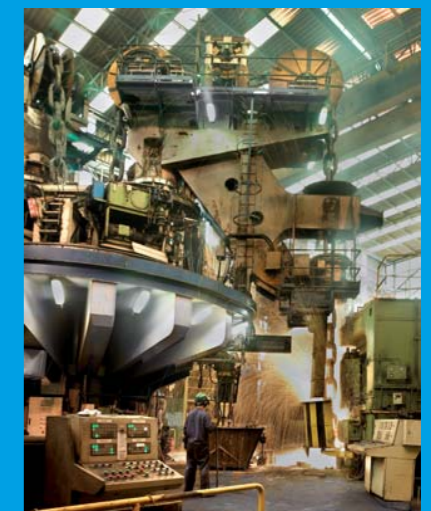
Construcciones Navales del Norte – LA NAVAL Shipyard is a fully private company which has built more than 250 sophisticated vessels during his more than 100 years life, always focused on the strict fulfilment of its commitments and a determined vocation for the achievement of high added value projects.



INGETEAM provides Wind Power Converters, Generators, Control Electronics, Pitch Regulators, Global Wind Farm Management Systems and O&M Services to wind turbine manufacturers with over 3.500 people in around 15 countries. Since 1995, Ingeteam has equipped 18 GW of wind power worldwide.



NAVACEL. The companies of **Navacel Group** have broad experience in the manufacture of Offshore, Wind and heavy metal equipment for several key industrial economic sectors. Since its foundation, compromise, innovation, and commitment to our clients, providers and human resources has been our mission.



VICINAY CADENAS S.A. is a world classed designer and manufacturer of mooring chain and accessories to 186 mm diameter in all offshore grades including R5. All our products are quality assured by the main Classification Societies, DNV, BV, ABS, LROA and API.

BEÓG platform products



6

7



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ASTILLEROS DE MURUETA, S.A. is a medium size shipyard with two construction facilities (Gernika and Erandio-Bilbao) established in 1943 and with experience in designing and building all kind of vessels (general & container cargo vessels, tuna purse seiners, dredgers, supply vessels, etc....)

FACILITIES

Technical office

- Own technical office with complete project development capability.
- Steel and piping design CAD-CAM system.

Docks and slipway

- Two dry docks: Dock nº1= 90 m. x 19 m. / Dock nº2 =100 m. x 22 m
- One slipway: 160 m. x 23 m.

Six port cranes (50/40/20/7 tons)

Steel cutting and bending area

900 m² covered area. 40.000 Tons/year capacity numeric control assisted plasma steel cutting and bevelling automatic machine, plate bending roller, profile bending machines, press, heat lines bending, etc. Two gantry cranes.



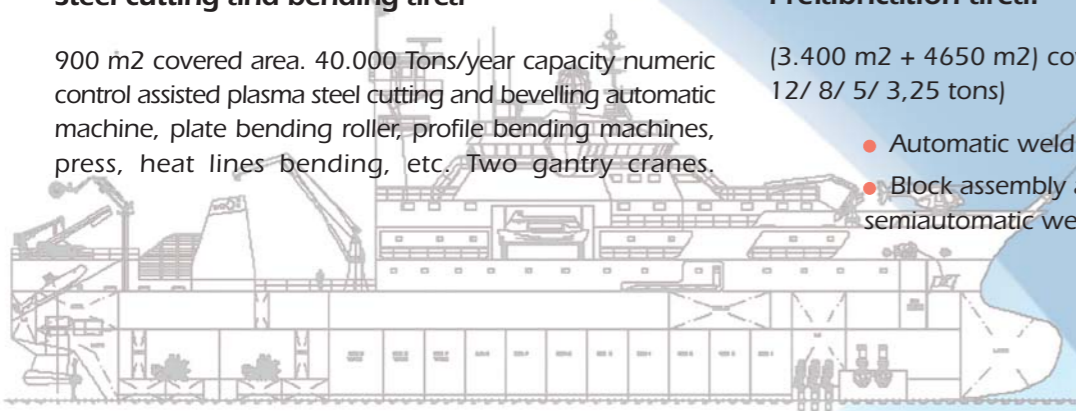
Piping workshop / machining workshop.

1.300 m² + 2250 m² covered area. Pipe cutting and bevelling machines and automatic (up to 6 inches) pipe bending machine. Information supplied by isometrics. Two gantry cranes. Fully equipped machining workshop. Two gantry cranes.

Prefabrication area.

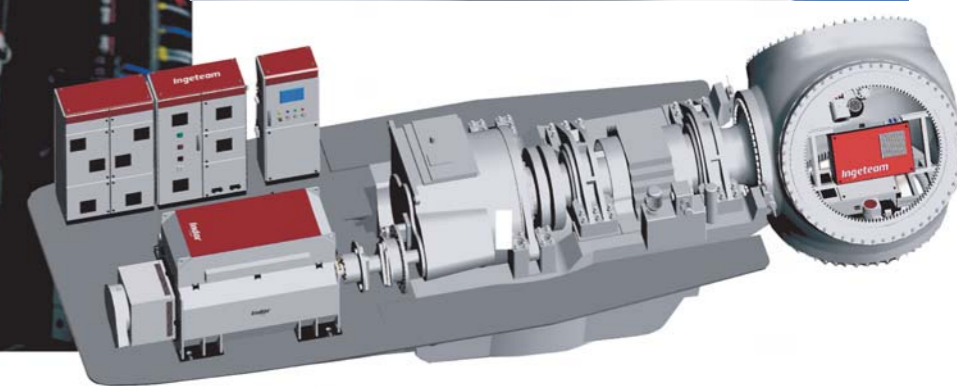
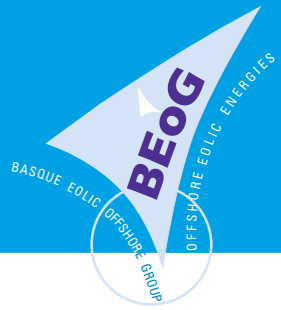
(3.400 m² + 4650 m²) covered area. Ten gantry cranes (30/12/ 8/ 5/ 3,25 tons)

- Automatic welding area. Flat panels.
- Block assembly area, using automatic and semiautomatic welding methods.



Ingeteam

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 energy@ingeteam.com
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 www.ingeteam.com



INGETEAM provides Wind Power Converters, Generators, Control Electronics, Pitch Regulators, Global Wind Farm Management Systems and O&M Services to wind turbine manufacturers with over 3.500 people in around 15 countries. Since 1995.

