

# exe | QUADRANTE



exe  
engenharia



QUADRANTE



**MARINE & HARBOUR ENGINEERING**  
DESIGNING . DELIVERING . ADDING VALUE





EXE-QUADRANTE is an Engineering Consultancy Company with a global footprint specialized in Port and Marine Engineering.

With a highly experienced team of civil, coastal, hydraulic, structural, environmental and MEP engineers, merging more than 25 years of experience, EXE-QUADRANTE proposes a competitive offer in the marine and harbour engineering sector, to deliver ground-breaking and value added solutions for an ever-challenging world.

The main purpose of EXE-QUADRANTE is to support our clients accomplish their own mission. We offer a full and comprehensive range of engineering capabilities, from project planning to project development and execution, to deliver sustainable, innovative and economically efficient marine infrastructures.



# exe | QUADRANTE



- Marine works civil structures
- Dredging
- Material handling equipment design
- Marine temporary structures design

Integrated  
Full Scope  
Design



QUADRANTE

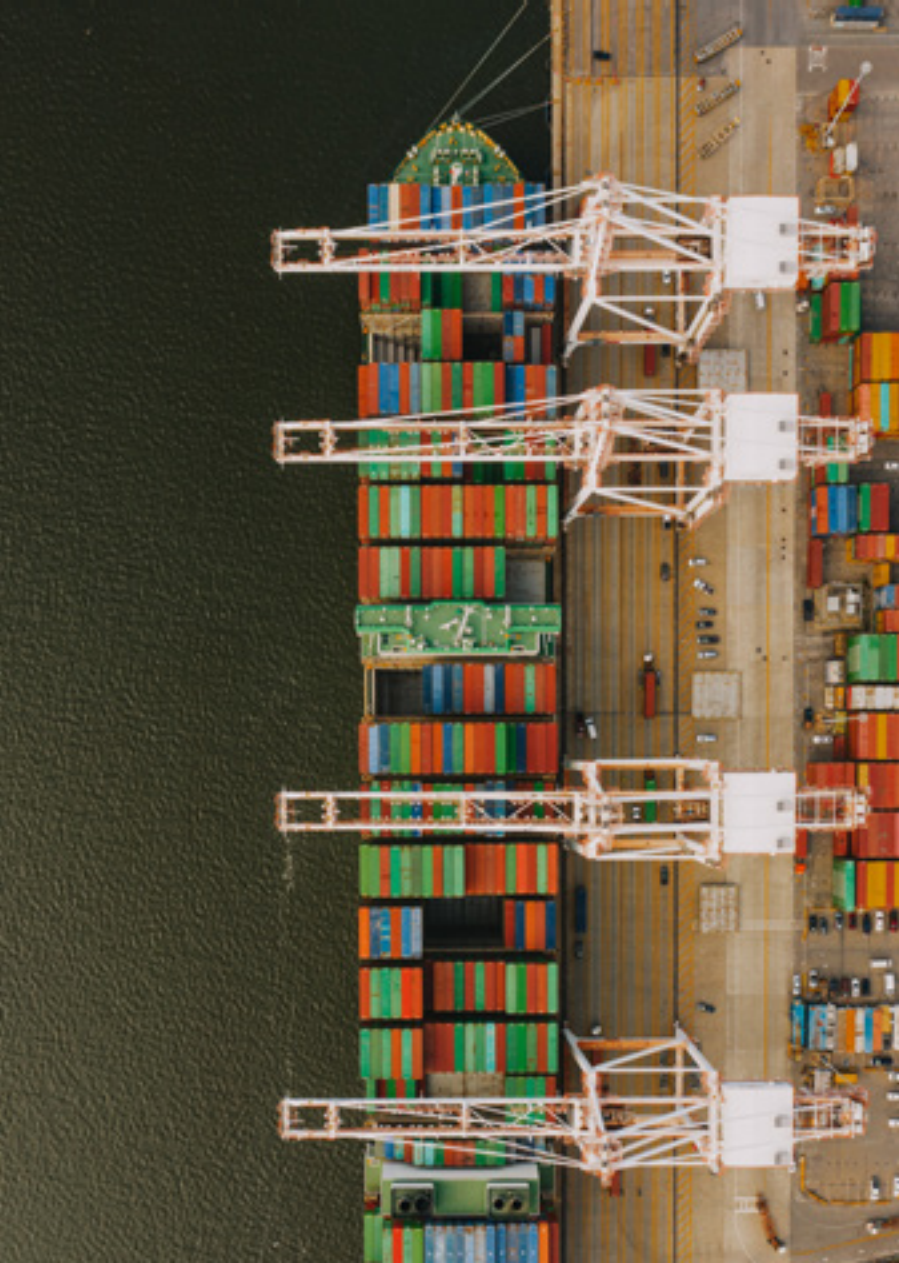
- Yards and pavements
- Ports electrification and Renewables Energy
- Warehouses and shops
- Environmental studies

EXE ENGENHARIA boasts a remarkable history of more than 25 years in marine and harbour engineering. Though the business started in 2000, their founding partners have more than 48 years of combined experience developing port projects all over the world. Since its foundation EXE ENGENHARIA has partaken in several major maritime and port projects around the world offering full range of consulting engineering services and value added solutions for their Clients.

QUADRANTE is an international consultancy firm of engineers and architects with over 25 years of industry experience. Headquartered in Lisbon and with on-the-ground offices worldwide, QUADRANTE have built a comprehensive track record of projects in areas such as airports, highways, railroads and ports becoming a leading engineering consultancy firm in Portugal.





