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# Company and Service Presentation

2020-11-27

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# OVERDICK

A company of TRACTEBEL



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# TRACTEBEL OVERDICK COMPANY PRESENTATION

## Chapter 1

Tractebel Overdick

## Chapter 2

Engineering Services

## Chapter 3

Selected Project References

# 01

## Tractebel Overdick



# TRACTEBEL OVERDICK GMBH



## OVERDICK Hamburg

- Global Headquarter



## OVERDICK Kuala Lumpur

- Subsidiary Malaysia
- OV Consulting Engineers

**OVERDICK** is a company specialized in modern offshore and naval engineering; we cover the entire spectrum from initial design through all the engineering phases up to fabrication and transport and installation site support. Maintenance engineering, structural integrity and inspection planning is also part of our services as well as platform decommissioning and wreck removal engineering and management. Our focus lies on applying innovative engineering methods to achieve practical and economical solutions to the complex challenges faced by our clients.

We can provide the entire service spectrum needed to realize your project, from the concept and contract design, basic and detail-design, project management and document review to supervising fabrication and operations. We can design the entire unit or offer services to resolve detailed tasks inside our client's project.

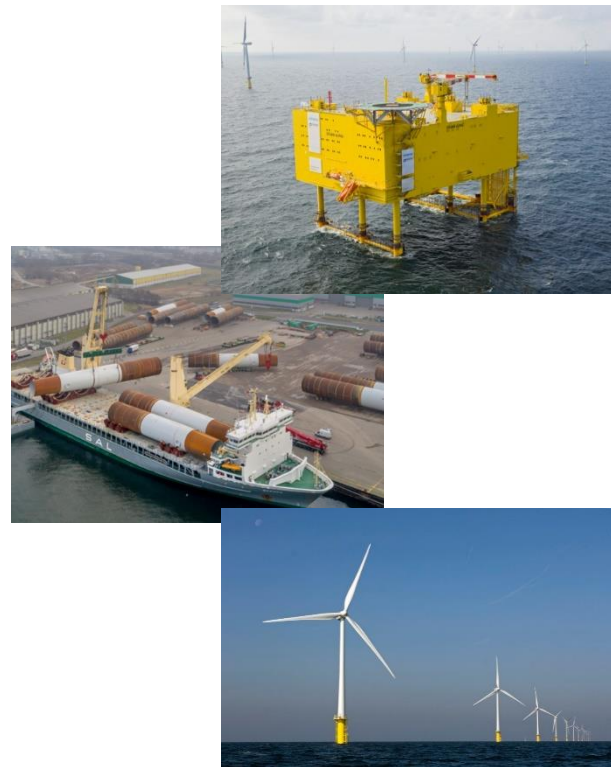
Since October 2018 OVERDICK belongs to the Tractebel Engineering group and changed the company name to **Tractebel Overdick**.

# Why working with us?!

- **Complete technical expertise** in offshore, marine and civil engineering related domains, allowing for overall optimizations and cost competitive solutions.
- Experience in technical consultancy / design activities as from early project phases up to operational phase.
- Flexible and **thinking along** attitude in order to find **winning solutions**.
- **Innovating** solutions, dynamic reporting, state-of-the-art engineering.
- A perfectly **integrated team**, with the trusted expertise of integrated company know-how.

**OVERDICK**

**TRACTEBEL**  
ENGIE





# Engineering Services





# Tailor-made for Success

**OVERDICK** can assist customers in every project phase from concept design all the way through to commissioning.

- Field Development Studies
- Concept Definition Screenings
- Pre-FEED (Concept)
- FEED (Basic Engineering)
- Transport and Installation Engineering
- Detail Engineering

- Project Management
- Procurement
- Transport and Installation Management
- Expert's Surveys
- Construction Supervision
- Document Reviews /Controlling
- Fabrication and Offshore Operation Supervision

