



# DEMOLICIONES SUBMARINAS



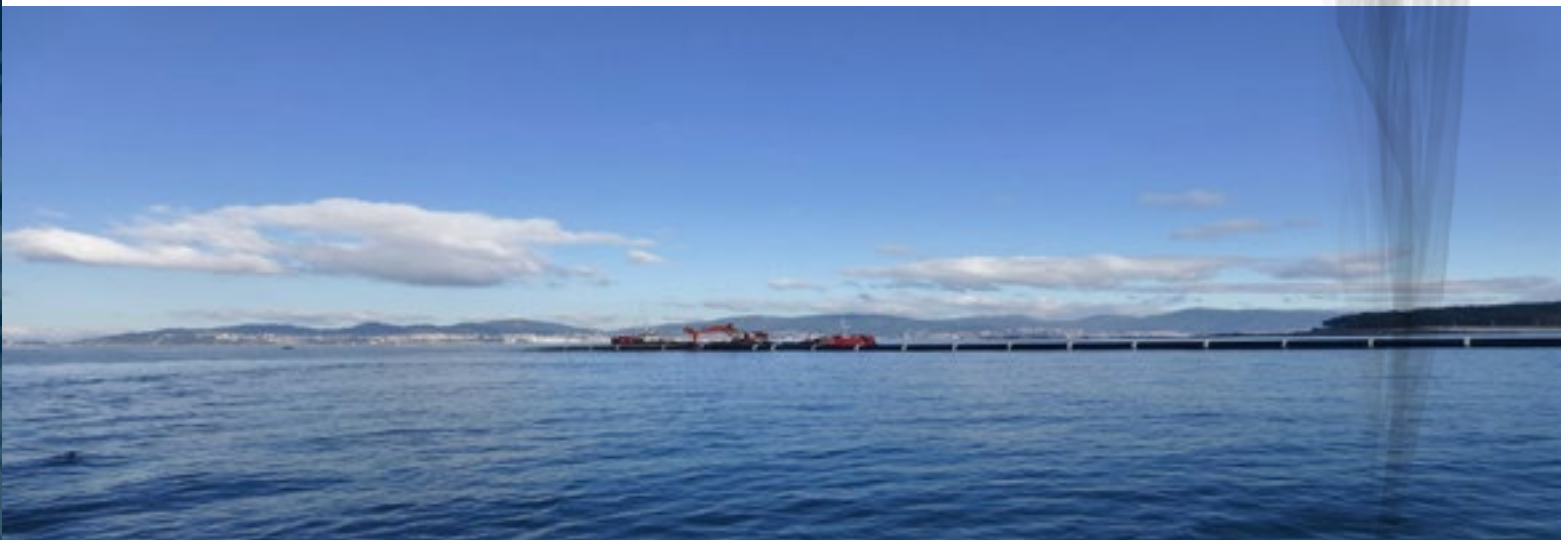
Dossier 2019

# About Demoliciones Submarinas

We are a team integrated by **technical divers and professional managers with business experience in many activity sectors**. Such combination is what makes the difference, along with our technical equipment and fleet, that is the reason why we are supplying our services to the main stakeholders in construction, maritime and underwater area all over Spain. That is also what impules us to foreign markets with our strategic partners.

We have everything necessary in order to offer solutions instead of problems, that means, capabilities and management attitudes regarding the treat with you and your company in order to be able to develop together any project, despite it's size, location or complexity.

Our **project portfolio** will transmit in a better way how we can turn this headlines in value to our clients.