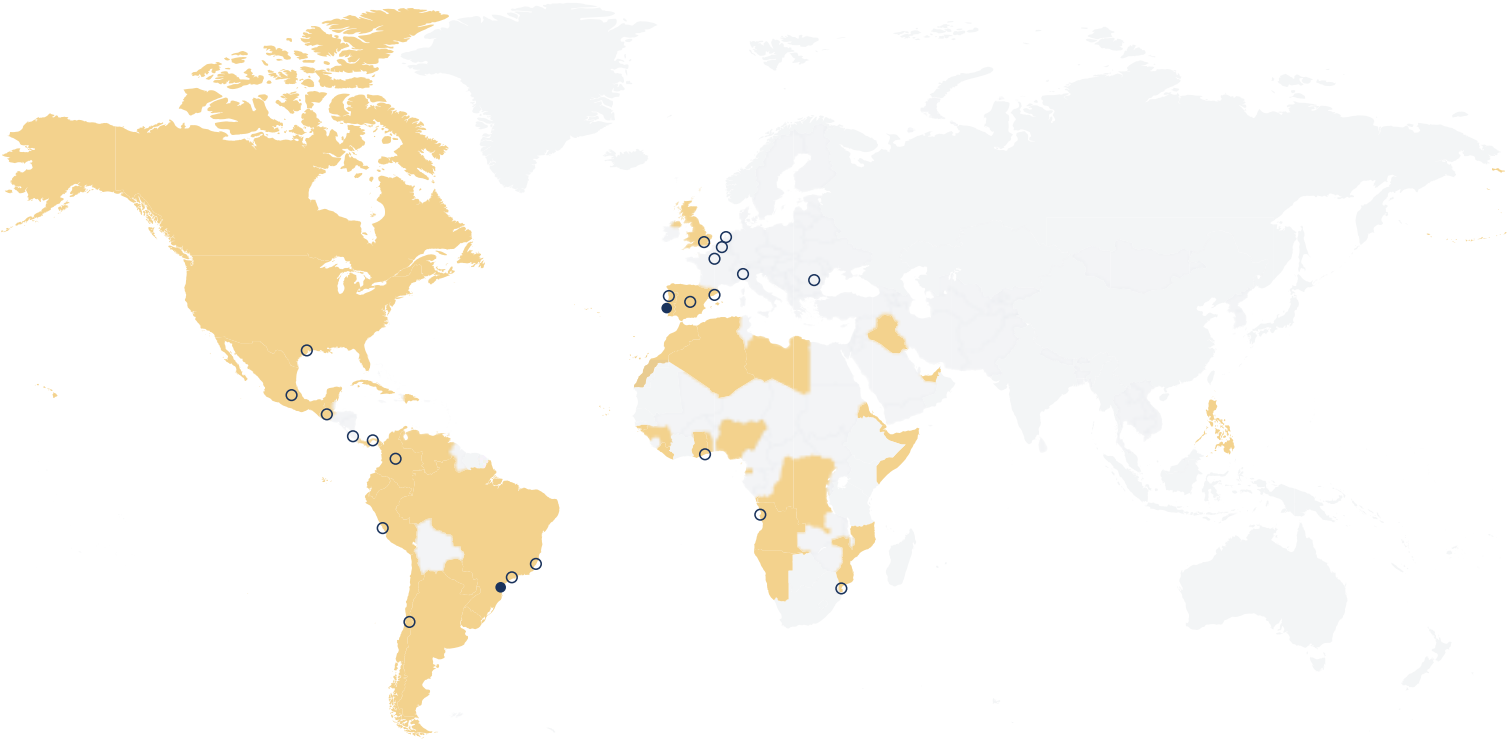


## WHAT WE STAND FOR

- 25 plus years of experience adding value in Port and Marine Engineering consultancy.
- Highly experienced team of civil, coastal, hydraulic, structural, environmental and MEP engineers.
- Outstanding history and experience in unique marine engineering projects, ranging from container terminals, liquid and solid bulk terminals, general cargo terminals, ferries and cruise terminals, recreational ports, and military installations.
- Experience working with a wide range of clients, including, engineering contractors, public port administrations and private port operators.
- Delivery capability and efficient management of engineering solutions across all stages of the project's lifecycle.
- Integrated engineering solutions, combining expertise from different disciplines:  
Maritime and Ports; Transport, Buildings; Environment and Climate Change, Hydraulics, Industry and Energy, Airports and Project Management and Supervision.
- International footprint, with offices on three different continents (Europe, Africa and Latin America)
- Ambitious Sustainable Development Goals focused on the best solutions for our customers.