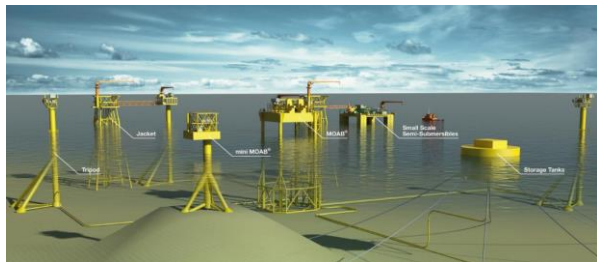


# Engineering Services

## Concept and Design

Engineering Services:

- Innovative solutions
- Concept studies and designs
- Market studies
- Pre-FEED and FEED designs
- Basic design packages





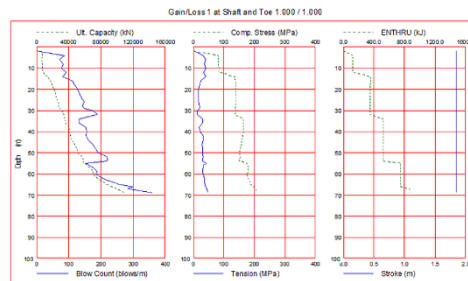
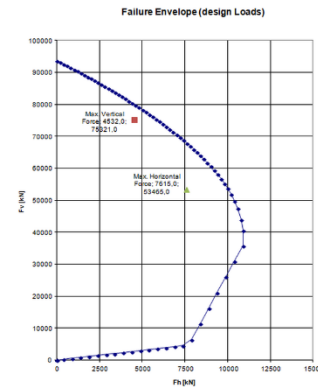
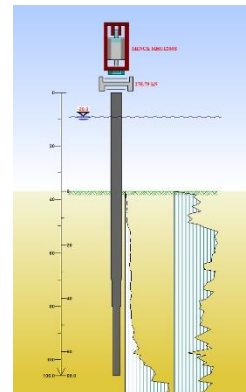
# Engineering Services

## Geotechnical Engineering

### Engineering Services:

- Pile foundation design
- Large diameter monopiles
- Driving simulation
- Sensitivity studies
- Temporary stabilities
- Jack-up site specific assessment
- Gravity base foundation
- Suction can design
- Mud mat design
- Accumulated inclination

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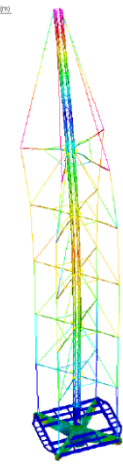
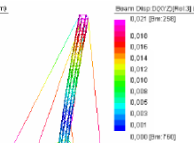
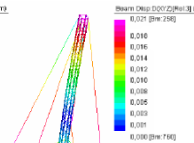
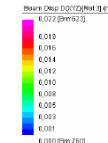
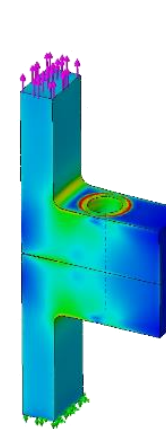
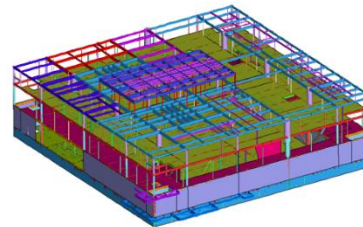
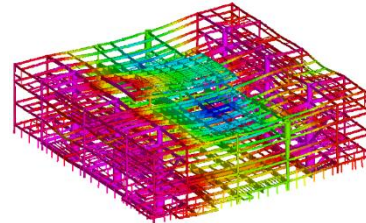
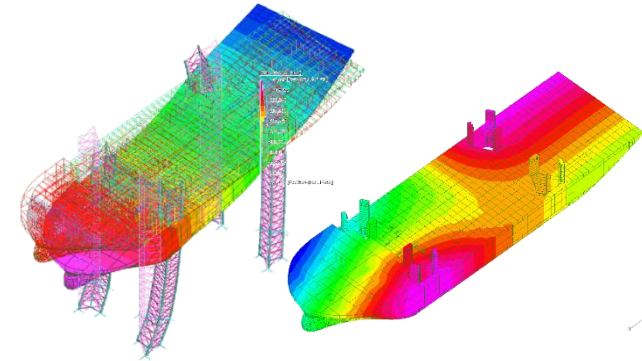
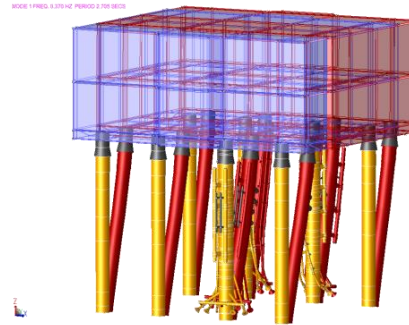