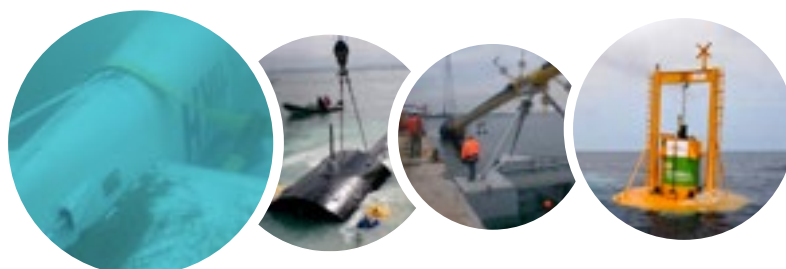
# SINGULAR PROJECTS

Development of renewable/clean energy projects, where investigation and sustainable development, are a common element, Demoliciones Submarinas is present to execute the project in its final phase, where the implementation is critical for the success of the project.

We are active members of the **Sea of Innovation Cantabria Cluster (SICC)**, a group of Cantabria companies specialized in **offshore renewable energy**.

## Outstanding works:

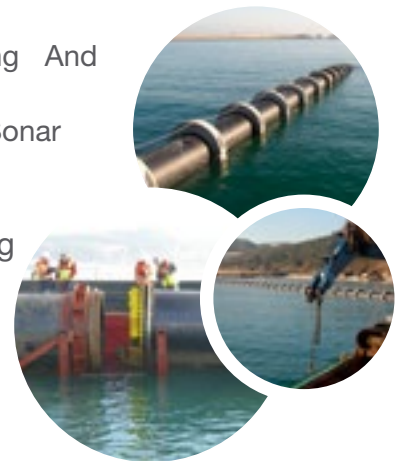
WORK	LOCATION	DATE
Incorporation to the cluster Sea of Innovation Cantabria	Santander	2019
Underwater inspections with ROV in Biscay Marine Energy Platform at heights of up to 100m	Santander	2017 - In progress
Wavescan installation in BIMEP - Tecnalia	Armintza	2017
Project for the installation, expansion and maintenance of underwater cellar Crusoe Treasure	Plentzia / Euskadi	2016 - In progress
Recovery and maintenance projects at the BIMEP (Biscay Marine Energy Platform) - Offshore Armintza	Euskadi	2015 – In progress
Collaboration with the Institute of Hydraulics of Cantabria in MUSCLE-Beach project of ADCP devices	Armintza	2017-2018
Location, rescue and refloating of aircraft	Plentzia / Euskadi	2015
Refloating of Gamazo's drydock lock-gate, Degima	Gamazo dock, Santander	2013 - 2014
Launching,anchoring, installation and maintenance of experimental eolic generation buoys - Apia XXI – Helium Cantabria Institute of Hydraulics and University of Cantabria	Virgen del Mar, Cantabria / Suances, Cantabria	2009 - 2011 2010 - 2011
Performing launching, anchoring and maintenance buoy wave power generator. Iberdrola - Ocean Power Technologies.	Santoña, Cantabria	2007 - 2008



# OUTFALLS

## ACTIVITIES:

- ☉ Blasting Projects And Technical Assistance
- ☉ Underwater And Land Drilling And Blastings
- ☉ Sand,Clay,Mud And Rock Dredging
- ☉ Underwater Flanging Of Pipes
- ☉ Underwater Colocation Of Rock Protection
- ☉ Underwater Colocation Of Net-Protection Devices
- ☉ Underwater Concrete Pumping
- ☉ Catodic Protections
- ☉ Underwater Cutting And Welding
- ☉ Bottom Studies By Sonar
- ☉ Manteinances
- ☉ Leak sealing
- ☉ Cutting and welding
- ☉ Transport