PRESENCE



● Headquarters    ○ Office    ■ Marine and Harbour Engineering Experience

+ 1300

People

+ 11100

Total Projects

+ 130 M€

Revenues

20

Countries



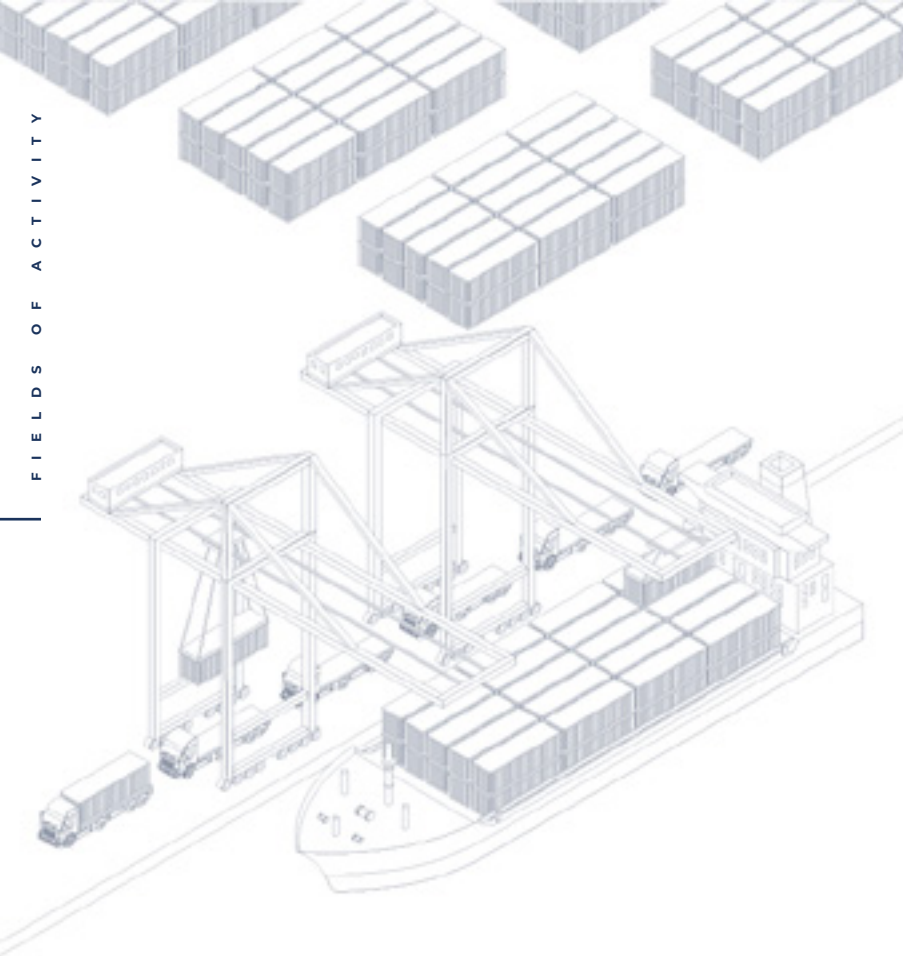
## **FIELDS OF ACTIVITY**

MARITIME CARGO TERMINALS

PASSENGER AND RECREATIONAL PORTS

COASTAL ENGINEERING





## MARITIME CARGO TERMINALS

Container Terminals



RoRo Terminals



General Cargo Terminals



Bulk Terminals



Liquid Bulk Terminals



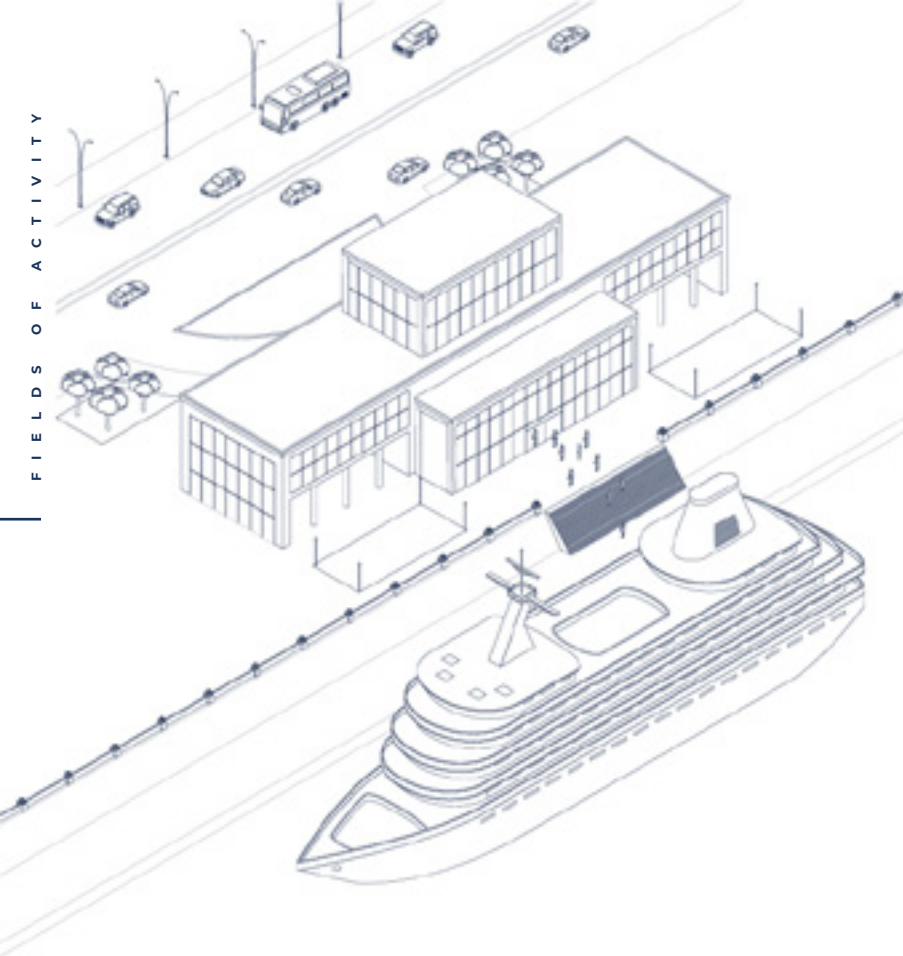
Naval Shipyards



Multipurpose Marine Instalations







## PASSENGER AND RECREATIONAL PORTS

Cruise Terminals



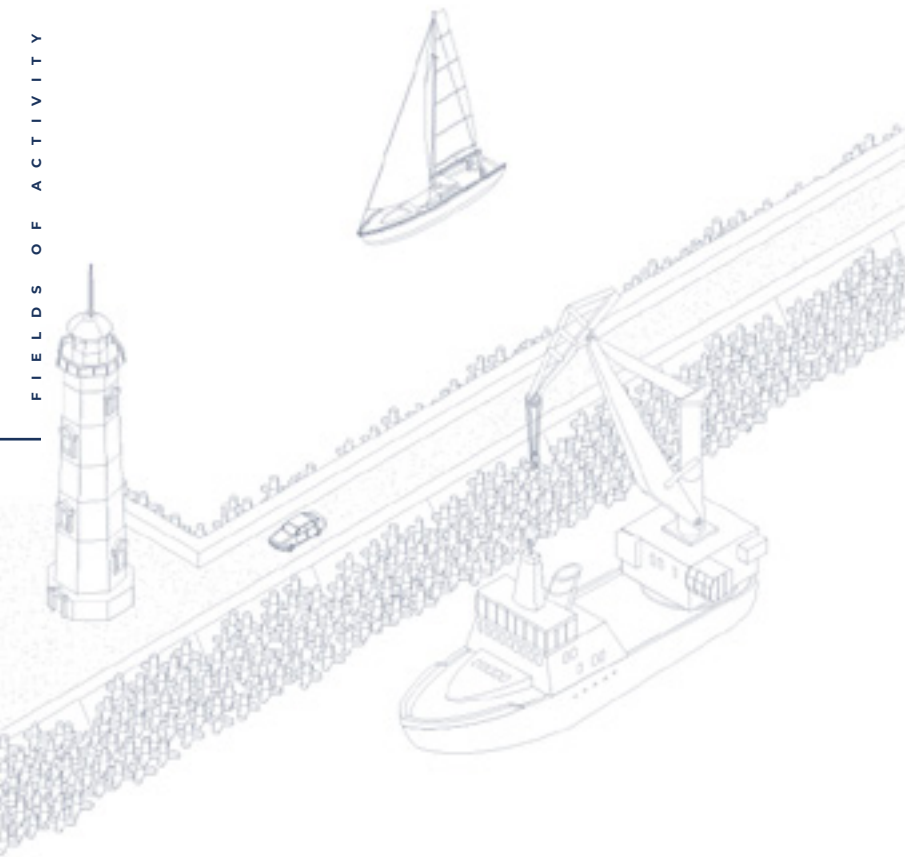
Ferry Terminals



Marinas







## COASTAL ENGINEERING

Dredging and Reclamations



Coastal Protection



Environmental Impact Assessment



Breakwaters





## **CAPABILITIES**

PORT PLANNING AND TERMINAL DEVELOPMENT

VALUE ENGINEERING - SMART CONSTRUCTION DESIGN

QUAY WALLS AND JETTIES

VESSEL BERTHING, MOORING AND TRANSFER FACILITIES DESIGN

MATERIALS HANDLING

MARINE HYDRAULICS - INTAKE AND OUTFALL PIPELINES

MARINE ENERGY TRANSITION ANALYSIS

DREDGING AND RECLAMATION

BREAKWATERS AND COASTAL PROTECTION

ENVIRONMENTAL AND SOCIAL STUDIES



## **SERVICES PROVIDED**

FEASIBILITY STUDIES

FRONT END ENGINEERING DESIGN (FEED)

DETAILED ENGINEERING AND DESIGN

TECHNICAL SUPPORT

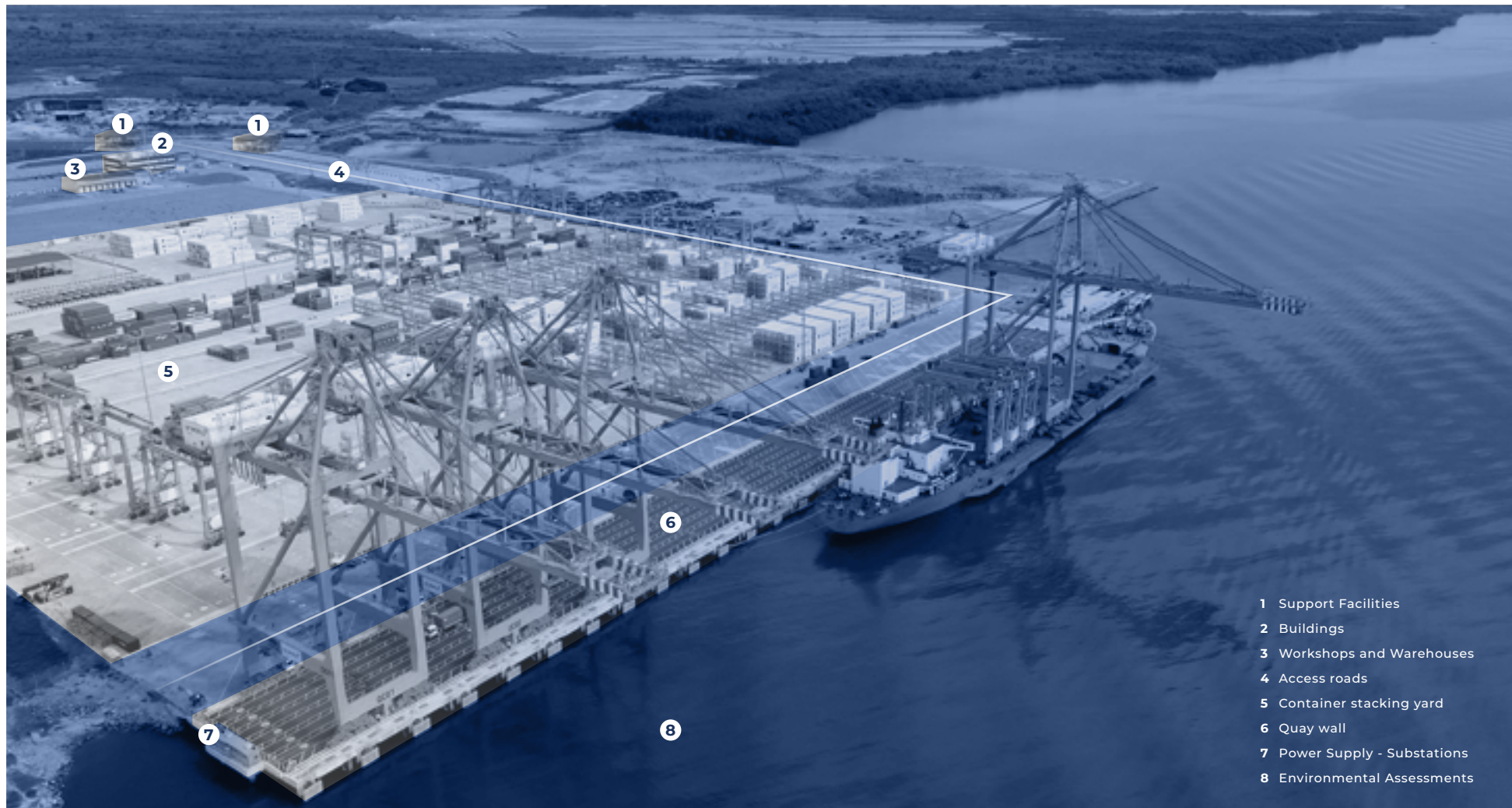
CONTRACT ADMINISTRATION AND SITE SUPERVISION