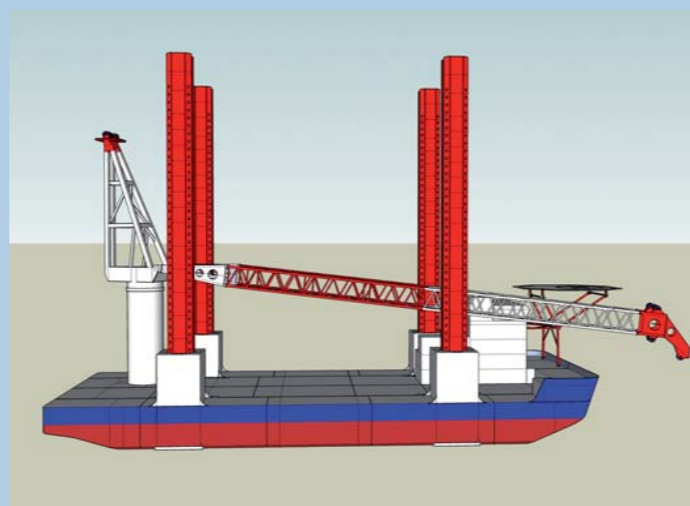
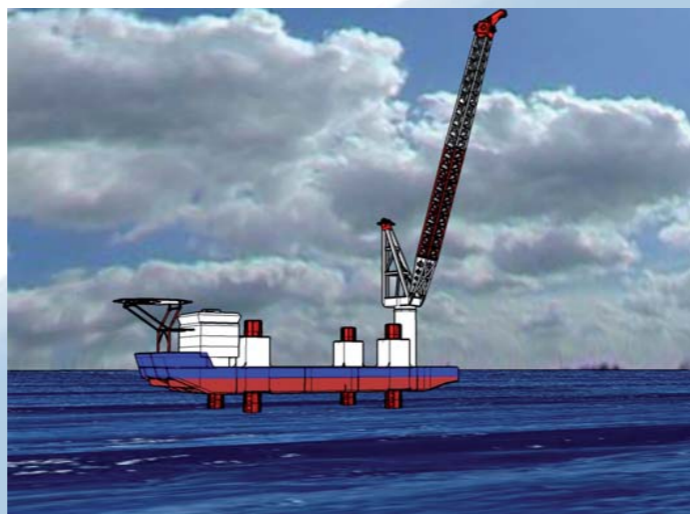
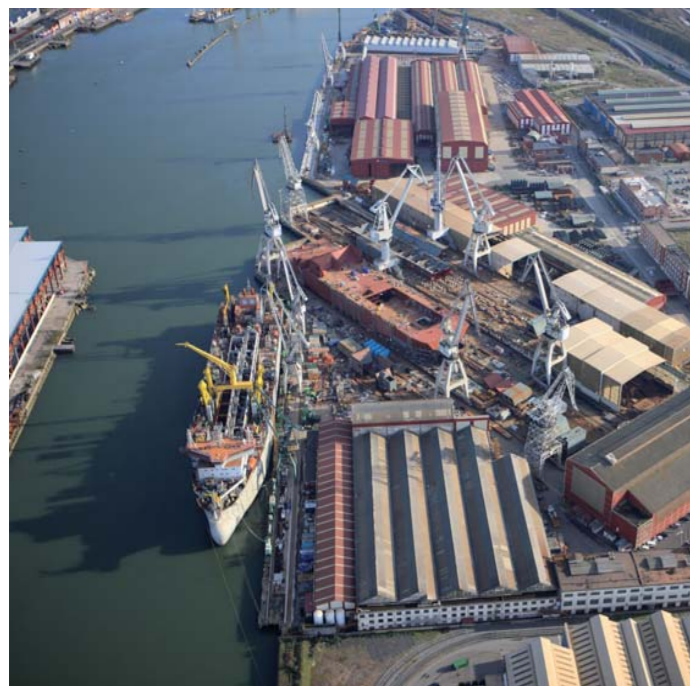
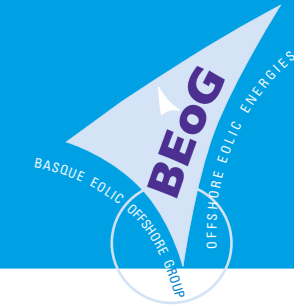
Ingeteam designs and produces **all the electric and electronic equipment required for offshore wind turbines**, using the latest design techniques and state-of-the-art technologies.

- **Power Converters - Ingecor® Wind** converters product family was first developed in 1995.
- **Electric Generators** - Permanent Magnets or Doubly Fed Induction or squirrel cage Machines fully checked in the hardest environments.

- **Control Electronics** - Ingeteam PLC family combines innovation, performance, speed and reliability.
- **Pitch Blade Control System**
- **Wind Farm Management Systems**
- **Expert Service throughout the entire product life cycle** completes the Ingeteam offer.

Since 1995, **Ingeteam** has equipped 18 GW of wind power worldwide. **Ingeteam** has also a wide experience in Marina industry, having supplied over the last 7 years generators and converters for more than 1,25 GW.

The combination of both experiences allows us be working in very different projects on a development phase for offshore wind applications (from 5 to 8 MW wind turbines).



Construcciones Navales del Norte – LA NAVAL Shipyard is a fully private company which has built more than 250 sophisticated vessels during his more than 100 years life, always focused on the strict fulfilment of its commitments and a determined vocation for the achievement of high added value projects.

The Offshore Wind market will demand in the following years the most sophisticated specialised vessels for the Wind Turbine Installation and Maintenance as well as others for Cable Laying and Support to the offshore wind farms.

LA NAVAL Shipyard is working for two years in co-operation with some of the relevant Designers, Shipowners, Turbine manufacturers and Suppliers involved in the Offshore Wind sector. We know the key aspects of the design and construction of the necessary vessels, as well as the rest of the windmill components and we have the necessary capacities.

What we offer is Design and Construction of:

- Specialised Vessels for Wind Turbine Installation and Maintenance (on a turn-key basis)
- Cable Laying and Support Vessels (on a turn-key basis)
- Windmill components.

LA NAVAL Shipyard has the following capacities to attend this challenging demand:

- a strong Engineering Dpt. with 90 persons among which 24 are engineers
- 300.000 m² of area with two slipways of 290x24,5 m and crane capacities of up to 400 tons

The companies of **Navacel Group** have broad experience in the manufacture of heavy metal equipment for several key industrial economic sectors. Since its foundation, compromise, innovation, and commitment to its clients, providers and human resources has been its mission.

The mix of expertise and skills among its team of 170 employees ensures high reliability, high performance and high quality in the process of boiling, rolling, welding, machining, painting, and assembly.

Its certification and testing procedures guarantee a uniform and constant product quality. Its management system complies with the Standard **ISO 9001:2008**. NAVACEL is duly authorized by **ASME** stamps "S" "U" "U2" and GL for welding workshops.

It has up to 40.000 square meter manufacturing premises, (148.700 sq m industrial land). Its main manufacturing location is just beside Bilbao's river, provided with loading dock for heavy equipment. Its manufacturing capacities are as follows,

- Our own loading dock at Port of Bilbao.
- Main door of 27 m wide, 16m high
- Overhead cranes up to 450 Tn.
- Hook height 14 m.
- Rolling plate up to 120 mm thickness, 4.000 mm length.
- Painting cabin 10m x10m x 37m, pressurized and temperature and humidity control.
- Blasting cabin 10m x10m x 37m with automatic collect system.