# Engineering Services

## Structural Design and FEA

### Engineering Services:

- Global strength assessment
- Local FEM simulation
- Submodel technique
- Non-linear / transient / explicit
- Beam / plate / solid elements
- Buckling analysis
- Strain analysis
- Hot-spot assessment
- Vibration analysis
- ...



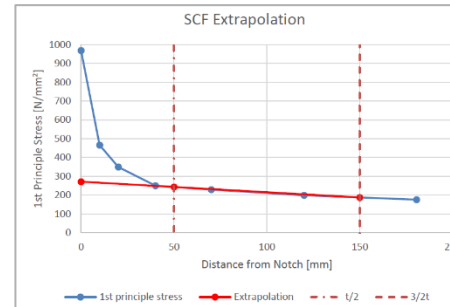
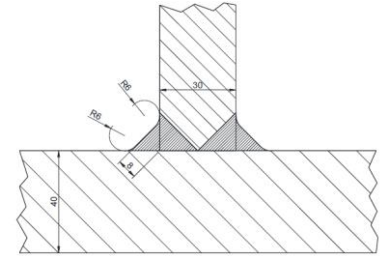
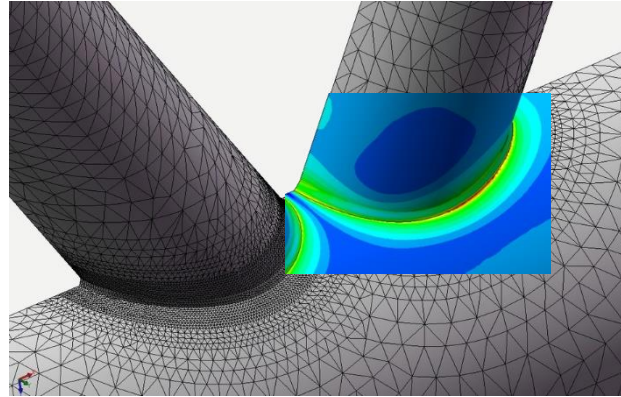
# Engineering Services

## Fatigue Assessments

Engineering Services:

- Load spectra definition
- Transport fatigue
- In-place analysis
- SCF determination
- Hot-Spot assessment
- Damage assessment
- Lifetime analyses