COST ESTIMATION

ENVIRONMENTAL AND SOCIAL STUDIES AND ASSESSMENTS

BIM SOLUTIONS





- 1 Support Facilities
- 2 Buildings
- 3 Workshops and Warehouses
- 4 Access roads
- 5 Container stacking yard
- 6 Quay wall
- 7 Power Supply - Substations
- 8 Environmental Assessments



# EXPERIENCE

M A R I N E   &   H A R B O U R   E N G I N E E R I N G





## PORT & TERMINAL DEVELOPMENT

### MULTIPURPOSE TERMINAL BOLIVAR PORT

#### Country

Ecuador

#### Scope of Works

· Port Design solution for design & build tender process





## PORT & TERMINAL DEVELOPMENT

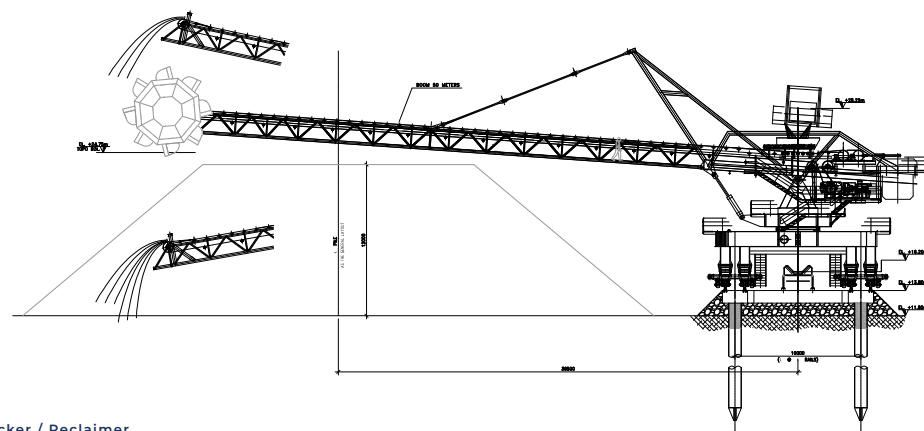
### COAL TERMINAL BEIRA

#### Country

Mozambique

#### Scope of Works

- Port Design solution for design & build tender process
- Detailed design
- Metocean Studies
- Marine Hydraulics and navigation studies



Stacker / Reclaimer



## PORT & TERMINAL DEVELOPMENT

### PORT COMPLEX PORT OF DANDE

#### Country

Angola

#### Scope of Works

- Port Design solution for design & build tender process
- Metocean Studies
- Marine Hydraulics and Navigation Studies







## PORT & TERMINAL DEVELOPMENT

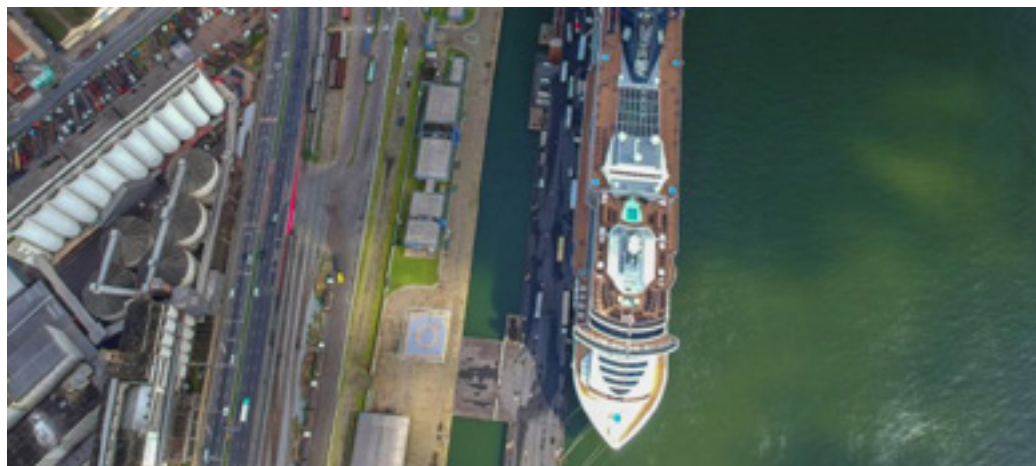
### OUTEIRINHO CRUISE TERMINAL SÃO PAULO

#### Country

Brazil

#### Scope of Works

· Preliminary and Detailed Design







## BULK TERMINALS

### LNG TERMINAL MELCHORITA

#### Country

Peru

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design
- Project and Contract Management
- Temporary Works Structures Design - Cantitravel







## BULK TERMINALS

### PIER III IRON ORE TERMINAL PONTA MADEIRA

#### Country

Brazil

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design
- Temporary Works Structures Design - Cantitravel







## BULK TERMINALS

### LIQUID BULK TERMINAL DORALEH

#### Country

Djibuti

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design
- Temporary Works Structures Design - Cantitravel







## BULK TERMINALS

### SALT OFFSHORE TERMINAL AREIA BRANCA

#### Country

Brazil

#### Scope of Works

- 15000m<sup>2</sup> Artificial Island Design with berth facilities for 75000 DWT Vessels
- Detailed Design for 500m conveyor belt bridge
- Technical Assistance During Construction
- Temporary Works Structures Design - Cantitravel







## BULK TERMINALS

### PHOSPHAT TERMINAL BAYOVAR

#### Country

Peru

#### Scope of Works

- Detailed Design for jetty and berth facilities for 75000 DWT Vessels
- Technical Assistance During Construction
- Temporary Works Structures Design - Cantitravel
- Construction methodology
- Conveyor belts and Shiploader Design







## BULK TERMINALS

### TERMINAL DE GRANEIS SÓLIDOS PUNTA CATALINA

#### Country

Dominican Republic

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design
- Temporary Works Structures Design - Cantitravel







## BULK TERMINALS

### BULK TERMINAL MATARANI

#### Country

Peru

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design
- Material Handling Equipment Design - Conveyor Belt and Shiploader
- Temporary Works Structures Design - Cantitravel







## BULK TERMINALS

### BULK TERMINAL - BAUXITE TROMBETAS

#### Country

Brazil

#### Scope of Works

- EPC Tender Concept Design
- Initial Technical Due-Diligence
- Preliminary and Detailed Design of the Jetty and Berth for 80.000DWT Vessels







## CARGO TERMINALS

### MULTIPURPOSE TERMINAL POSORJA

#### Country

Ecuador

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design - 400m Quay Wall
- Preliminary Design for a 14.000 TEUs Terminal
- Temporary Works Structures Design - Cantitravel







## CARGO TERMINALS

### MULTIPURPOSE TERMINAL BERBERA

#### Country

Somalia

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design - 400m Quay Wall
- Temporary Works Structures Design - Cantitravel







