

# PROJECT SHEET

## BALTIC PIPE LILLEBÆLT CROSSING PROJECT

### BOSKALIS

Royal Boskalis Westminster is a leading global marine contractor and services provider. With safety as our core value, we offer a wide variety of specialist activities to the oil & gas and renewables sectors. These activities include marine installation and decommissioning, seabed intervention, marine transport and services, subsea services and marine survey. In addition, Boskalis is a global dredging contractor, provides towage and terminal services across the globe and delivers marine salvage solutions.

By understanding what drives our clients we are able to provide the solutions that enable them to meet their specific business goals. For this reason we are constantly looking for new ways to broaden and optimize our offering and are committed to expanding our proposition, supported by our financial strength.

With our committed professionals in engineering, project management and operations, 900 specialized vessels and an unprecedented breadth of activities in 90 countries across six continents we help our clients in the offshore industry push boundaries and create new horizons.

### INTRODUCTION

The Baltic Pipe - Lillebælt Crossing Fænø project ("Project") forms a part of the overall Baltic Pipe project and includes fabrication and installation of a 4 km offshore gas-pipeline passing south of the island Fænø, which is a protected Nature 2000 area. The purpose of the Baltic Pipe Lillebælt - Crossing Fænø project is to connect the onshore pipelines on Jutland and Funen, as to ultimately enable the transmission of gas from Norway to Poland.

### SCOPE OF WORKS

The Project was executed based on a EPCI contract (engineering, procurement, construction, installation), which involved a wide range of seabed intervention activities, such as:

1. Installation engineering
2. Pipeline welding and commissioning
3. Trenching
4. Execution of two landfalls (on Jutland and Funen islands)
5. Installation and decommissioning of guide piles south of Fænø, together with the installation of a double bubble curtain
6. Pipe pull services
7. Cofferdam construction
8. Post-lay rock installation/backfilling of the pipeline trench

### FEATURES

Client	Energinet GAS TSO A/S
Location	Lillebælt, Denmark
Period	March 2020 – November 2020
Contractor	Boskalis Offshore Subsea Contracting B.V.
Main activities	Engineering, dredging, post-lay rock installation, pipe pull, landfall, cofferdam construction.



- A Project location
- B Installation of guide piles and double bubble curtain

### CURVED PIPE PULL

The unique experience we had at this project was the curved pipeline pulling between the islands. Since the landfalls of the islands (Jutland and Funen) were not aligned, the curved route of pipeline installation was required.

A stringing site was organized at the Jutland landfall, where the pipes were assembled into strings before their pulling towards the Funen landfall. Boskalis has designed and fabricated the custom-made guide piles to achieve the required bend of the pipeline route. A mock-up test was conducted in Vlissingen prior to execution to provide the successful implementation of this unique design solution on site.



### PROJECT CHALLENGES

The Lillebælt project was executed at an environmentally sensitive location with many stakeholders and at a time that the Baltic Pipe project was under scrutiny experiencing a delicate political situation. Boskalis together with the Client demonstrated a successful pro-active approach and established effective cooperative relations with the stakeholders via various stakeholder meetings.

As EPCI contractor, Boskalis managed several Subcontractors with respect to onshore works, welding and commissioning, design, and procurement of materials for the works. This demonstrated the capabilities of Boskalis for managing high complexity projects.

With the unforeseen outbreak of the COVID-19 virus, which evolved in the pandemic in the start of the Project, the coordination between parties was rather challenging. Pro-active engagement, COVID-19 friendly team building events, online kick-off sessions and maintaining a strict quality control regime ensured that the project was delivered in time and with high standards.



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### KEY PROJECT FIGURES

Pipeline welding and pre-commissioning:

- Welding 4,200 m of pipeline
- Non-destructive testing of welds
- Installation of in-fill coating upon welds
- Pre-commissioning of the pipeline
- Pull head engineering and fabrication

Guide Pile Installation

- Design and Fabrication of 6 guide piles
- Guide pile installation and decommissioning

Pipe pull and wire-lay

- 500 tons linear winch
- 4,200 m pipe pull with a 128 mm dia pull-wire
- DP Wire-lay spread
- 4,200 m Offshore trenching and backfilling

### PROJECT EQUIPMENT

- Backhoe dredger
- Trailer suction hopper dredger
- Dynamically positioned fallpipe vessel
- Grab dredger
- Split hopper barges
- Support vessels

### CONCLUSION

The Project once more successfully showed that Boskalis is a capable EPCI Pipeline installation Contractor. To full satisfaction of the Client, Boskalis actively managed this complex project which included a wide range of seabed intervention services in a stakeholder and nature sensitive area.



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- C Welding of the pipeline
- D Trenching with the Nordic Giant
- E Linear winch set-up and completion of Pipe Pull
- F Stringing yard

### Boskalis

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