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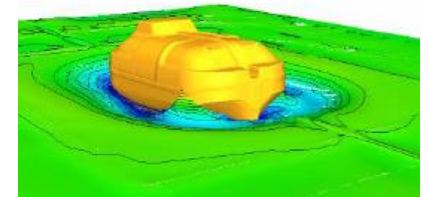
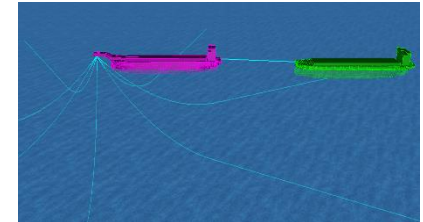
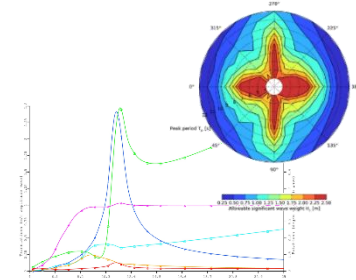
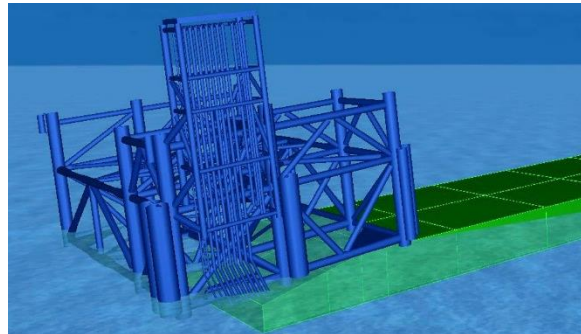
# Engineering Services

## Marine Operations

### Engineering Services:

- Procedures / method statements
- Hydrostatic transport analysis
- Motion analysis
- Launch simulation
- Crane operation simulation
- Float-over simulation
- Load-out simulations
- Wave run-up
- Fluid structure interaction
- DP Capability

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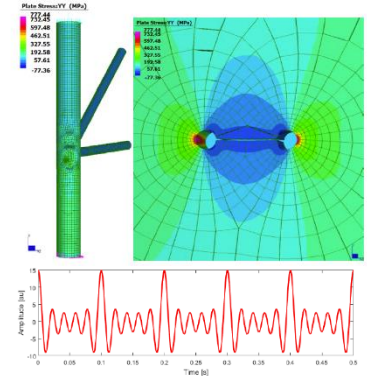


# Engineering Services

## Structural Integrity Management

### Engineering Services:

- Inspection planning
- Inspection review
- Structural verification
- Online load monitoring
- Repair procedures
- Life time extension
- Fatigue assessments
- Weight assessment
- As-build documentation
- ...



# Engineering Services

## Offshore Decommissioning and Wreck Removal

### Engineering Services:

- Concept development
- Approval engineering
- Method statements and procedures
- Operation planning
- Risk assessments and evaluations
- Temporary operating condition analyses
- Temporary structures design
- On-Site Support

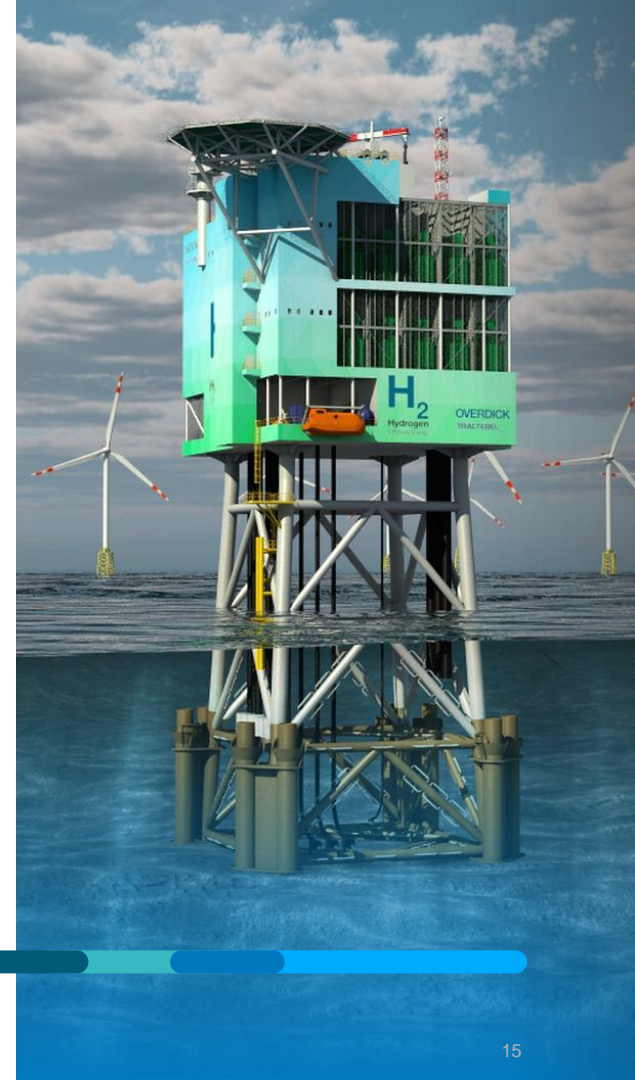
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## Project References