- Milling capacity up to 18m x 5m.
- Vertical lathe up to 12m ø x 3,2m high.
- SAW Welding machines up 9m.
- Cutting machines CNC 5m up 300mm thickness in carbon steel and 75mm thickness in inox.
- Cuttings machines with 6 heads, up to 300 mm thickness in carbon steel. Capacity up to 40m length x 8m width.
- Heat treatment furnace, 5m x 5m x 12m.

The company has broad experience in the production of heavy equipment for offshore energy projects, oil and gas, and the manufacture of towers and foundations parts for onshore wind energy farms.

As for offshore wind energy farms it can manufacture towers, floating towers up to 9 m ø, transition pieces for monopiles and jackets, monopiles, skirt piles, legs for jackets & tripods, tendons, SPARS, Arc Buoys, suction anchors.



Vicinay Cadenas S.A. is a world class designer and manufacturer of mooring chain and accessories to 186 mm diameter in all offshore grades including R5. All our products are quality assured by the main Classification Societies, DNV, BV, ABS, LRQA and API.

PRODUCTS AND SERVICES

Vicinay Cadenas is located in Vizcaya Northern Spain, with plants for the manufacture of chain and accessories.

Chain Manufacture

100% output of high tech chain for offshore industry. Located in Bilbao, chains from 60 mm up to 185 mm bar diameter are made, (individual links up to 210 mm) with no restrictions as to length or weight.

Present manufacturing capacity allows us to supply 36.000 tonnes a year in qualities R5, R4S, R4, R3S, R3 and ORQ as well as VGW® tailor made to customer needs.

Accessory Manufacture

Located in Galdames, Norther Spain, this plant manufactures accessories for the offshore industry from standard D-type Shackles to specialised H-type shackles, LLLC® links, plates and connecting pieces made to customers' requirements. Present production capacity is 1200 tonnes of forged pieces per year. Present maximum forged weight per component is 3000 kilos. For special designs cast components may be delivered. Qualities R5, R4S, R4, R3S, R3 and ORQ as well as tailor made to customer requirements.



Engineering

- Offshore assistance. Several of our engineers ar OPITO and OLF qualified.
- Chain loading /unloading assistance.
- Fatigue testing on chain up to 186 mm in wet media and 0'2-0'8 Hz.
- Special methods testing.
- FEA, fatigue, OPB, Torsion, SCC calculations and Mooring Design support.



Group capacity for production of the BEÓG platform for marine wind farms

<h3>Steel work</h3>	
<p>Plate and machining</p>	
<p>Piping</p>	
<p>Production of mooring line components, chains, accessories and other forgings</p>	
<h3>Prefabrication</h3>	
<p>Pre-assembly</p>	
<h3>Finishing (surface treatment)</h3>	
<p>Blasting, shotblasting and coatings</p>	
<h3>Storage area</h3>	
<p>Large open air spaces</p>	
<h3>Access to the sea</h3>	
<p>Port facilities/outfitting</p>	

Experience of the BEÓG platform in mooring line components, chain and accessories for marine wind farms

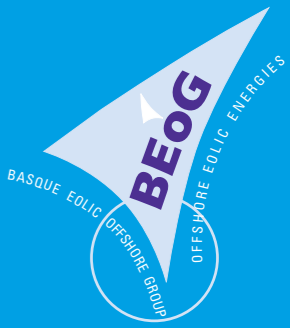
- Companies with experience in offshore products
- Shipbuilding. Capacity for installation, supply and maintenance vessels etc.
- Basic turbine components.
- Foundation elements, nacelles, intermediate pieces for the towers, etc.
- Mooring line components, chains and accessories.
- Companies with capacity to manufacture products with the highest quality standards including certification by DNV, Lloyds Register, Bureau Veritas etc.

BEÓG platform capabilities

- Design capability
 - Marine design (preliminary and detailed)
 - Detailed structural design
 - Mooring line and components design
- Knowledge of and compliance with classification rules and processes for marine structures.
- Thorough knowledge of manufacture of products to withstand marine conditions: vessels and components, chains and accessories etc
- The group unites knowledge of the marine construction, eolic and oil and gas (products and business processes), electronic components, chains and accessories, structures, etc.
 - Ample manufacturing, assembly and finishing facilities for metallic structures with direct access to the sea.
 - Reliable network of local suppliers
 - The added value of a group of companies of recognised international prestige.



With the same course



ABGAM
GRUPO SEGULA TECHNOLOGIES
ABGAM - SEGULA TECHNOLOGIES

ALTAIR
ALTAIR YATES

simulación análisis y a.s
ANÁLISIS Y SIMULACIÓN

astillero Ignacio Olaziregi
ASTILLERO IGNACIO OLAZIREGI

AZ
ASTILLEROS ZAMAKONA S.A.
ASTILLEROS ZAMAKONA S.A.

BURDINBERRI S.L.
BURDINBERRI S.L.

azcue pumps
BOMBAS AZCUE

BAM
BAM

centork
VALVE CONTROL
CENTORK

CINTRANAVAL-DEFECAR
CINTRANAVAL-DEFECAR

EQUIPAMIENTOS EOLICOS elevation technology
EQUIPAMIENTOS EOLICOS

ELECPASAIA
ELECTROMECHANICA PASAIA

FORO MARÍTIMO VASCO
FORO MARÍTIMO VASCO

GUASCOR - DRESSER-RAND
GUASCOR - DRESSER-RAND

Indar
An Ingeteam brand
A member of Ingeteam GROUP
INDAR ELECTRIC, S.L.

INDASA
INDASA INDUSTRIAL DE ACABADOS, S.A.

INGEINNOVA group
INGEINNOVA GROUP

JUNTAS BESMA S.A.
JUNTAS BESMA

KSB ITUR BOMBAS
KSB ITUR SPAIN, S.A.

LASA NAVAL OTN
LASA NAVAL OTN, S.L.

MAESSA
MAESSA

MAPIÓNICA
MAPIÓNICA GEOREFERENCIAS S.L.

MENSA
MONTAJES ELECTRICOS NERVION, S.A.
MENSA MONTAJES ELECTRICOS NERVION, S.L.

MONCOBRA, PROYECTOS Y MONTAJES, S.A.
MONCOBRA, PROYECTOS Y MONTAJES, S.A.

obeqi
OBEKI GROUP

OCINORTE
OCINORTE - OCINAV, S.L.

Pine
A member of Ingeteam GROUP
PINE INSTALACIONES Y MONTAJES, S.A.

QUIMYCAT
Tecnologías Medioambientales Químicas y Catalizadores, S.L.
QUIMYCAT

ROXTEC
ROXTEC SISTEMAS PASAMUROS

SENER
SENER INGENIERIA Y SISTEMAS, S.A.