## CARGO TERMINALS

### CONTAINER TERMINAL DORALEH

#### Country

Djibuti

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design:
  - 1.050 m Quay Wall; 2 km Causeway; 45 ha Container Yard
- Technical Assistance During Construction
- Temporary Works Structures Design - Cantitravel







## CARGO TERMINALS

### MULTIPURPOSE TERMINAL MARIEL

#### Country

Cuba

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design:  
700 m Quay Wall; 25ha Container Yard; Admin Buildings and Workshops
- Temporary Works Structures Design - Cantitravel







## CARGO TERMINALS

### CONTAINER TERMINAL SANTOS

#### Country

Brazil

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design:
  - 1.100 m Quay Wall; 25ha Container Yard
- Temporary Works Structures Design - Cantitravel







## CARGO TERMINALS

### CONTAINER TERMINAL CALLAO

#### Country

Peru

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design:
  - 1.050 m Quay Wall; 25 ha Container Yard
- Temporary Works Structures Design - Cantitravel







## CARGO TERMINALS

### CONTAINER TERMINAL BANANA

#### Country

Democratic Republic of Congo

#### Scope of Works

- EPC Tender Concept Design
- Preliminary and Detailed Design:
  - 600 m Quay Wall; 30 ha Container Yard
- Temporary Works Structures Design - Cantitravel







## CARGO TERMINALS

### GENERAL CARGO TERMINAL PRAIA

#### Country

Cape Verde

#### Scope of Works

- Technical and engineering support
- HSEQ management during construction







## COASTAL ENGINEERING

### INTAKE AND OUTFALL PIPELINE JAGUARIBE

#### Country

Brazil

#### Scope of Works

- Length: 3,272 m
- Outer Diameter: 1,735 m
- Concrete blocks: 593 units, 8.2 tf each







## COASTAL ENGINEERING

### INTAKE AND OUTFALL PIPELINE PUNTA CATALINA

#### Country

Dominican Republic

#### Scope of Works

· 1050m lenght and 2,5m diam. pipeline design







## PASSENGER AND RECREATIONAL PORTS

### INLAND PORTS

#### Country

Portugal

#### Scope of Works

- Detailed Design
- Technical Assistance



Peso da Régua



Foz do Távora





Santos Container Terminal, Brazil

## VALUE ENGINEERING - CONSTRUCTION METHODOLOGY TEMPORARY CONSTRUCTION STRUCTURES

### CANTITRAVELERS

#### Scope of Works

For more than 25 years, EXE QUADRANTE has conceived of more than 40 temporary structures to support quay wall construction works. These bespoke, and project specific structures, either cantitravelers or pile driving barges, are particularly suitable for the most common type of quay wall, most specifically deck on piles and combiwall structures.



Arzew Fertilizer Terminal, Algeria



LNG Terminal Melchorita, Peru





## VALUE ENGINEERING - CONSTRUCTION METHODOLOGY TEMPORARY CONSTRUCTION STRUCTURES

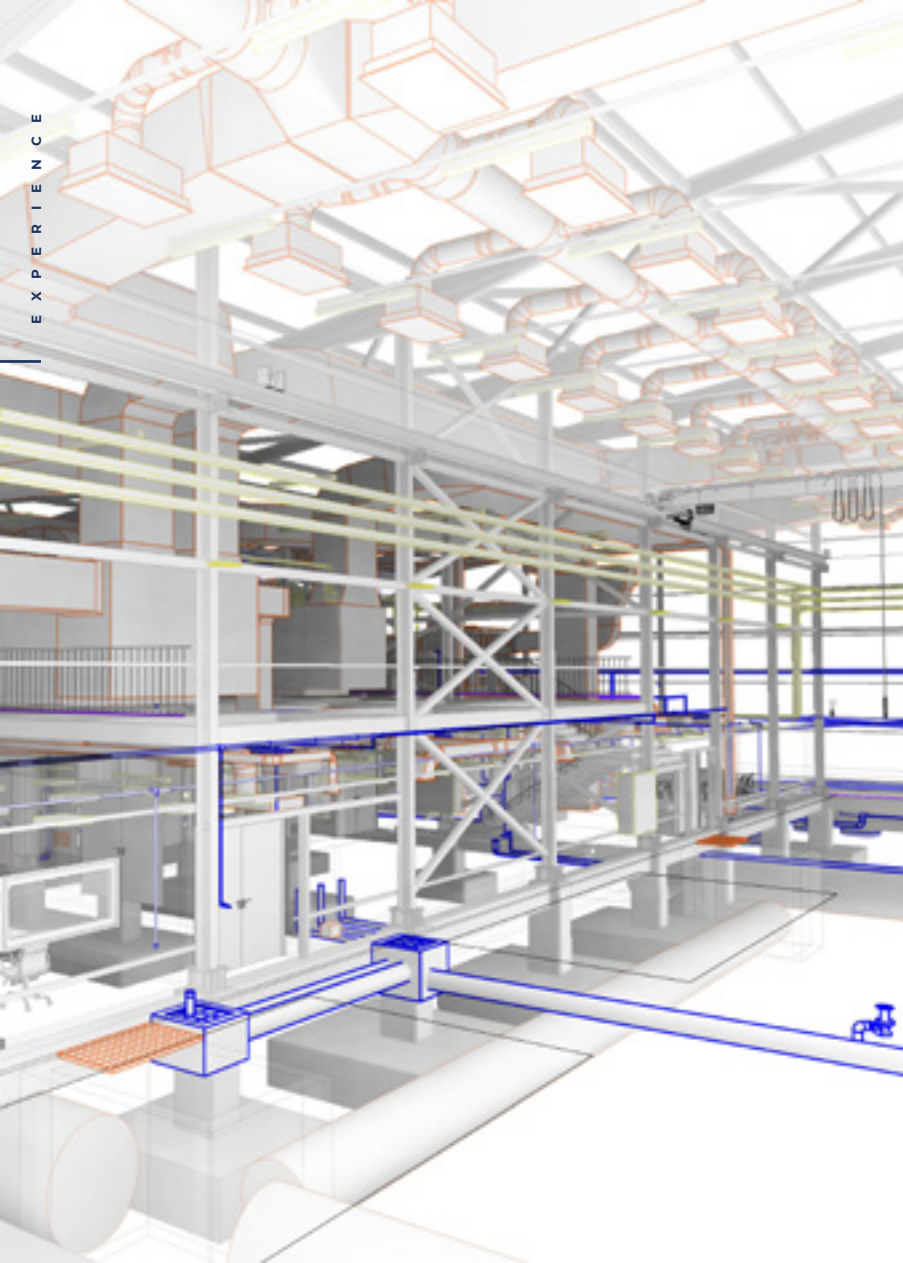
### PILE DRIVING FLOATING TOWER

#### Scope of Works

- Piling Tower development and structural design





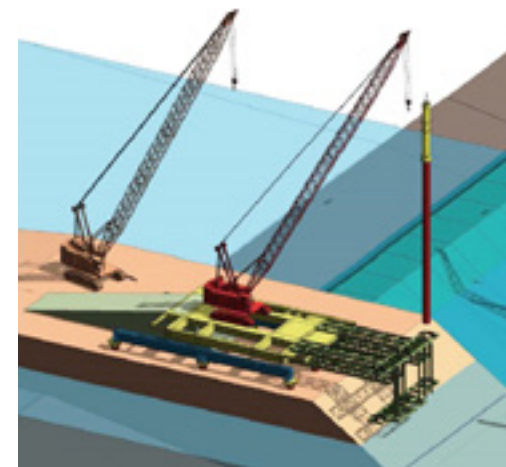
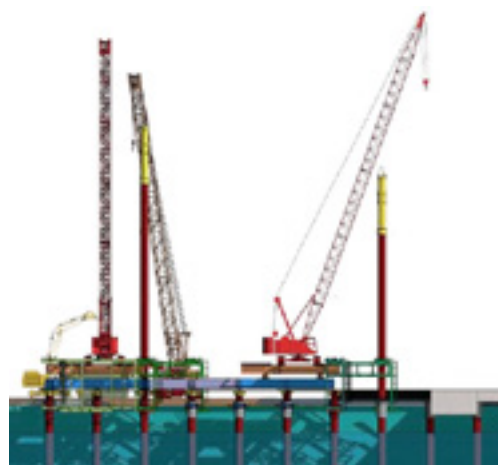


## VALUE ENGINEERING - BIM

### BIM - BUILDING INFORMATION MODELING

#### Scope of Works

EXE QUADRANTE set off using BIM processes across all phases of the project lifecycle as early as 2015. In EXE-QUADRANTE, BIM is about providing the right data to support decision-making at very early stages of the project, enabling efficiency and accuracy, adding value and encouraging greater synergies between all stakeholders, and most significantly, deliver greater predictability throughout the entire project lifecycle.