## OUTFALL TYPES:

- ☉ Pvc - Steel - Frpv - PEHD - Concrete

## Projects carried out by Demoliciones Submarinas:

WORK	LOCATION	DATE
Underwater inspection of Castro Urdiales submarine outfall - MARE	Cantabria	2019
Technical assistance to underwater outfall construction management of Lagares - Fulcrum	Vigo	2014 - 2018
Inspection and maintenance of Dupont submarine outfall Degremont, Santander water treatment plant outfall - Degremont	Avilés	2015 – In progress
Dupont outfall inspection and reparation	Aviles, Asturias	2015
Solvay Chemicals outfall maintenance	Suances, Cantabria	2014
Santander General Outfall maintenance - MARE	Santander	2010 - 2011
Bens Outfall DRAGADOS	A Coruña, Galicia	2008 - 2011
Xago Outfall FCC	Avilés, Asturias	2007 - 2011
Argoños River Outfall Vias-Senor	Argoños, Cantabria	2007
Espina Hydraulic Works Mataleñas Park Outfall	Santander, Cantabria	2007
Ason Storm Outfall - SATO-OHL	Laredo, Cantabria	2008
Berria Outfall - SATO-OHL	Santoña, Cantabria	2005 - 2007
Water Intake For The Tidal Measure Station Santander Port Authority	Santander, Cantabria	2003
Castro-Urdiales Outfall DRAGADOS	Castro Urdiales, Cantabria	2002 - 2003
Solvay Chemicals Outfall DRACE	Suances, Cantabria	2001 - 2002

## In Water Survey (IWS) / Under Water Inspection in Lieu of Drydocking (UWILD)

Submarine Inspections (IWS) in surface supply with CCTV and communications:

Under Water Inspection in Lieu of Dry-docking (UWILD), or In Water Survey (IWS), **is required to ensure the operational and structural functionality and integrity of a ship** or marine asset in general terms, throughout its operational life span.

Demoliciones Submarinas as a professional diving company is **accredited by several international companies IACS (International Association of Classification Societies)** such as RINA for the realization of inspections of Class IWS (In Water Survey), which allows in certain actions the substitution of drydocking by an accredited underwater inspection. So this **is a method of surveying the underwater parts of a ship and its eventual damage while it is still afloat instead of having to dry-dock it for examination of these main areas as was conventionally done**, with the consequent cost savings that this entails for the shipowner.

Carrying out these kind of surveys with divers, while on location, saves the ship owner and their clients both time and money by reducing downtime, limiting time off-contract, and reducing or eliminating the need for expensive and limited dry-docking.

### Kind of services:

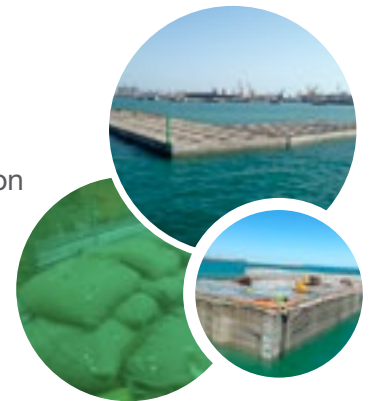
- ☉ Class inspections according to strict protocol with video delivery and technical report.
- ☉ Filming, photography, damage assessment.
- ☉ Measurements of deviations.
- ☉ Non-destructive tests (NDT).
- ☉ Rudder Pintle clearance readings.
- ☉ Tail shaft deviations measurement.
- ☉ Propellers, sea chests, stabilizers, balance keels, thrusters, etc.
- ☉ Thickness measurement.
- ☉ Stranding control.
- ☉ Other services such as polishing of propellers, cleaning of bottom intakes, repairs, welding, etc.



# PORTS

## ACTIVITIES:

- ☉ Blasting Projects And Technical Assistance
- ☉ Underwater And Land Drilling And Blasting
- ☉ Dredging Of All Kinds Of Materials
- ☉ Seabed Levelling
- ☉ Underwater Concrete Pumping
- ☉ Concrete Blocks Instalation
- ☉ Instalation Of Mulberries
- ☉ Placement of acropods
- ☉ Placement of blocks
- ☉ Caisson Anchoring