SINTEMAR
DESDE 1961
SINTEMAR (Sistemas Industriales y Navales), S.L.

SLING
SUPPLY INTERNATIONAL, S.A.
SLING SUPPLY INTERNATIONAL, S.A.

gometegui
TALLERES GOMETEGUI, S.L.

T.M. KAI ALDE, S.A.L.
TALLERES MECANICOS KAI ALDE, S.A.L.

TRADEX
shipbrokers
TRADEX, S.A.

ZINETI, S.A.
PROTECCIÓN CATÓDICA
ZINETI, S.A.

ZUMAIA offshore
ZUMAIA OFFSHORE, S.L.

WARTSILÄ
WARTSALIA IBERICA

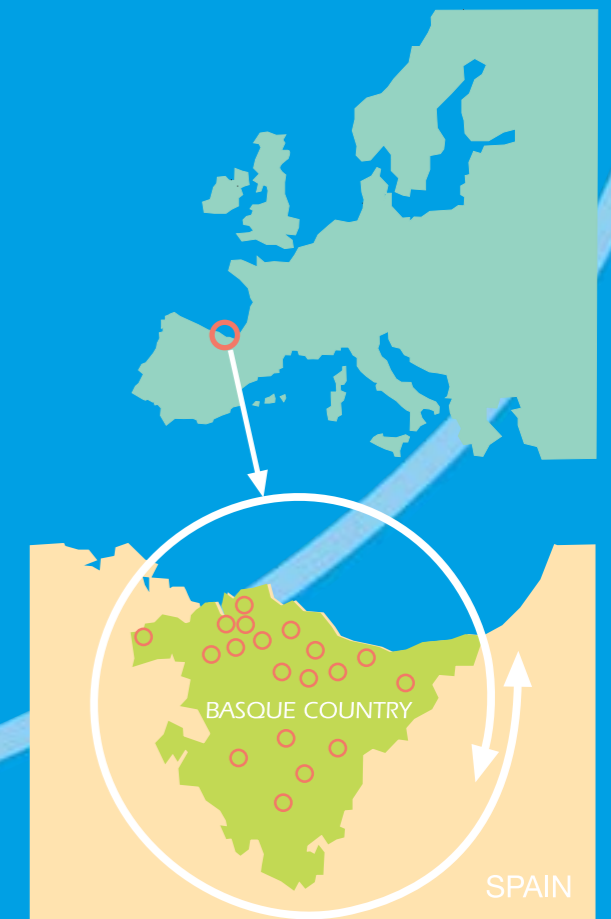
Bilbao PORT
Autoridad Portuaria de Bilbao
BILBAO PORT

We have a great team

The BEÓG Platform, the brainchild of the creative initiative of five pioneering companies, has evolved into a powerful and very active group that now has the necessary capacity to undertake integral projects.

All the firms making up the BEÓG Platform are located in the Basque Country and reflect the innovative spirit and competitiveness of an industry that is widely admired throughout the world.

The BEÓG Platform is in a position to provide the market with all its technological know-how and services with a view to addressing any project in offshore wind power.





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ABGAM

“**ABGAM - SEGULA Technologies Group** is an Engineering and Consulting firm with more than 10 years of experience in the Naval and Wind Power sectors. ABGAM has 11 engineering offices throughout Spain with more than 450 professionals working in Staffing and Fixed Price Projects.

ABGAM Wind Power division offers both work packages and turnkey projects to its clients in the different areas of sector: design, stress analyzing, certification, manufacturing, assembly and tooling of nacelles, rotors, blades and towers.”



-3

ALTAIR YATES

We are a shipyard specialized in all type of boats built in composites (polyester, carbon fiber, etc). We are located in the Port of Pasaia and we have installations for building ships of up to 35mts in length.

We are supported by extensive experience in the design and construction of various types of boats, trawlers, tuna fishing, recreational fishing yachts, fishing ships, passenger ships, diver ships and high performance yachts.

We have our own engineering and is one of our added values, allowing research of new manufacturing technologies and new ship designs.



ANÁLISIS Y SIMULACIÓN

Mechanical engineering company specialized in wind turbine design, development and certification. The company designs directly for different manufactures in the following fields:

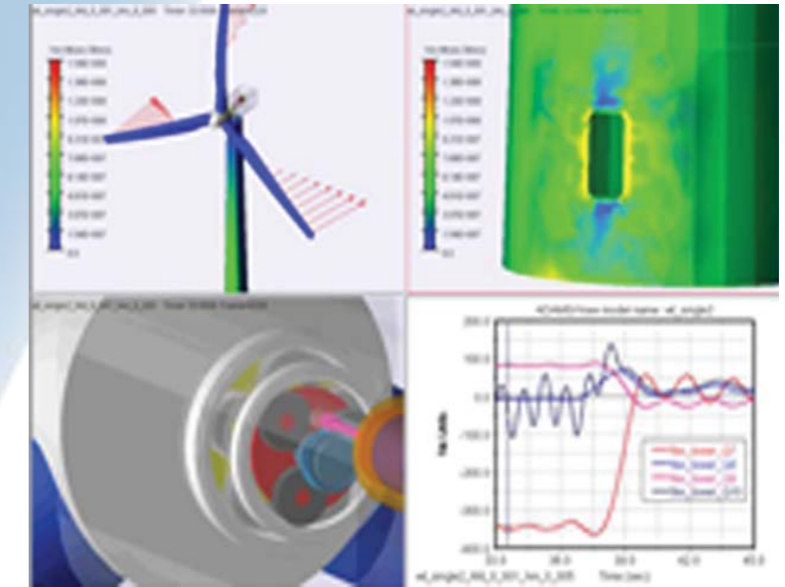
DESIGN & FINITE ELEMENT VALIDATION

● Product and Tooling Design; foundations, tower and welding dimensioning, power train, axle, hub and blades. Product design and process design for tooling of manufacturing, transport and handling tooling for the different components.

● Design standards: Germanischer Lloyd, Eurocode 3, ASME for analytical analysis for fatigue, static, dynamic, kinematics, CFD.

MANUFACTURING

AyS delivers turnkey tooling and component solutions.



ASTILLERO IGNACIO OLAZIREGI

Astillero Ignacio Olaziregi shipyard has a proven track record in the shipbuilding sector.

Thanks to the experience accumulated since the company was founded over 40 years ago, it has acquired a broad and varied knowledge of building all types of vessels made out of wood, polyester reinforced with fibre glass, carbon fibre with epoxy resin and using vacuum and infusion techniques.

The company is known for its ability to adapt to the requests of each customer, whether a private individual or public authority, to construct any type of vessel (small dinghies, motorboats - with and without cabin -, leisure fishing boats, professional fishing boats, passenger catamarans, trawlers and racing trawlers, maritime rescue..), along with fitting out the vessels and refurbishing work.





