

# PROJECT SHEET

## DOLWIN3

TRANSPORT & FLOAT OVER INSTALLATION OF THE DOLWIN GAMMA HVDC TOPSIDE

### BOSKALIS

Royal Boskalis Westminster N.V. is a leading global services provider operating in the dredging, maritime infrastructure and maritime services sectors. The company provides creative and innovative all-round solutions to infrastructural challenges in the maritime, coastal and delta regions of the world with services including the construction and maintenance of ports and waterways, land reclamation, coastal defense and riverbank protection. In addition, Boskalis offers a wide variety of marine services and contracting for the oil and gas sector and offshore wind industry as well as salvage solutions (SMIT Salvage).

Furthermore, Boskalis has a number of strategic partnerships in harbor towage and terminal services (Kotug Smit Towage, Keppel Smit Towage, Saam Smit Towage and Smit Lamnalco). With a versatile fleet of more than 900 vessels and floating equipment and 11,700 employees, including associated companies, Boskalis operates in 90 countries across six continents.

### DOLWIN 3 PROJECT

The DolWin Gamma offshore platform is a High Voltage Direct Current (HVDC) converter station that will be capable to deliver 900MW - enough to power 1,000,000 households with clean/green wind energy.

### FEATURES

Client	Nordic Yards GmbH, GE GmbH and TenneT Offshore GmbH	
Location	Warnemunde, Dolwin field offshore - German Bight (North Sea), Eemshaven, Rotterdam, Papendrecht	
Period	January 2015 – August 2017	
Contractor	Dockwise Shipping b.v.	
Seabed preparation	March – April 2016	
Fender Installation	April 2017	
Pile Cutting Campaign	May 2017	
Barge float over preparation Warnemuende	May 2017	
Transport of HVDC topside by wettow	June 2017	
Float over installation	July 2017	
Fender Removal campaign	July 2017	

#### Boskalis Vessels involved:

- Survey & preparation works: DSV ETD Protea & subsea excavator
- Dredging: TSHD Shoalway – active heave compensated, AHTS Union Bear
- Gravelbed installation: DPFV Rockpiper
- Pile Cutting and Fender Installation: DSV Constructor
- Transport HVDC topside: AHTS Union Manta & President Hubert
- Field preparation works for float over ops and main tow fender removal barge: AHTS Union Sovereign
- Assisting tug fender removal barge: Terramare 1

#### A Design





DolWin Gamma was built in separate jacket halves installed at 27 meters waterdepth in the German Bight of the North Sea. The topside was fabricated in Warnemunde and was installed by means of the float over method onto the jacket halves. The topside alone measures approximately 50H x 50W x 105L and weighs 18,000 tons.

Boskalis was contracted via Dockwise Shipping BV by Nordic Yards GmbH to transport and install by float over method the topside for their client GE GmbH and ultimately TenneT Offshore GmbH from Warnemunde to the location in the German Bight.

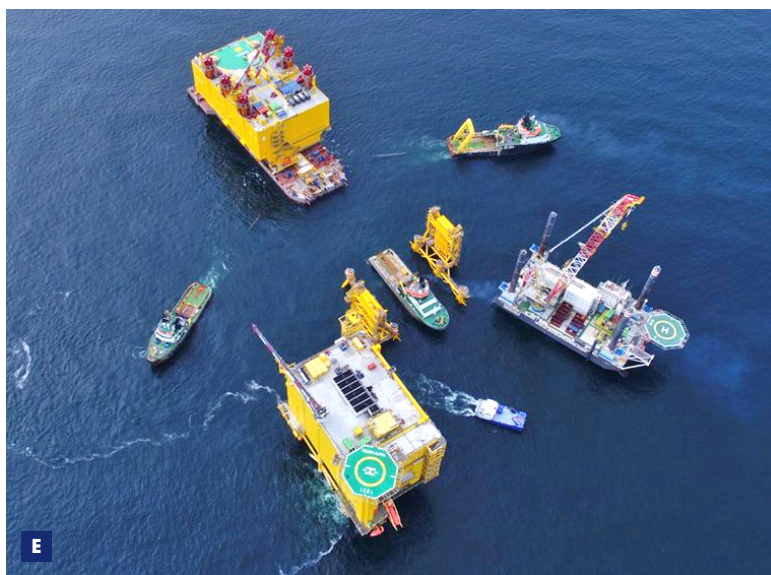
The DolWin 3 project encompassed further a large range of work scope such as the seabed preparation, survey, the installation of the fenders, diving, cutting of pile sleeves, preparation of the barge carrying the topside for the float over, towing to location, performing the float over, and finally the removal of the fenders from underneath the topside.

### SAFETY

Safety is our first priority during the execution of a project. The Boskalis NINA (No Injuries No Accidents) program was implemented in an early stage in all facets of the project and adopted by the client and all other stakeholders.

### DOLWIN3

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- B** Seabed Preparation
- C** PCFI
- D** Tow
- E** Float-Over
- F** Fender removal

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