

# Offshore Industry

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OFFSHORE ENERGY  
AMSTERDAM EDITION

## HEAVYWEIGHT LOAD TESTING

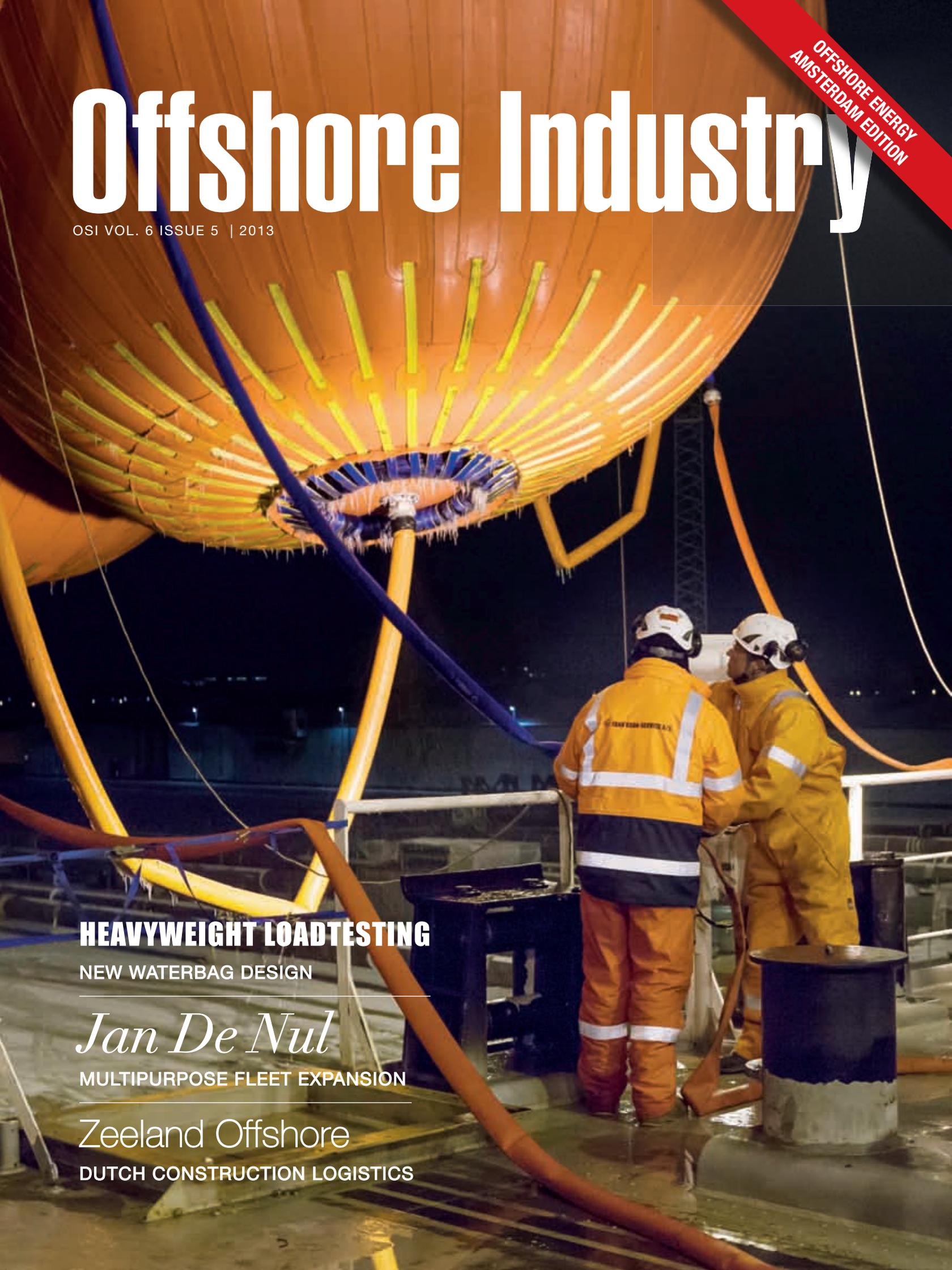
NEW WATERBAG DESIGN

*Jan De Nul*

MULTIPURPOSE FLEET EXPANSION

Zeeland Offshore

DUTCH CONSTRUCTION LOGISTICS



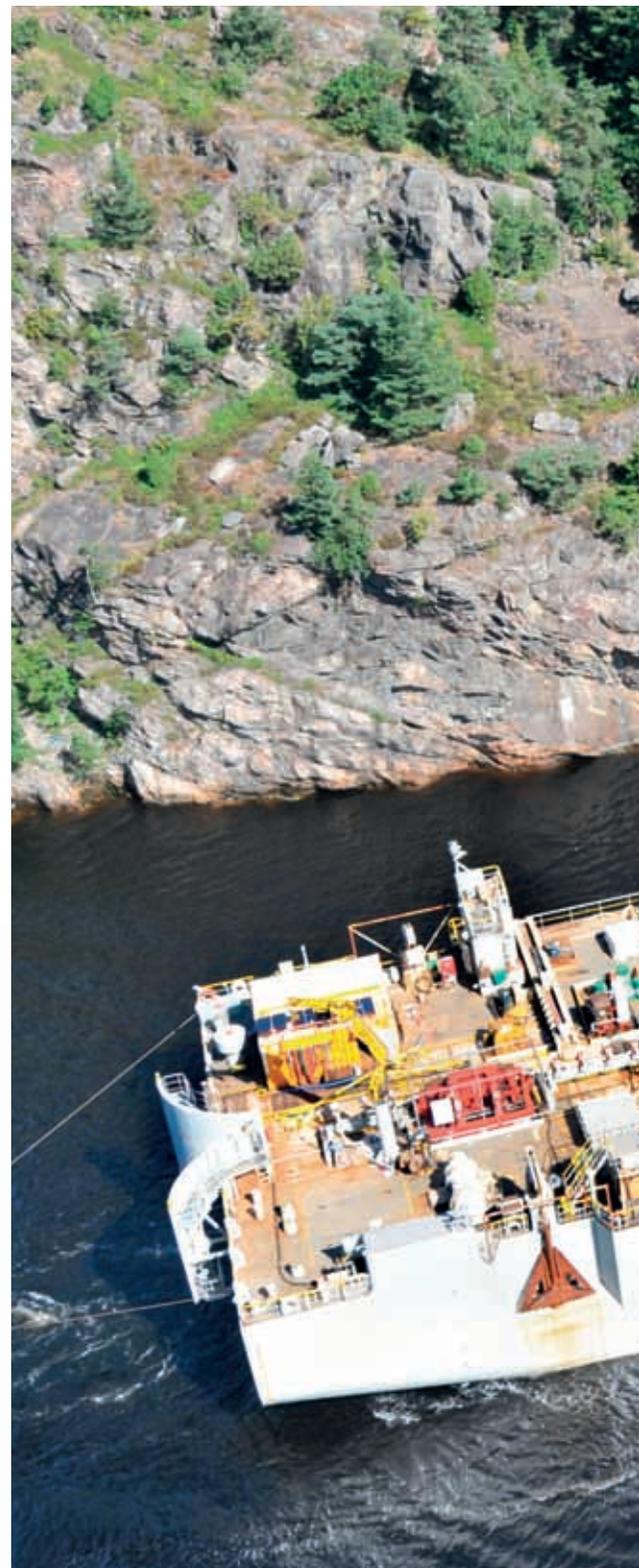
JAN DE NUL INVESTS IN CABLE LAY & SUBSEA CONSTRUCTION

# Fleet of Solutions



IN AUGUST, JAN DE NUL GROUP ORDERED THE 76TH VESSEL IN ITS FLEET – A TRUE MULTIPURPOSE DESIGN FOR TRENCHING AND OFFSHORE SUPPORT, SUBSEA ROCK INSTALLATION AND CABLE LAYING. THE BELGIUM-BASED MARINE CONTRACTOR ALSO RECENTLY EQUIPPED TWO OF ITS EXISTING ROCK INSTALLATION VESSELS WITH CABLE INSTALLATION EQUIPMENT. FOR OSI, JAN DE NUL OUTLINES HOW THE OFFSHORE INDUSTRY IS DRIVING ITS FLEET EXPANSION.

WORDS BY JOHN GAULDIE



“Clients prefer contractors that are able to provide a total solution for their project,” the company’s spokesperson stated. “Many of the projects Jan De Nul Group has participated in have demonstrated the potential for multipurpose vessels.” This is particularly true when combined with Jan De Nul’s already large existing fleet. Rather than traditional time charter practices, Jan De Nul’s new build programme and its experience in the oil and gas world (and the marine construction business in general) positions the company as a stronger EPCI partner for the market.



In August the Willem de Vlamingh loaded the 43 km long export cable at Nexans' facility in Halden, Norway, weighing 5,200 t in total.