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in the marine and offshore market

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 fax: +34 945 24 89 66
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ASTILLEROS ZAMAKONA Shipyards

ZAMAKONA is a Spanish Shipyard Group specialized in new build of offshore vessels for worldwide Owners like SVITZER, VROON, etc... Further we perform also repairs and conversions. In the Basque Region, ZAMAKONA has 2 facilities:

- In BILBAO, new build up to 120 m, 2 slipways;
- In PASAJES/SAN SEBASTIAN, new build up to 80 m, 4 slipways and a floating dock (4.500 t).

Further with REPNAVAL a third yard belonging to the Group and located in LAS PALMAS/Canaries, ZAMAKONA provides assistance up to North West Coast of Africa. The THREE companies are fully ISO certified.

ZAMAKONA is focused on vessels 100% custom tailored to the Client's needs with a high added technical value. ZAMAKONA proposes a wide



spectrum of vessel types starting on tugs, AHTS... up to Research, Seismic and Well Stimulation vessels. In the field of the offshore wind industry, we are proposing accommodation supplies with a stabilized gangway, service vessels...

The designs are all supplied by international Designers like IMT, WARTSILA, ROBERT

ALLAN etc... The ships are completely built in the yards, including the steel hull.

The production procedures are according IACS (BV, DnV, GL, LR), taking also into consideration the national Maritime Authorities of the Owner's country, like MCA for example.

AZCUE PUMPS

- Azcue Pumps was founded in 1910 .
- Manufacturer of pumps specialised in the of marine and offshore market with large range pumps to fulfill all pumping needs.
- We have the own foundry , exclusively used for own manufacturing requirements, which gives the company the flexibility to supply the orders with good delivery times and attractive quality/price ratio.
- The quality system is according to Iso 9001 and certified by Lloyds Register of Shipping / Lrqs.
- The service of Azcue Pumps is supported by a network of 90 distributors worldwide with 24 hour service and stock of spares.
- Quality-Price , delivery time and service makes Azcue Pumps a company to be considered for projects, newbuildings and even for the delivery of single pumps, due to the high flexibility of the company.

Manufacturing programme:

- Complete range of pumps for all types of ships
- Centrifugal pumps
- Centrifugal self-priming pumps



- Selfpriming pumps
- Side channel pumps
- Gear pumps
- Screw pumps
- Compact unit serie Azcue-Bloc
- Vortex pumps
- Hydrophore equipments
- Fire fighting pumps
- Pumps for horizontal/vertical execution
- Vertical in-line centrifugal pumps
- Vertical in-line selfpriming centrifugal Pumps
- Pumps on special executions

BAM

This maritime service company prides itself on its immediate response for underwater and marine operations in ports and at nearshore/offshore marine facilities.

The main services provided are:

- Maritime advisory services
- Diving
- Vessel salvage
- LCC-Pollution
- Underwater facilities
- Equipment rentals
- Hydraulic works



BURDINBERRI

Burdinberri S.L. was founded in 1990, with the aim of giving a high quality and precision machining service in large tooling and pieces.

We are specialists in the milling of every kind of material, such as steel, inox-steel, aluminium, titanium, invar (36% nickel-steel ñ NILO 36), etc. up to 14 m. length pieces.

Specialists in key-turn projects, our service includes from engineering to assembly and fine-tuning in our customers facilities.



**CINTRANAVAL-DEFCAR, S.L.**

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www.equipamientoseolicos.com

CINTRANAVAL-DEFCAR

CINTRANAVAL-DEFCAR,S.L. is a highly reputed Spanish **ship design** office backed with **45 years** of proven experience and more than **550 high-tech and innovative projects**.

CINTRANAVAL-DEFCAR,S.L. has already worked for shipyards and shipowners from **30 different countries** providing Basic Design, Classification Design and Production Engineering of the most diverse types of vessels. Among the developed projects can be found all type of Offshore Vessels and work boats like: **PSV (Platform Supply Vessels), AHTS (Anchor Handling Tug Supplies), DSV (Diving Support Vessels), CFV (Control Field Vessels), Stand-by vessels, etc...**



CENTORK

Manufacturer of multiturn electric actuators on-off and modulating duty for torques from 7,5 Nm to 6.000 Nm for linear valves and from 30 Nm to 350.000 Nm for quarter turn valves.

FieldBus Communication, Eex ATEX, IP68. Thanks to its exclusive and patented PTCS system (planetary torque control system), the Centork electric actuators provide a higher mechanical performance with low consumption, a high precision on the adjustment of the torque/thrust applied and a very compact design.

Manufacturers of pneumatic and electropneumatic positioners. The PR 700 series includes a number of options available (limit switches, 4-20 mA position transmitter, Eexia II CT6, mechanical position indicator) in a modular design.

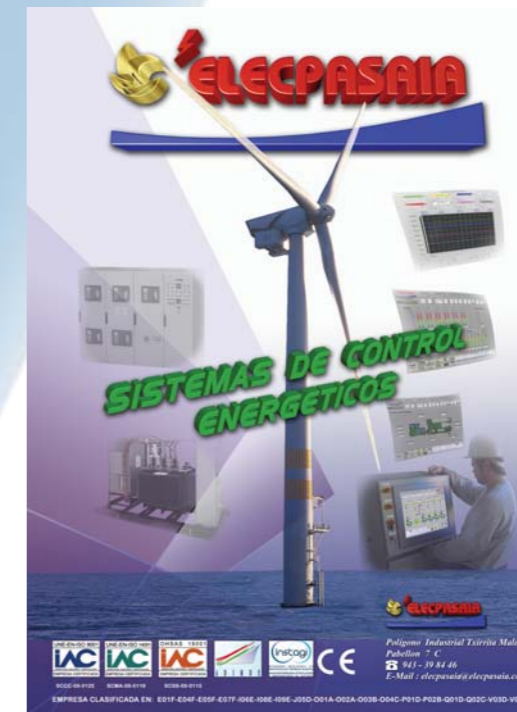
Manufacturer of linear and quarter-turn (scotch yoke mechanism for big torques) Pneumatic and Hydraulic actuators.



ELECTROMECANICAS PASAIA

With more than 20 years experience in the world of industrial and naval electricity, ranging from the manufacture of complete projects, installations, marine and industrial "turnkey" assemblies, to reforms, upgrades, maintenance, after-sales and facility improvements.

We specialise in management, control, supervision and automation systems (based on new technologies, PC, PLC, SCADAS, etc.) for industrial plants, energy plants, naval plants, etc.



EQUIPAMIENTOS EÓLICOS

Equipamientos Eolicos has been market leader since more than 10 years for Rack-and-Pinion elevation systems for windturbine towers, over 1.500 units installed.