## COASTAL ENGINEERING

### COASTAL PROTECTION AND BREAKWATERS

#### Scope of Works

- Coastal protection studies
- Detail design for rock revetment
- Marine Hydraulics and wave studies





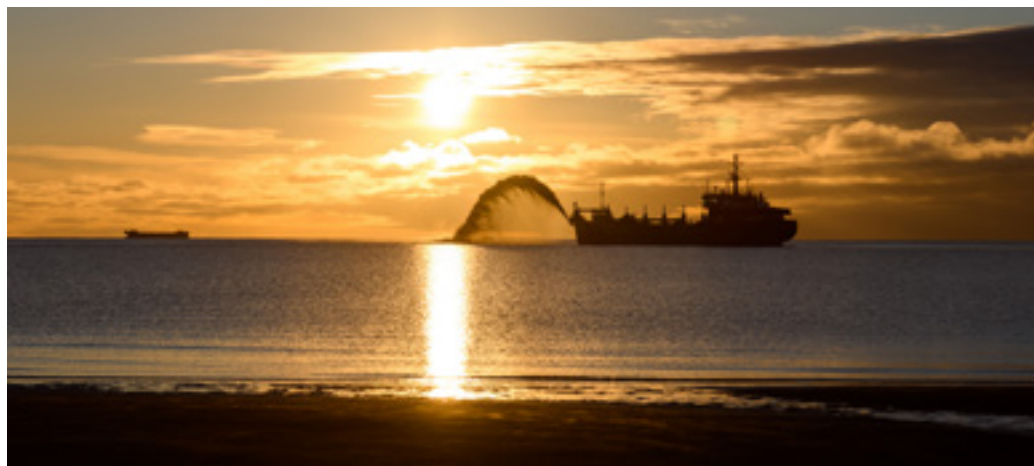


## COASTAL ENGINEERING

### DREDGING AND RECLAMATION

#### Scope of Works

- Waterways, access channels and berth pockets design
- Dredging and Reclamation Design





# EXPERIENCE

P O R T S   E L E C T R I F I C A T I O N   &   R E N E W A B L E   E N E R G Y





## PORTS ELECTRIFICATION & RENEWABLE ENERGY

### OPS AND 30KV MEDIUM VOLTAGE NETWORK LEIXÕES

#### Country

Portugal

#### Scope of Works

- Concept Design
- Detailed Design







## PORTS ELECTRIFICATION & RENEWABLE ENERGY

### OPS FOR CRUISE AND 5NO CONTAINER TERMINALS LISBON

#### Country

Portugal

#### Scope of Works

· Feasibility Study







## PORTS ELECTRIFICATION & RENEWABLE ENERGY

### CRUISE TERMINAL / SANTA APOLÓNIA SUBSTATION LISBON

#### Country

Portugal

#### Scope of Works

· Detailed Design







## PORTS ELECTRIFICATION & RENEWABLE ENERGY

### PORT SUBSTATION LUANDA

#### Country

Angola

#### Scope of Works

· Detailed Design







## PORTS ELECTRIFICATION & RENEWABLE ENERGY

### CRUISE AND FERRY TERMINAL OPS PORTIMÃO

#### Country

Portugal

#### Scope of Works

· Feasibility Study







## PORTS ELECTRIFICATION & RENEWABLE ENERGY

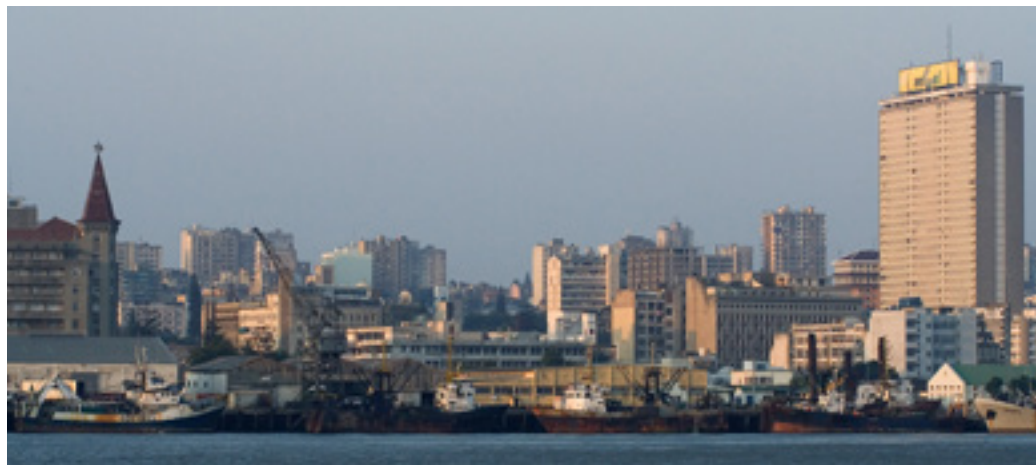
### EXPANSION PROJECT MAPUTO

#### Country

Mozambique

#### Scope of Works

- Concept Design
- Tender Support
- Design Review and Supervision







## PORTS ELECTRIFICATION & RENEWABLE ENERGY

### PV PLANTS – 272MW RIO MAIOR & TORRE BELA

#### Country

Portugal

#### Scope of Works

· Basic and Detailed Design of the PV Plant and Substation







## PORTS ELECTRIFICATION & RENEWABLE ENERGY

### PV PLANT – 450 MW CORUCHE

#### Country

Portugal

#### Scope of Works

· Environmental Impact Assessment and Permitting Design of the PV Plant and Substation