### Single Vessel Mobilisation

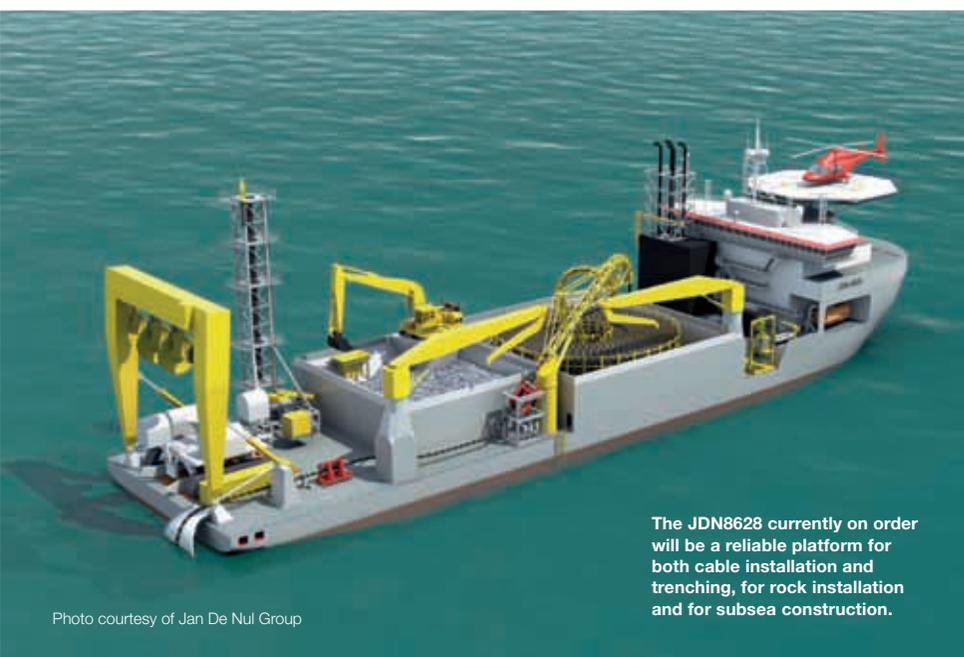
"The new vessel [preliminary name JDN8628] is distinctly innovative in many aspects. She will be a reliable platform for both cable installation and trenching, for rock installation and for subsea construction. Any combination of these, obviously within its overall carrying capacity, will be possible. Since many of the cable or umbilical installation projects require combinations of these capabilities, we will be able to offer on the basis of one single vessel mobilisation."

Following delivery from the Uljanik Shipyard in

Pula, Croatia, the JDN8628 will have some further distinctive features that make her unlike any competing vessel: overall capacity (10,000 t), shallow draught (6.5 m fully loaded and still on DP2), beachability and many others.

In the cable laying mode, the vessel will be able to install up to 10,000 t of cable and will thereto be equipped with a 5,500 t capacity turntable above deck and a 4,500 t capacity turntable below deck along with tensioners as required by the project, chute and auxiliary equipment.

In the subsea rock installation mode, the vessel >>



The JDN8628 currently on order will be a reliable platform for both cable installation and trenching, for rock installation and for subsea construction.

Photo courtesy of Jan De Nul Group

will be able to install up to 10,000 t of rock in a single load by using the aft stone hopper with a capacity of 3,000 t and the midship hopper with a capacity of 7,000 t along with the two excavators and the fall pipe for accurate rock installation at up to 200m water depth.

### Offshore Demand

With economic growth very low in Europe, traditional export markets with growth capacity (such as the BRIC countries and the Far East) have put their projects on the backburner waiting for global economic recovery. However, as most marine contractors, Jan De Nul has benefited from robust demand in the offshore industry.

“Demand for new infrastructure in the oil and gas industry remains stable, and demand for rock systems for the installation and maintenance of oil and gas pipelines is on the increase, although these measures are relatively minor and short in duration, whilst also requiring a comparatively greater amount of preparatory effort.”

As well as the installation of umbilicals between >>



*The new vessel is distinctly innovative in many aspects.*

offshore oil and gas assets, Jan De Nul has seen new operations for the wind energy market initiated in 2012, such as the design and construction of foundations for offshore wind turbines, laying inter-array and export cables. "That's why [we] ordered the new vessel and equipped two of its existing rock installation vessels, Simon Stevin and Willem de Vlamingh, with cable installation equipment."

### Northwind

In 2012 Jan De Nul Group won the contract for the installation of a 43km submarine export cable to connect the Northwind wind farm off the Belgian coast to the power grid. The contract also included a 14km interconnector cable between the Belwind Offshore High Voltage Station (OHVS) and a future OHVS.