## Projects carried out by Demoliciones Submarinas:

WORK	LOCATION	DATE
Inspection and dredging of the Global Steel Wire dock	Santander	2018
RORO Ramp repair Albareda Dock - Port Authority	Santander	2018
Video inspection with CCTV of pillars of Raos and Maura	Santander	2017 - 2018
Fishing dock	San Vicente	2015 - 2016
Dead mooring and maintenance of buoys	Laredo y Santoña	2015
Raos Harbour #1 – DRACE	Santander	2015 - 2016
Ondarroa Harbour Rekalde	Ondarroa, Bizkaia	2013 - 2014
Txorrokopunta Pier Rekalde	Mundaka, Bizkaia	2013
Santander Marina	Camargo, Cantabria	2012
Trail And Cycling Path Over Requejada River - SIEC	Suances, Cantabria	2011
Comillas Harbour Ramp - SIEC	Comillas, Cantabria	2011
Dredging works at ASTANDER shipyard ramp OyD ALDAMIZ	Astillero	2011
Probing works of the seabed at Albareda, Almirante y Maliaño docks - ICINSA	Santander	2011 - 2012
Cantabriasil Bulk Ramp - FCC	Santander	2009
Raos#8 Ro-Ro Ramp - FCC	Santander, Cantabria	2009
Raos Harbour Lowering Bridge - FCC	Santander	2008 - 2009
Cementos Alfa Loading Terminal - FCC	Santander	2007 - 2008
Cementos Alfa Dock Enlargement - FCC	Santander, Cantabria	2007
Musel Harbour Enlargement - UTE Dique Torres, DRAGADOS, FCC y SATO	Asturias	2007
Molnedo Inlet North Doc - Santander Port Authority	Santander, Cantabria	2005
Ro-Ro Ramp Dock Of Molnedo - CORSAN	Santander, Cantabria	2004
Laredo North Dock - ARRUTI	Laredo, Cantabria	1999 - 2000

# DAMS AND HYDROELECTRICAL POWER PLANTS

## ACTIVITIES :

- ☉ Turbine Trashracks Substitution
- ☉ Underwater Pile Cutting And Welding
- ☉ Trashrack Cleaning
- ☉ Gate Mounting
- ☉ Gate Rising
- ☉ Shield Mounting
- ☉ Dam Dredging
- ☉ Reel Guides Cleaning
- ☉ Measure Control Of Sealants
- ☉ Bulkhead Gates Mounting
- ☉ Gate Guides Substitution
- ☉ Bulkhead Gates Extraction



## Projects carried out by Demoliciones Submarinas:

WORK	LOCATION	DATE
Repair and assembly of intake and drainage tower - Aguas de Torrelavega	Corrales, Cantabria	2019
Installation of floating intake pumps, Alsa reservoir SIECSA - CHN	Alsa, Cantabria	2018
Assembly of filtering tower in pump well - Asturiana de Zinc	Cantabria	2015
Trashracks Substitution Arbon P.P. - ASTURBALFER	Navia, Asturias	2012
Equipment UW Installation – Cuadernas y Arcos	Cantabria	2011
Piles Cutting Ebro Reservoir - MARCO CIVIL ENGINEERS	Reinosa, Cantabria	2010 - 2011
Trashracks Cleaning Doiras P.P. - VIESGO GENERATION	Doiras, Asturias	2009
Trashracks Substitution Arbon Power Plant - MONRASA	Navia, Asturias	2004 - 2005
Gates Installation Seros Channel - HIDROMONT	Seros, Lérida	2004
Gate Lifting Porma Power Plant - HIDROMONT IDAE	Porma, León	2004 - 2005
Shields Installation Arbon Power Plant	Navia, Asturias	2004
Arbon Dam Dredging - VIESGO GENERATION	Navia, Asturias	2003
Reel Guides Cleaning Encinarejo Power Plant - HIDROMONT	Andújar, Jaén	2003
Sealants Measurement Silvon P.P. - VIESGO GENERATION	Doiras, Asturias	2003
Bulkhead Gates Installation Aguayo P.P - VIESGO GENERATION	S. Miguel de Aguayo, Cantabria	2003
Shields Installation Porma P.P - HIDROMONT	Porma, León	2001
Gate Guides Substitution Liguerezana Power Plant - VIESGO GENERATION	Ag. de Campoo, Palencia	2001
Bulkhead Gates Extraction Arbon Power Plant - VIESGO GENERATION	Navia, Asturias	2000