## PORTS ELECTRIFICATION & RENEWABLE ENERGY

### PV PLANT – 202 MW CERCA

#### Country

Portugal

#### Scope of Works

· Permitting and Tender Design of the PV Plant





## PORTS ELECTRIFICATION & RENEWABLE ENERGY

### 11 MW & 9 MW PV PLANTS ALJEZUR & SABUGAL

**Country**

Portugal

**Scope of Works**

· Detailed Design and Permitting





# **EXPERIENCE**

T R A N S P O R T   I N F R A S T R U C T U R E





## TRANSPORT INFRASTRUCTURE

### RAILWAY ACCESS AND RAIL YARD (8,7 KM) SETÚBAL

#### Country

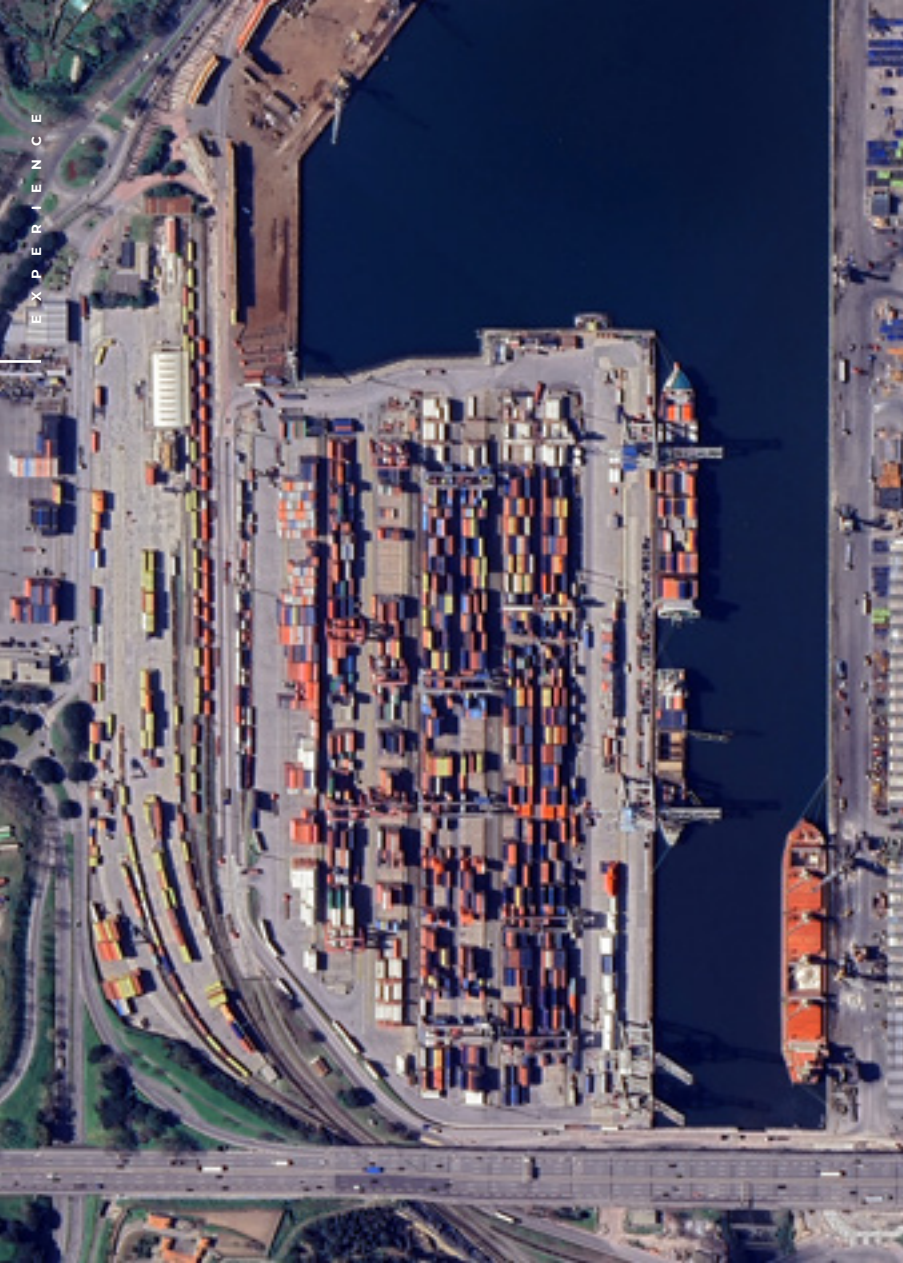
Portugal

#### Scope of Works

- Preliminary Design
- Detailed Design
- Technical Assistance







## TRANSPORT INFRASTRUCTURE

### RAILWAY TERMINAL LEIXÕES

#### Country

Portugal

#### Scope of Works

- Feasibility Study
- Preliminary Design
- Detailed Design







## TRANSPORT INFRASTRUCTURE

### HIGH SPEED RAILWAY LINK POCEIRÃO – CAIA

#### Country

Portugal

#### Scope of Works

- Preliminary Design
- Detailed Design





# EXPERIENCE

LOGISTICS AND INDUSTRIAL PROJECTS





## LOGISTICS AND INDUSTRIAL PROJECTS

### LOGISTICS PARK (GBA 35000 M<sup>2</sup>) JAGUARÍUNA

#### Country

Brazil

#### Scope of Works

· Engineering Detail Design







## LOGISTICS AND INDUSTRIAL PROJECTS

### IKEA STORE AND MAR SHOPPING LOULÉ LOULÉ

#### Country

Portugal

#### Scope of Works

· Engineering Detail Design







## LOGISTICS AND INDUSTRIAL PROJECTS

### CENTRAL MARKET KUMASI

#### Country

Ghana

#### Scope of Works

· Engineering Detail Design





# EXPERIENCE

P M C   A N D   S U P E R V I S I O N





## PMC AND SUPERVISION

### PORT OF BARCELONA BARCELONA

#### Country

Spain

#### Scope of Works

- Technical assistance for the construction works and quality control







## PMC AND SUPERVISION

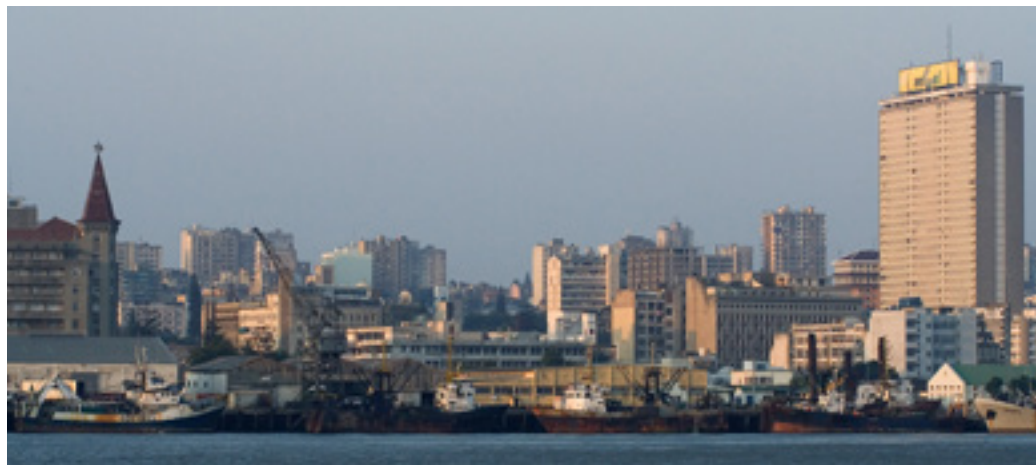
### MAPUTO PORT EXPANSION PROJECT MAPUTO