During the summer of 2013, the TSHDs Alexander von Humboldt and recently delivered Bartolomeu Dias dredged a trench for the cables. The trench crosses the Scheur, one of the most heavily navigated channels in the world accessing Zeebrugge and Antwerp, where the depth of burial is 8 m in very hard clay called Bartoens Clay. Also this summer, Jan De Nul installed the interconnector cable with the newly outfitted Willem de Vlamingh. Caley Ocean Systems equipped the installation vessel earlier this year with a 5,400t capacity cable turntable at EPG Shipyard (part of Energomontaz-Polnoc Gdynia) in Poland. The carousel has a diameter of 28 m and a height of over 6 m. Caley also supplied a modular loading tower assembly comprising loading arm, inboard chute, tensioner and control cabin. To ensure smooth loading and deployment of the cable offshore, the Caley turntable includes an integral 5t tensioner and 10t deck tensioner. At the time of writing, the export cable installation was underway.

### Multipurpose Potential

Jan De Nul is also preparing for another project. On Halul island, 52 nm northeast of Doha, Qatar Petroleum is processing crude oil from offshore oil fields. To meet the present and future electrical power demand of the island, the client awarded LS Cable & Systems a contract to supply and install >>



Jan De Nul installed the Northwind interconnector cable with the Willem de Vlamingh, newly outfitted with a 5,400t capacity cable turntable.

Photo courtesy of Jan De Nul Group

The TSHD Alexander von Humboldt dredging a trench for the Northwind cables. The trench crosses one of the most heavily navigated channels in the world, where the depth of burial is 8m in very hard Bartoens Clay.



## KCI Design for Tideway Conversion

Earlier this year Dutch engineers KCI received the challenge from DEME subsidiary Tideway - to temporarily convert Side Stone Placement Vessel Pompei into a cable lay vessel. KCI's scope encompassed the detailed design of the basic deck layout, calculations on the modifications of the construction of the vessel and the seafastening of various deck items. KCI rendered on-site assistance during the conversion which took place at Shipyard Reimerswaal at Hansweert, near Vlissingen. Read the full ship report in ShipBuilding Industry Vol. 7 issue 4.  
 i. [www.tideway.nl](http://www.tideway.nl)  
 i. [www.kci.nl](http://www.kci.nl)



## Van Oord's New Damen Cable Layer



In September Van Oord ordered a new cable-laying vessel at Damen Shipyards' yard in Romania. The vessel will be deployed at the Gemini wind park project, 60 km to the north of Schiermonnikoog, one of the Dutch Wadden

Islands. The vessel has a 8,500 t capacity, a length of 120 m, a beam of 28 m and a DP2 system. It will be equipped with a cable carousel with a capacity of more than 5,000 t and an offshore crane that will enable it to lay heavy and long export cables.

i. [www.vanoord.com](http://www.vanoord.com)  
 i. [www.damen.ro](http://www.damen.ro)

two 132kV AC submarine power cables between Ras Laffan and the island. LS Cable has appointed Jan De Nul as offshore cable transportation and installation contractor. With a complete length of 2 x 100 km, and a total of 58 crossings along the route, this is extremely challenging work. The start of the installation phase on this project is scheduled for mid-2014.

Another interesting reference, Jan De Nul completed work on the Gazprom-run Kirinskoye Gas and Condensate Field development last year. The LaNaval Shipyard-built Simon Stevin was mobilised to the east coast of Sakhalin in Far Eastern Russia to execute rock installation and umbilical installation on this subsea production development. "[The Kirinskoye project] has clearly demonstrated the interest in and further potential for multipurpose vessels such as the JDN8628 currently on order."

i. [www.jandenul.com](http://www.jandenul.com)

## VolkerWessels & Boskalis Bundle Cable-Lay Forces

Visser & Smit Marine Contracting (VSMC), a VolkerWessels/Boskalis joint venture, will primarily focus on the installation of offshore power cables, for example for wind farms (both infield and export cables). VSMC will have access two cable lay vessels, the Stemat Spirit and the new build Ndurance. VSMC and Boskalis already work together on a project basis, including developing the Trenchformer, a multi-purpose cable trencher capable of dealing with many different types of soil and cables. Since the announcement, VSMC signed two separate contracts to lay and bury export cables for Dong Energy's Westernmost Rough and E.On's Humber Gateway.

i. [www.vsmc.nl](http://www.vsmc.nl)