# Offshore HVAC Platforms

## Engineering Services:

- Concept and Basic Design
- Structural Design
- HV, MV LV, Electrical System
- SCADA System
- Foundation and Geotechnical
- Transport and Installation
- FMEA, HAZID, HAZOP, RAMS
- Detail Design



# Offshore HVAC Platforms

## Selected References

### Concept and Basic Design References:

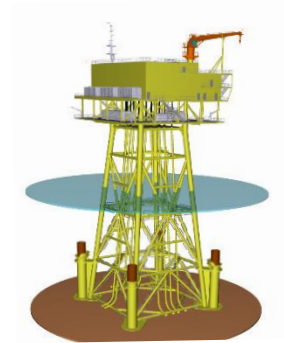
- 400 MW HVAC OSS Veja Mate
- 400 MW HVAC OSS MEG 1
- 400 MW HVAC OSS GlobalTech 1
- 400 MW HVAC OSS Borkum West 2
- 600 MW HVAC OSS Dunquerke

### General Project Support and Consultancy:

- 600 MW HVAC Offshore Substation CFXD
- 600 MW HVAC OSS Hohe See
- 288 MW HVAC OSS Dan Tysk

### EPCM Contractor (TE Belgium):

- 129 MW HVAC OSS Luchterduinen
- 288 MW HVAC OSS Butendiek
- 288 MW HVAC OSS Amrumbank
- 600 MW HVAC OSS Gemini
- 400 MW HVAC OSS Merkur





# Offshore HVDC Platforms

## Engineering Services:

- Concept and Basic Design
- Structural Design
- HV, MV LV, Electrical System
- SCADA System
- Foundation and Geotechnical
- Transport and Installation
- FMEA, HAZID, HAZOP, RAMS
- Detail Design



# Offshore HVDC Platforms

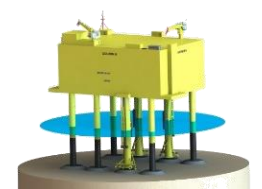
## Selected References

### Concept and Basic Design References:

- 800 MW HVDC Converter Station Borwin2
- 600 MW HVDC Converter Station Helwin1
- 900 MW HVDC Converter Station Sylwin 1
- 800 MW HVDC Converter Station Dolwin3
- 900 MW HVDC Converter Station Concept
- 1200 MW HVDC Converter Station FEED UK
- 900 MW HVDC Converter Station Dolwin4
- 900 MW HVDC Converter Station Borwin4

### General Project Support and Consultancy:

- 400 MW HVDC Converter Station Borwin1
- 800 MW HVDC Converter Station Helwin2
- 600 MW HVDC Converter Station Borwin3



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# Offshore Wind Turbine Foundations

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## Engineering Services:

- Concept Design
- Basic Design
- Electrical System Design
- Cathodic Protection System
- Geotechnical Engineering
- Detail Design
- Transport and Installation