Located 5km away from Bilbao Int. Port, the company is focused on Brazilian & European onshore+offshore windpower markets. Equipamientos Eolicos sets up the global trend in elevation technology designing certified systems, the best in the world, patented.

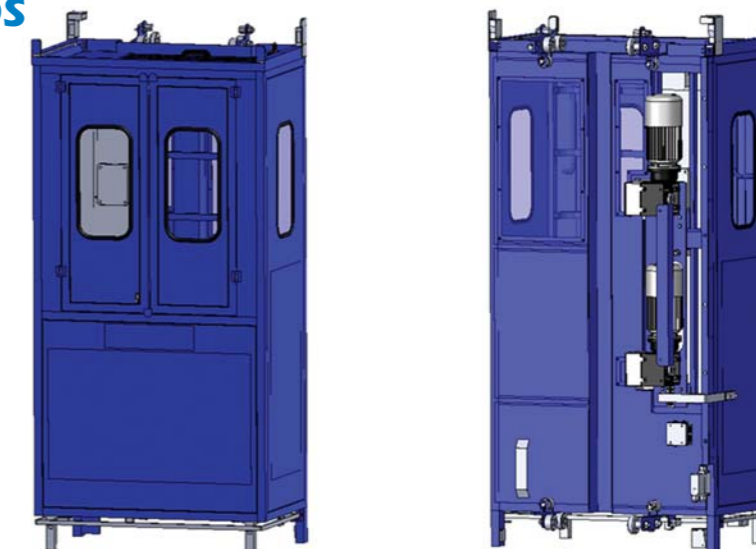
Products

Complete Rack-and-Pinion Elevation systems including:

- Different capacity elevators Bigger, Stronger, Offshore oriented
- Innovative Fall Arrest systems The safest in the market, patented
- Guide-ladder + Guide-rail welded systems Save assembly time Save money

Services

- Tailor-made Rack-and-Pinion elevation system design
- Tower-integrated designs
- Training courses for assembly and O&M.
- Study, design & installation of new elevation systems in old windturbines
- After-sales technical support



GUASCOR - DRESSER-RAND

Maritime

Thanks to its experience acquired in the sector over more than 40 years, GUASCOR is fully aware of the conditions in which maritime engines operate. These engines have been designed and manufactured to work under hard conditions with minimum fuel consumption.

Auxiliary and propulsion engines

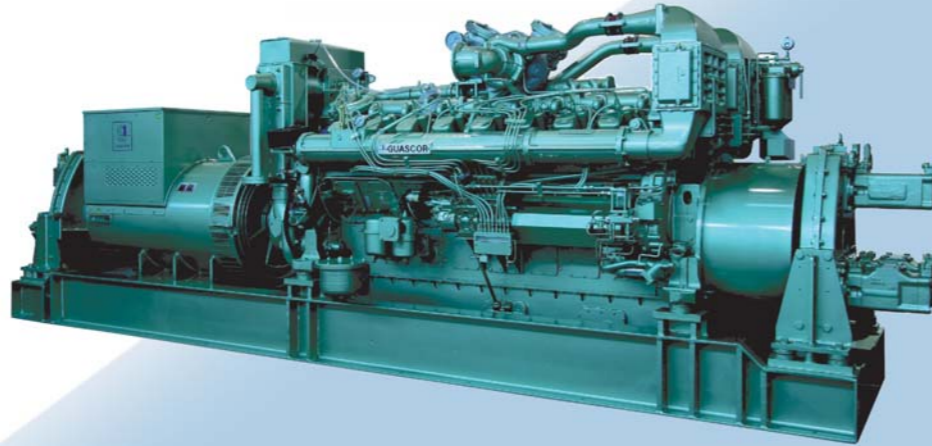
Faithful to our origins, we continue to serve the fishing and maritime sector, where we supply their fleets with auxiliary and propulsion equipment, to the full satisfaction of the owners and skippers. We likewise comply with the most demanding emissions requirements.

Differentials

Wide range of differentials for our propulsion engines.

Propulsion systems

We can supply the complete propulsion system made up of the propeller, nozzle, axle and differential.



INDAR A member of Ingeteam GROUP

Design and manufacturing of electrical rotating machines:

- Oil or air filled submersible motors for depths up to 1000 metres.
- Wind generators, for variable pitch turbines, asynchronous double powered or synchronous with permanent magnets, and the Clean Power Series, xDFIG innovative technology.
- Direct Current Motors
- Synchronous generators for hydro generation and for cogeneration and the Naval Sector.
- Asynchronous and synchronous motors



INGEINNOVA GROUP

“INGEINNOVA is an Engineering with experience in tidal marine Energy, subsea connectors (HUB’s), and Aeronautic Engineering to develop innovative blades in wind generators; INGEINNOVA works in innovative fields, to collaborate with other companies and to develop and investigate new ways in renewal Energies.”

“Design Engineering, Process Industrialization, Development of new tidal energies, collaboration with companies in the development of new products. “



INDASA

The main activity of Indasa has been for more than 40 years, metal surface treatment and application of finishes, highlighting its global leadership in the treatment and repair of tanks of ships.

It has played its activity in different sectors: Maritime, Industrial and civil, involved in both new construction and maintenance, performing the following activities:

- Vessel and tanks Cleaning
- Steel preparation
- Surface Treatment
- Coatings Applications Scaffolding and elevation systems&methods.

Our experience, know-how, quality and strict compliance with deadlines, makes Indasa into one of the leading specialist in the world.





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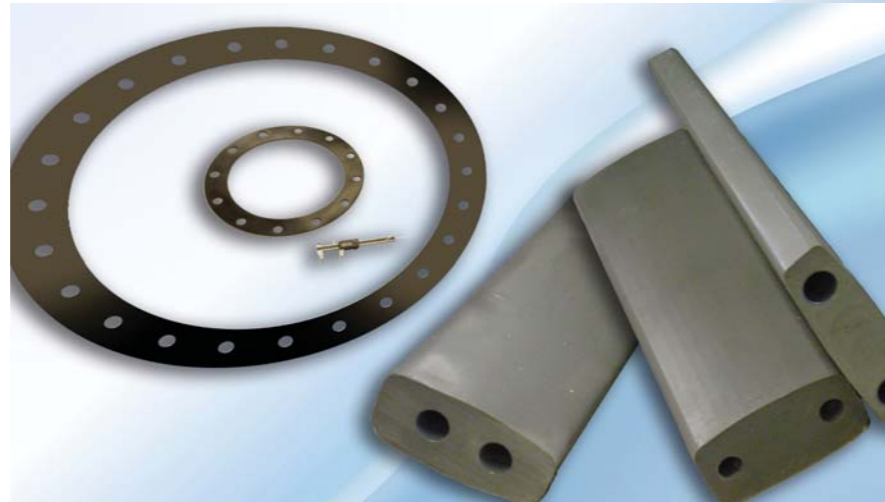
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JUNTAS BESMA

Juntas Besma, S.A. produces several technical products for aerogeneration industry such as oil seals, v-rings, EPDM profiles, vulcanized, polyurethane and Vulkollan products and special sealing gaskets.