# MAINTENANCES

## MAINTENANCE OF:

- ☉ Outfalls
- ☉ Ports
- ☉ Reservoirs and hydroelectric plants
- ☉ Fish farms
- ☉ Artificial ponds

## ACTIVITIES:

- ☉ Video inspections
- ☉ Substitution of sacrificial anodes
- ☉ Dredging
- ☉ Leak sealing
- ☉ Cleaning
- ☉ Replacing Buoys
- ☉ Cutting and welding
- ☉ Superficial treatments



## Projects carried out by Demoliciones Submarinas:

WORK	LOCATION
Solvay Chemistry Outfall	Suances, Cantabria
Castro Urdiales Outfall	Castro Urdiales, Cantabria
Santander Outfall	Santander, Cantabria
Water intake, Mareógrafo of Santander	Santander, Cantabria
Port maintenance	Santander, Cantabria
Pond of Seals of the Palace of the Magdalena	Santander, Cantabria
Chiqui Outfall	Santander, Cantabria
Water Intakes of the Maritime Museum of Cantabrico	Santander, Cantabria
Arbon Dam	Navia, Asturias
Doiras Dam	Doiras, Asturias
Dynasol gas loading dock	Ribamontán, Cantabria
Berria Outfall Hydrographic Confederation of the North	Santoña, Cantabria
Topography in a storm tank, Santander Port	Santander, Cantabria
Dry dock damper seat cleaning	Gamazo, Santander



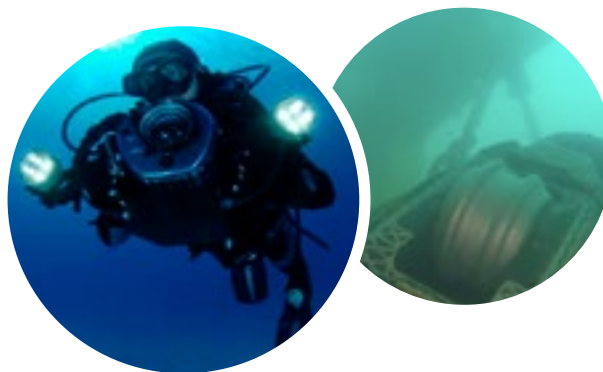
# TECHNICAL ASSISTANCE

## ACTIVITIES:

- Video And Cctv Surveillance
- Measuring Procedures
- NDT Trials (Non Destructive)
- Topography
  - Bathymetries (Echosounder)
  - Sonar Side Sweep

## Projects carried out by Demoliciones Submarinas:

WORK	LOCATION	DATE
Deba Bridge - FHECOR	Deba	2018 - 2019
Villarente Bridge - AUDECA	León	2018
Ribeira Outfall - SAITEC	Ribeira	2015 - In progress
Lagares Outfall - Fulcrum	Lagares, Vigo	2014 - In progress
Berria Outfall - TRAGSA	Santoña, Cantabria	2013 - 2014
Bembibre Water Intake - ACUANORTE	Ponferrada - León	2011 - 2012
Plentzia Outfall - FULCRUM	Plentzia - Vizcaya	2010 - 2011
Bens Outfall - FULCRUM	Bens - A Coruña	2007 - 2011
Argoños River Outfall - SAITEC	Argoños, Galicia	2007
Berria Outfall - PAYMA - COTAS	Santoña, Cantabria	2004
Raos Dock#8 - EUROCONSULT	Santander, Cantabria	2001 - 2002
Chiqui Outfall Santander Water Board	Santander, Cantabria	2001
Santander General Outfall APIA XXI	Santander, Cantabria	1999 - 2001