# Offshore WTG Foundation Design

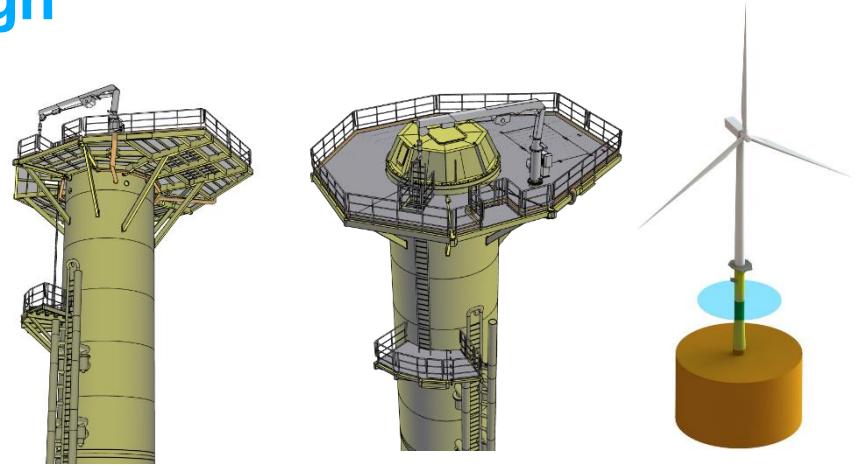
## Selected References

Concept and Basic Design References:

- Borkum West 2 Extension WTG Foundations
- Norther OWF
- Rentel OWF
- Thornton Bank OWF

General Project Support and Consultancy:

- Hohe See OWF Jacket Foundations
- Baltic 2 OWF Jacket
- East Anglia OWF Jacket Foundations
- Rhyl Flats OWF



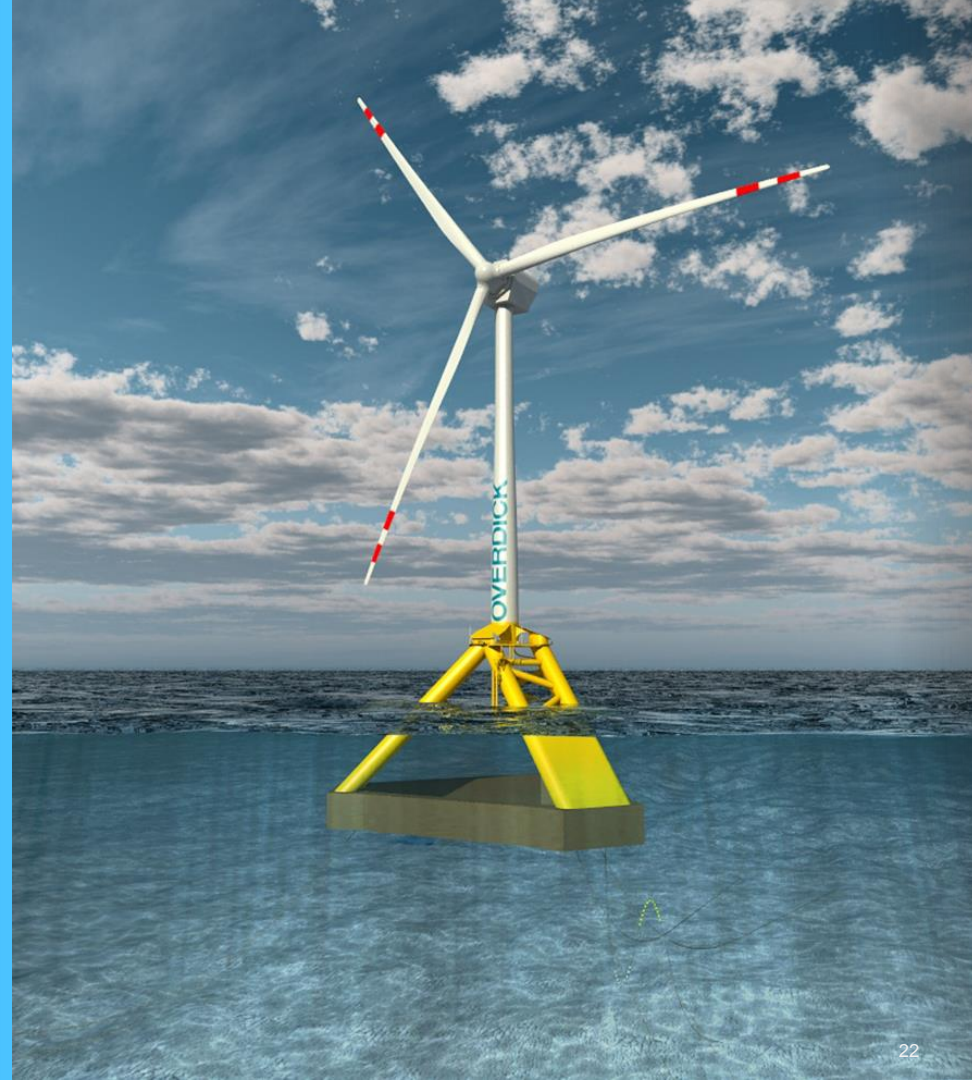
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# Floating Offshore Wind Turbine Foundations