#### Country

Mozambique

#### Scope of Works

- Concept Design
- Tender Support
- Design Review and Supervision

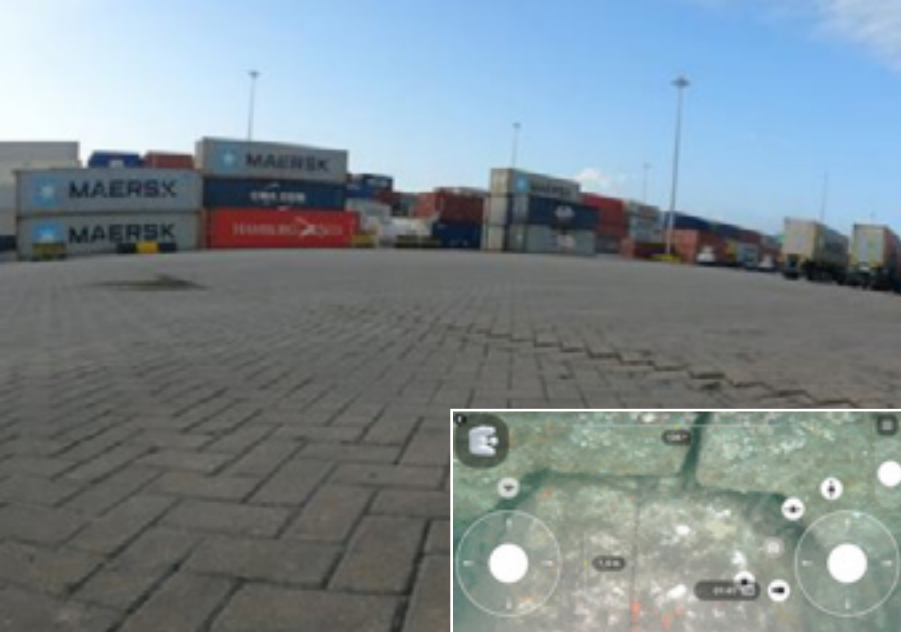
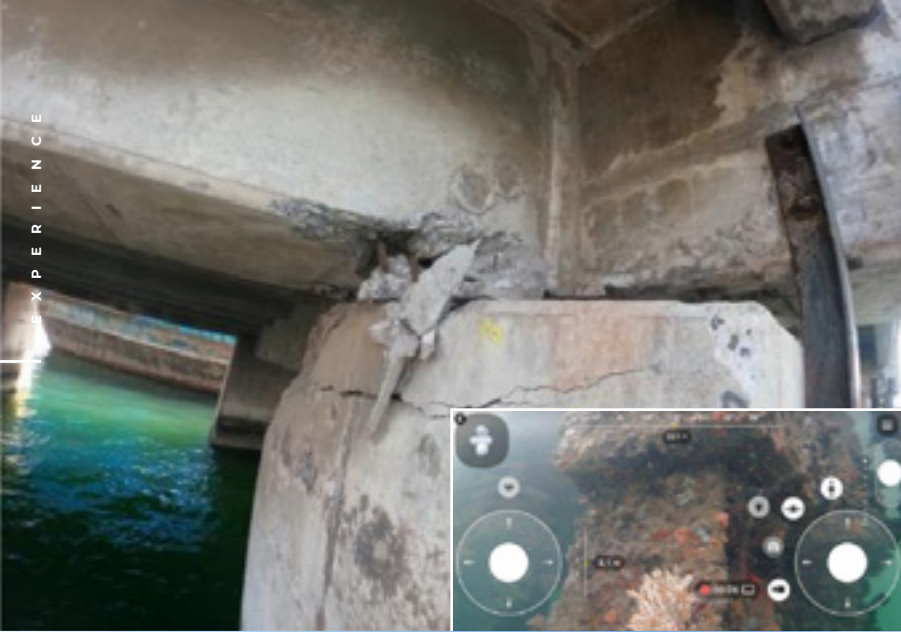




**EXPERIENCE**

DUE DILIGENCE





## DUE DILIGENCE

**Due diligence in quay inspections ensures structural integrity, operational safety, and compliance with maritime standards, safeguarding long-term functionality and investment**

- Site Surveys
- Bathymetric, Topographic and underwater inspection
- Structural Inspection
- Site Surveys and investigation reports
- Preliminary designs and drawings for the refurbishment works
- BOQ
- Cost estimation
- Environmental Impact Assessment (EIA) Inputs for the soffit works
- Inputs for Permits and Licencing

## Selected Experience

- Port of Paranaguá, Brasil
- Trombetas Port - MRN Mining Terminal, Brasil
- Salt Offshore Loading Terminal – Areia Branca, Brasil
- Djibouti Container Terminal, Djibouti
- LMC PIER, Monrovia Free Port, Liberia



# EXPERIENCE

ENVIRONMENT & SUSTAINABILITY



## ENVIRONMENT & SUSTAINABILITY

### Services

- Capital Project Support – ESG / Sustainable Finance / EU Taxonomy
- Resource Efficiency and Climate Change
- Contaminated Land Management
- Operational Performance
- Risk Assessment
- Land Use Planning
- Digital

### Capital Project Support - ESG / Sustainable Finance / EU Taxonomy

- Lenders / ECA Liaison
- Project Finance and EP advisory services
- EP/IFC PS E&S Due Diligence
- Siting, Project E&S Feasibility and Permitting Strategy
- Environmental Constraints and Alternative Analysis
- E&S Risk & Vulnerability Assessment
- E&S Scoping Assessment
- E&S Impact Assessment (ESIA)
- Physical Resettlement and Livelihood Restoration Plans
- Human Rights Impact Assessment
- ESAP Monitoring during Construction
- Post-finance E&S Monitoring
- EU Taxonomy
- Social Performance



**LEADERSHIP**





## RUBENS SABINO

Managing Director  
**Civil Engineer, PIANC Member**

Rubens Sabino is the founding partner of EXE ENGENHARIA. With over 40 years of experience in port and marine engineering, in Brazil, South America, Central America and Central Africa. With a degree in Civil Engineering from Universidade Federal Fluminense, his experience includes, among others, the development of container general cargo and bulk terminals, maritime foundations, special structures and shipyards.

During the last twenty years, Mr. Sabino has driven EXE ENGENHARIA to take part in several design and construction projects in many countries such as Djibouti, Peru, Ecuador, Colombia, Guine Bissau, Morocco, Namibia, Angola, Cuba, Chile, Mozambique, Argentina, Guatemala, Panama, Dominican Republic, Libya, Guatemala, Algeria, Venezuela, Brunei and Indonesia.

At EXE-QUADRANTE, Rubens is also responsible for the Latin American market.

### Main projects

- Iron Ore Terminal Píer III - Ponta da Madeira – Brazil;
- Doraleh Bulk Terminal – Djibouti;
- Callao Container Terminal – Peru;
- Punta Catalina Port – Dominican Republic;
- Itapoá Pile Driving Barge – Brazil;
- Paranaguá Port - Píer “F” – Brazil





## TIAGO COSTA

Managing Director  
**Structural Engineer, MBA**

Tiago Costa is one of the founding partners of QUADRANTE and is responsible for the Transports Business Unit (Roads and Motorways, Railways, Structural Works, Ports and Tunnels) and for the markets in Ghana, Peru and Chile. Costa has 20 years of experience in Design and Coordination of major road subconcession projects, general construction and structural works, and urban infrastructure in Angola, Algeria, Brazil, Ghana, Mozambique and Portugal. He has recently been involved in railway projects in Portugal and the United Kingdom. He has a degree in Civil Engineering from IST and an MBA.

### Main projects

- Railroad project Kano - Maradi / Kano – Dutse | 400km - Nigeria;
- Highway project Accra / Tema | 32km - Ghana;
- Panamericana highway project – Panamá;
- Project and contract management on several Highway projects - Portugal;
- Hassi Messaoud e Sidi Abdelah new city project – Algeria





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## NUNO CORREIA

Commercial Manager - Business Developer

**Civil Engineer, PMP, PMI**

With over 15 years' experience in the maritime, harbour and urban infrastructure construction sector, Nuno Correia holds a Master's degree in Civil Engineering from FEUP and is PMP-certified by PMI. Throughout his career, he has accumulated vast experience in large-scale projects, from conception to execution, with a focus on technical-commercial coordination, strategic planning, contract execution and contract management. With a strong international track record, acquired in Tier 1 construction companies, Nuno has collaborated on projects in Europe, Africa and Latin America, leading teams in the drafting and negotiation of complex contracts. He stands out for his ability to promote collaboration in cross-functional environments, ensuring high standards of quality and safety. He currently works as Client Manager for the maritime projects at EXE-QUADRANTE.



A stylized map of the Atlantic Ocean in light gray. A dashed orange line curves from a dark blue dot in Portugal (top right) to a dark blue dot in Brazil (bottom right).

## P O R T U G A L

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