Juntas Besma, S.A. specializes in these type of applications, being pioneer in their development and having acquire a broad experience.



KSB ITUR

KSB ITUR started its activity in design and fabrication of pumps and equipments in 1920.

Member of the multinational Group KSB since 2003, KSB ITUR had its product range increased suiting all applications in Water, Sewage, Desalination, Energy, Industry, Building, Marine and Mining. KSB ITUR specializes in offering energy efficient pumps and systems which reduce the cost of energy significantly.

The development of new materials, the manufacture in its new production plant located in Zarautz and in other KSB international productions centres, and the testing in its own automatic test bench facilities, associated with its capacity to recognize synergies and to implement complete and profitable solutions, made KSB ITUR an indispensable reference for quality, reliability and service.



LASA NAVAL OTN

Naval engineering company specialising in projects for vessels and marine artefacts. Experience in projects for fishing boats, tugs, patrol launches, fishing barges, pontoons, crane barges, oil tankers, pleasure craft and artefacts. The main activities are:

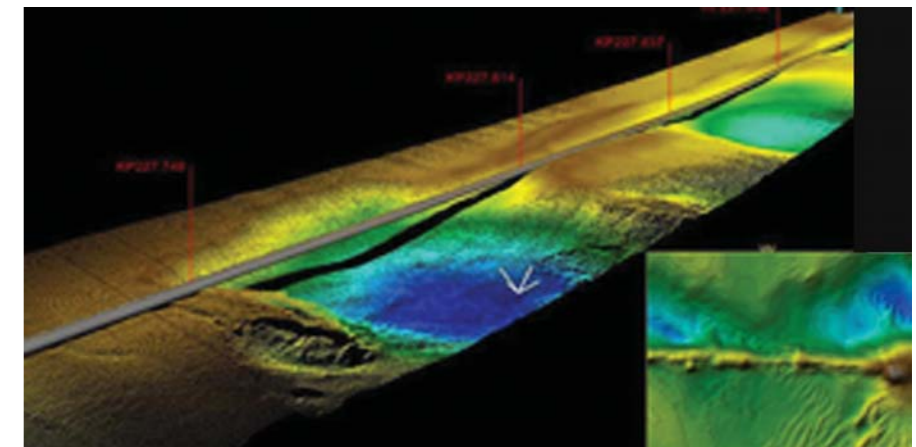
- Design and conceptual study
- Structure design
- Hydrodynamics and naval engineering



MAPIÓNİKA

MAPIÓNİKA is an engineering company which is specialized in design and programming applications based on Geographic Information System (GIS) and other geographic information technologies such Spatial Data infrastructures, Remote Sensing, Global Position Systems and other areas related to Geomatic.

MAPIÓNİKA offers digital solutions tailored to the customer in two major market areas: GIS (Geographic Information Systems) and LBS (Location-Based Systems).





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MAESSA

MAESSA is a company that specializes in the Naval Construction Sector, having a team of great experience and a great number of references and clients. Maessa also consolidated in the sectors of Industry, Buildings and Infrastructure:

- Major Activities:
- Steel
- Weapons
- Insulation
- Maintenance
- Repairs
- Vessel Type
- Military
- Off-Shore
- Passage
- Chemical tanker
- Gas Carrier
- Merchant
- Oceanography



MENSA Montajes Eléctricos Nervión

Company profile:

MENSA has specialized during the last 10 years on turnkey projects for electrical shipbuilding installation. The projects comprise: electrical project, installation, commissioning, dock and overseas test. All throughout its 30 year experience, MENSA has also done installation and maintenance works in the land industrial area, specially in the energy and iron and steel sectors.

Products/services:

Electrical engineering, installation, commissioning and maintenance. Main references: Metro Bilbao, Construcciones Navales del Norte, I.T.P., Astilleros Gondán, CLH, Repsol and Babcock Wilcox.



MONCOBRA

Moncobra has been working in the offshore construction and naval construction for 30 and 37 years respectively, and has an exceptional reputation in both fields. likewise it has taken part in the assembly procedure of many inland wind farms.

Offshore construction

- Jacket
- Decks
- Process module
- Power module
- Accomodation module
- Semi-submersible

Offshore transformations

- Semi-submersible
- F.P.S.O.
- F.S.U.

Naval construction

- M.O.T.
- Shuttles
- Ing
- Aircraft carrier
- Frigates.
- Oceanic patrols
- Submarines
- B.A.C.



OBEKI

Company specialising in designing and manufacturing electrical rotating machinery with over 50 years of experience in the sector. Its product range includes:

- Brake couplings
- Three-phase standard motors with squirrel-cage rotor
- Slip ring motors
- Torque motors
- Permanent magnet generators
- Asynchronous generators

Specification aimed at renewable energies, lifting equipment, shipbuilding and iron & steel sectors, etc.



OCINORTE-OCINAV

Ocinorte is a specialist seller and installer of nautical electronics and electrical goods with over 20 years' experience. It has reached a co-operation agreement with **Whisper Power**, a leading firm in the energy solutions industry.

The broad range of products covered runs from the well-known fixed-speed diesel generator sets from 3 to 25 kW, through variable speed generator sets from 10 to 200 kW to new-concept hybrid "Genverters".

Ocinorte sees hybrid propulsion as the first step towards clean energy, and presents an electric motor for shafts with ion lithium accumulator cells.



PINE Instalaciones y Montajes - A member of Ingeteam GROUP

We specialize in the engineering, assembly, supply and electrical maintenance of products for Shipbuilding, Industry, Civil Infrastructure, Energy and Rail sectors.

We have carried out important electrical installation projects in different types of vessel and offshore platforms: equipment assembly, cable trays, cable laying, connections, supplies, trials...

We have also carried out over 30 turnkey supplies for electrical equipment in vessels, being national leaders in this sector.



QUIMYCAT

Industrial and chemical cleaning and environmental services (suction and cleaning of septic tanks and sewage systems, unblocking pipes, special cleaning using high-pressure water, integrated waste management, etc.). It works with a wide variety of sectors: refineries, power stations, paper mills, sugar factories, petrochemical plants, iron and steel companies, shipyards, etc.

The company also seeks to provide the widest range of services that the market demands.



ROXTEC

How to seal the cables in the newly developed Off-shore Windfarms? This question can become a major issue for developers & owners.

Roxtec uses its long experience from offshore challenges and designs specific solutions for cable sealing on the Off-shore Windpower. The Roxtec sealing system is actually specified for use all over the platform to ensure Saltwater resistant, water-tightness, gas-tightness, fire protection.

The flexible sealing solutions even provide spare capacity for future needs and cable expansions.