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## Engineering Services:

- Concept Design
- Basic Design
- Electrical System Design
- Mooring System
- Cable Connection
- Tank Test Support
- Detail Design
- Transport and Installation



# Offshore Floating WTG Foundation Design

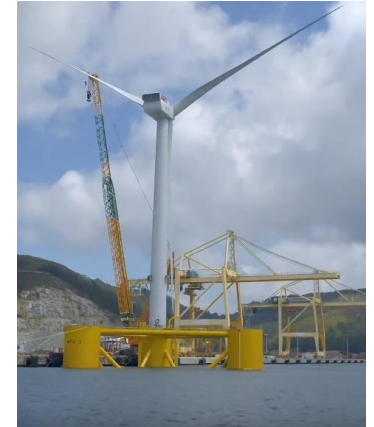
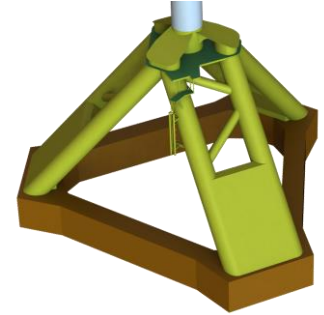
## Selected References

Concept and Basic Design References:

- OV WTG Floater
- Nezy Floater
- ERM Dolphyn H2 Project

General Project Support and Consultancy:

- Nezy<sup>2</sup> Floater
- WindFloat 1
- WindFloat Atlantic





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# Transport & Installation Engineering

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## Engineering Services:

- Concept Definition
- Basic Engineering
- Method Statements
- Procedures
- HAZID and HAZOP
- Safety Case Reports
- Operation Planning



# Transport & Installation Engineering

## Selected References

### Executed Projects and Engineering References:

- Dolwin3 HVDC, North Sea
- Sylwin1 HVDC, North Sea
- Helwin1 HVDC, North Sea
- Borwin2 HVDC, North Sea
- Global Tech 1 OSS, North Sea
- SANAGA Platform, West Africa
- AKCAKOCA Platform, Black Sea
- EMERAUDE Platform, West Africa
- BUNGA RAYA E Platform, Malaysia
- TRENT Annexe Platform, North Sea
- SOUTH ANGSI Platform, Malaysia
- BUNGA RAYA A Platform, Malaysia
- F2A HANZE Platform, North Sea



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# Electrical Engineering

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## Engineering Services:

- Concept Definition
- Basic Engineering
- Specifications
- Single Line Diagrams
- Network Studies
- SCADA Systems
- Protection and Control Systems
- Detail Design
- EPC Contracting