# ARKEOLOGIKS - SUBMARINE ARCHEOLOGY

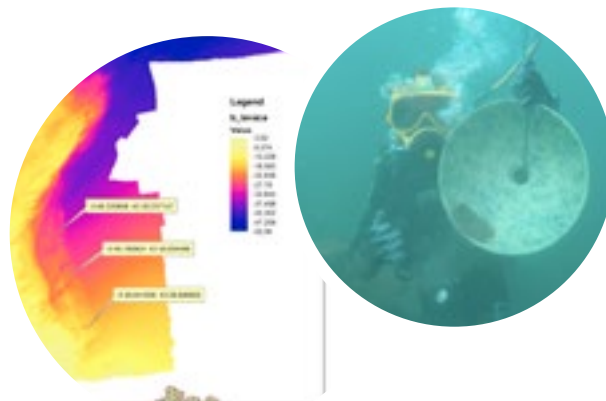
ARKEOLOGIKS is our specialized unit in underwater archaeological works with strictly professional archaeologists authorized and experts in this field.

## ¿ARKEOLOGIKS?

By law. Simply. Because by regulation for the realization of dredging and certain hydraulic and maritime projects, it is mandatory the execution of a project and archaeological monitoring and, of course, because we like what we do and that shows in the result, to know and protect our submerged cultural heritage, one of the richest on the blue planet. We can therefore offer a complete service from the project phase to the execution, performing the necessary surveys, monitoring, studies and reports.

## What we do?

- Underwater archaeological prospections
- Dredging and other hydraulic and maritime projects
- Preparation of reports
- Environmental impact assessments and technical assistance for its processing.



# NON DESTRUCTIVE TESTING (NDT)

Any metallic structure exposed to the sea suffers corrosion and deterioration. Moving and placing boats, submerged structures, pipes and other elements, dry for inspection, involves COSTS.

The **realization of non-destructive tests on-site therefore means a cost saving generally of importance** and, sometimes, a need established by inspection bodies or regulators.

Collaborating with companies such the size of APPLUS in the realization of some of these works is a guarantee of quality.

## Types of not destructive submarine tests:

- ☉ Thickness measurement with ultrasounds
- ☉ Visual and ROV control
- ☉ Professional quality video inspection and lighting equipment
- ☉ CCTV Inspections

Our technicians-divers have made the following works:

- ☉ Thickness measurement in ship hulls.
- ☉ Visual inspections, with CCTV and filming in:
  - Outfalls and pipelines in general
  - Hydroelectric power plants
  - Thermal power stations
  - Solar thermal power plants
  - Nuclear power plants
  - Pump wells
  - Boats afloat



## FLEET

### Boats:

- ☉ “Elmar Dos” of 250 m3 split barge, equipped with a VOLVO EC 290 30 Tm backhoe. Great versatility for dredging, spills or pipe laying.
- ☉ “Omarsub” of 750m3 split barge, equipped with 90t Caterpillar
- ☉ “Omarsub Tres” of 650 m3 split barge, equipped with 60t Volvo
- ☉ Semi-rigid boat “Von Morgan II”. Equipped for subsea work in surface supply.

### Other:

- ☉ ROV Seabotix
- ☉ Toyo suction pump
- ☉ Drilling equipment
- ☉ Underwater welding and cutting equipment
- ☉ Hydrotrac ODON single beam echo sounder
- ☉ Hydrostatic lift bags, etc.