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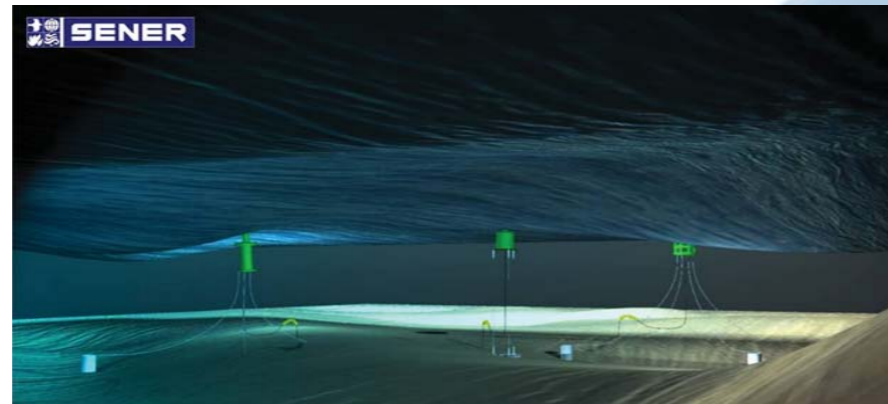
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SENER

SENER Ingeniería y Sistemas, S.A. is an engineering, construction and systems integration company backed by more than 50 years of experience. Founded in Spain as a marine engineering company, SENER today is an international leader in Marine Engineering and Systems Developer, Civil Engineering and Architecture, Aerospace Engineering, Aeronautics and Vehicles, Actuator and Control Systems and Power and Processes. More than 2,500 professionals and 13 offices located in Algiers, Argentina, the United Arab Emirates, Japan, Mexico, Poland, Portugal and Spain are proof of the potential as a company.

Ranging from conventional services to the most innovative solutions, SENER develops customized solutions to the marine industry, including ship design, engineering and consultancy to a wide range of shipyards, design offices and ship-owners.



All this experience has been passed on to FORAN, the integrated computer-assisted system developed by SENER for the design and production of any kind of ship or offshore unit.

- FORAN System implementation
- Ships and Off-Shore:

- Conceptual and Classification Engineering
- Detail and Production Engineering
- Consulting and technical support
- Integral projects

- Engineering and turnkey projects for power and process plants

SINTEMAR

SINTEMAR specialises in anchoring machinery and metal structures using epoxy resins, both in new facilities and repairing foundations even underwater. It also has an experienced technical team to provide anti-corrosion solutions for marine structures and their underwater maintenance.

Products and services

ECOSPEED coating: Anti-corrosion protections, Norsok standard M-501 certified, 100% ecological, 10 years warranty, underwater maintenance.

CHOCKFAST resin: anchoring and repairing foundations even underwater



SLING SUPPLY INTERNATIONAL

"Sling Supply International S.A. has been working since 1980 to find lifting solutions all over the world. During the last ten years we have been collaborating with the main manufacturers in the wind turbine sector to improve all lifting operations for equipment in wind farms everywhere".

Products and services:

"Sling Supply International S.A. offers solutions for lifting operations for equipment in wind farms as well as inspections and certification services"



TALLERES GOMETEGUI

Gometegui is a company with extensive experience in manufacturing capital goods. It is highly consolidated on the international market in the energy sectors where it supplies first-rate products.

BUSINESS SECTORS:

- **Wind power.**
 - Housings.
 - Towers.
 - Parts and models.
- **Hydraulic power.**
 - Generators:
 - Turbines:
- **Iron and Steel.**
- **Tunnel boring machines.**
 - Tunnel boring machines and their components.
 - Cement mixers.
 - Complete equipment and parts.
- **Shipbuilding.**
 - Bushing and bearings for propulsion axes.
- **Heavy machinery**
- **Aeronautics.**



TALLERES KAI ALDE

Talleres Kai Alde, S.A.L. was founded in 1993 by a group of workers who came from Astilleros Lasa Hnos., with a long and strong tradition in naval industry.

Our main activity is mounting, building, repairing and transforming vessels. Also we repair, build and assembly every kind of metallic structures, and do maintenance on electric suplyers engines. We are experts in piping too. We know how to work all materials: steel, stainless steel, aluminium.

The most important works we have done are:

- Complete mounting of 4 vessels: "Beti Piedad", "Patxiku Berría", "Gure Kantabriko" y "Gure Gazkuña".
- Great repairs in Tuna vessels: "Xixil", "Erroxape", "Demiku", "Campolibre Alai", "Elai Alai".



TRADEX

We are an experienced Shiproking Company, with a specialised department on Sale & Purchase and Chartering for Offshore installation, supply and assistance vessels for the oil&gas and renewable industry. With a proven record since 1981 and with a significant international orientation, we guide and assist our clients throughout the whole process-transaction, with a professional, reliable and confidential approach.



ZINETI

Since 1977, **ZINETI, S.A.** is dedicated to designing and studying cathodic Protection System by Galvanic Anodes. We have an own foundry and adjust our manufacturing to our customer's needs. Our anodes, are recognized in most shipyards in the Iberian Peninsula and Europe.

We have participated in offshore wind Energy Projects and our anodes are being used to protect tidal generators. We really believe that thanks to our quality, our anodes can be installed perfectly in the wind generators, tidal generators or other submerged structures, which shortly will be installed on the Basque Coast.



ZUMAIA OFFSHORE

We operate high-specification, powerful and versatile workboat vessels for coastal and inland shallow waters, with qualified and experienced crew to tackle the toughest jobs anywhere worldwide.

We offer a quality service in 3 main fields:

- Dredging operations
- Offshore energy projects
- Marine Civil construction works

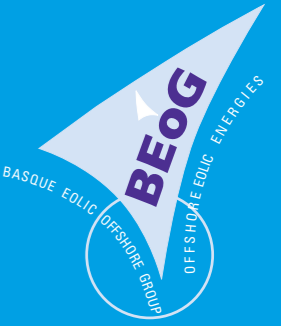


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WARTSILA IBERICA

Wärtsilä is a global leader in complete lifecycle power solutions for marine and energy markets.

In Wärtsilä Ibérica, S.A. we are more than 200 people providing local Sales, Project Management and After Sales resources.

We deliver first-class diesel and gas engines, generating sets and propulsion plants for all ship types. Our commitment with innovation and green technologies is showcased in our Test and Performance Centre, where we test and develop gas engines and technologies.



BILBAO PORT

The Port of Bilbao is one of the most important transport and logistics centres in the European Atlantic Arc. In addition to its privileged **geographical location**, it offers a series of unquestionable **advantages**:

Modern and functional installations for all types of goods

- **Docks** with draughts of up to 32 metres
- Magnificent land connections
- A huge offer of maritime **Commercial services** for all markets
- An agile port also in document processing: **'epuertobilbao'** electronic commerce platform
- A future full of possibilities thanks to the enlargement **the works** carried out and ongoing
- Great investment capacity
Your entry to the European market.



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