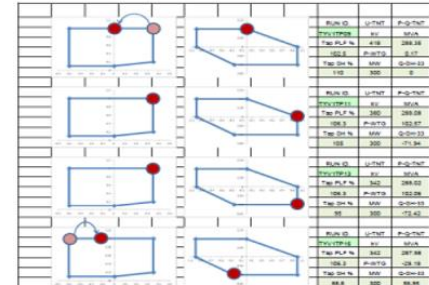


# Electrical Engineering

## Selected References

Executed Projects and Engineering References:

- Dolwin3 HVDC, North Sea
- Sylwin1 HVDC, North Sea
- Helwin1 HVDC, North Sea
- Borwin2 HVDC, North Sea
- Global Tech 1 OSS, North Sea
- SANAGA Platform, West Africa
- AKCAKOCA Platform, Black Sea
- EMERAUDE Platform, West Africa
- BUNGA RAYA E Platform, Malaysia
- TRENT Annexe Platform, North Sea
- SOUTH ANGSI Platform, Malaysia
- BUNGA RAYA A Platform, Malaysia
- F2A HANZE Platform, North Sea



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# Naval Architecture and Marine Asset Design

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## Engineering Services:

- Concept Definition
- Basic Engineering
- Hydrostatic and Damage
- Motions and Hydrodynamics
- Global and Local Strength
- Jack-Up Systems
- Crane Pedestal
- Ship System Design



# Naval Architecture and Marine Asset Design

## Selected References

### Executed Projects and Engineering References:

- Jack-Up Vessel THOR
- Heavy Lift Jack-Up Vessel INNOVATION
- Barge KURT
- Push/ Pull Tug

### Modification of Existing Vessels References:

- BIBBY SAPPHIRE OSV to DSV conversion
- Jack-Up Barge ODIN upgrade with new crane
- Research Vessel AURELIA LQ extension
- Jack-Up Barge MEB-JB1 upgrades and modifications

### Modification of Existing Vessels References:

- 30t BP Tugboat
- 200 POB Offshore Service Jack-Up
- Offshore Logistic Hub Vessel





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# Decommissioning and Removal

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## Engineering Services:

- Concept Definition and Selection
- Basic Engineering
- Temporary Stage Assessments
- Safety Case Report
- Marine Operation Planning
- Detail Design
- Fabrication Supervision
- On-Site Support



# Decommissioning and Removal

## Selected References

Executed Projects and Engineering References:

- PICKERILL A and B Platform Removal
- Tappan Zee Bridge Removal
- Kiel Channel Lock Gate Removal
- THAMES Platform Complex Removal
- COSTA CONCORDIA Wreck Removal
- WELLAND Platform Removal
- N23 Jacket Removal
- MANSLAGT WH Platform Removal
- SOUTH ANGSI Removal Concept Study
- SCHWEDENECK Platform Removal



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# Brownfield Engineering Services

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## Engineering Services:

- Concept Definition
- Modification Concepts
- Basic Engineering
- Structural Integrity Analyses
- Life-Time Extension
- Operation Planning
- On-Site Surveys
- Detail Design



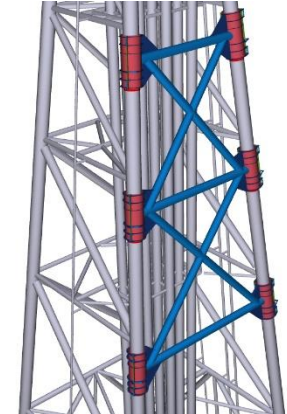


# Brownfield Engineering Services

## Selected References

Executed Projects and Engineering References:

- Istria Life-Time Extension Project
- PFS Platform Riser, Helideck, Lifeboat Modifications
- BR-E Topside Upgrades
- BR-D Riser Guard installation
- GLORIA Strength Assessments
- MITTELPLATE A Crane Upgrade
- Dolwin3 Temporary LQ Installation
- PFSU Bracing Retrofit Project
- Dolwin1 Jacket Clamp Installation
- Leman 27 Structural Assessment



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