# CLIENTS

## Civil work:

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- ☉ Dragados
- ☉ Dragados Aldamiz
- ☉ FCC
- ☉ Drace
- ☉ Open Water Dredging
- ☉ Cuevas Obras
- ☉ OHL
- ☉ Sato
- ☉ SIEC
- ☉ Necso
- ☉ Corsan-Corviam
- ☉ Ascan
- ☉ Sonntag
- ☉ Gosam
- ☉ Arruti
- ☉ Espina
- ☉ Vias-Senor
- ☉ Cuadernas y Arcos
- ☉ Hydromont
- ☉ Marco Obra Pública
- ☉ Acuanorte
- ☉ Degremont
- ☉ Ascan-Sadisa
- ☉ Northcom Diving
- ☉ Ferpi Transportes y Obras
- ☉ Acciona Agua
- ☉ Obras Marítimas y Submarinas
- ☉ Corelia
- ☉ Boscalis BV
- ☉ Dravosa Dragados Van Oord
- ☉ Inor
- ☉ Ferrovial
- ☉ Omarsub
- ☉ TGB Proyectos y Transportes
- ☉ UTE Dique Torres
- ☉ UTE Emisario Bens
- ☉ UTE Ascan Degremont
- ☉ UTE Termosolar Guzmán

## Organizations and Public Institutions:

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- ☉ Enel
- ☉ Aguas de Torrelavega
- ☉ Autoridades portuarias
- ☉ Instituto de Hidráulica de Cantabria
- ☉ Viesgo Generation
- ☉ Naturener
- ☉ Idae
- ☉ Enagas

- ☉ E-ON ESPAÑA
- ☉ Ocean Power Technologies
- ☉ Iberdrola
- ☉ Puertos de Cantabria

## Engineering and other industrial companies:

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- |                                   |                      |
|-----------------------------------|----------------------|
| ☉ Apia XXI                        | ☉ ICINSA             |
| ☉ FEMUSAN                         | ☉ Fulcrum            |
| ☉ THALES                          | ☉ Payma-Cotas        |
| ☉ Valoriza                        | ☉ Saitec Engineers   |
| ☉ Ingeconsul                      | ☉ Euroconsult        |
| ☉ ALYCO                           | ☉ Applus             |
| ☉ Degima                          | ☉ Pleamar Consulting |
| ☉ AUDECA                          | ☉ Dupont             |
| ☉ Dynamis ingenieros              | ☉ Solvay             |
| ☉ MARE                            | ☉ Agatein            |
| ☉ ASCAN                           | ☉ Bajoelagua Factory |
| ☉ Global Steel Wire               | ☉ Underoceans        |
| ☉ SICOM                           | ☉ Asturiana de Zinc  |
| ☉ Ingelan Ingenieros              | ☉ Glencore           |
| ☉ INIMA Water Services            | ☉ SICOM              |
| ☉ Degremont                       |                      |
| ☉ Madelcomar                      |                      |
| ☉ FHECOR Ingenieros y Consultores |                      |

## Shipyards, Shipping companies, Consignee and others:

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- ☉ Propulsión Naval
- ☉ A&G Topografía
- ☉ Northern Marine
- ☉ Mutua de Vigo
- ☉ Crusoe Treasures
- ☉ Modesto Piñeiro y Cía.
- ☉ Medelcomar
- ☉ ASTANDER
- ☉ Remolcadores Unidos
- ☉ Remolques y Servicios Marítimos
- ☉ Ecofloat Control Systems
- ☉ BERGE Marítima
- ☉ Marítima Dávila Madrid
- ☉ Consignatarios Barcos Santander
- ☉ Brittany Ferries BAI
- ☉ Otto A. Müller Schiffart GmbH
- ☉ Marina de Santander
- ☉ Dino Theo Atlantis
- ☉ Fishcorb Films

## CERTIFICATIONS

Control processes and quality certifications implemented in Demoliciones Submarinas:



Part of:



# IMAGE GALLERY



# IMAGE GALLERY







# DEMOLICIONES SUBMARINAS

## Demoliciones Submarinas S.L.

Pº Pereda 16 1º, Santander 39004

CIF: B39584180

Tel: +34 942 22 46 01

Mob: +34 600 85 63 35

Fax: +34 942 22 11 39

Email: [info@demolicionessubmarinas.com](mailto:info@demolicionessubmarinas.com)

[www.demolicionessubmarinas.com](http://www.demolicionessubmarinas.com)

Certified by:

