

# **Offshore** Wind

Building for the future

SLEIPNIR BRUANA RR

www.heerema.com

#### Creative solutions for complex projects

Around the world, there is an increasing number of offshore wind farms planned as part of the global energy transition. We take on the responsibility of a successful and sustainable installation of offshore wind projects.

You can trust our methods, and we deliver a predictable execution by examining all aspects of projects in our onshore Simulation Center. These measures ensure we bring fully engineered and risk-assessed solutions to the field, and you can rely on Heerema to deliver on our commitments.

### Flexible and versatile solutions

Our vessels offer unique capabilities and unmatched redundancy to ensure predictability and timely project execution. We install offshore structures from shallow water installations to deep water facilities and from light to ultra-heavy. We operate worldwide, and encourage our clients to involve us early to utilize our experience on your project.



#### We have four of the world's largest crane vessels within our fleet



#### SEMI-SUBMERSIBLE CRANE VESSEL

#### Sleipnir

Sleipnir is our newest and largest Semi-Submersible Crane Vessel. Equipped with a pair of revolving cranes that can lift 20,000 metric tons, as well as the capacity to run on LNG for sustainable operations.



## semi-submersible crane vessel Thialf

Thialf is capable of a tandem lift of 14,200 metric tons. The vessel was built in 1985 and is equipped with a class III dynamic positioning system.



## DEEPWATER CONSTRUCTION VESSEL

Balder is capable to execute a tandem lift of 6,300 metric tons when in guyed mode. The vessel's cranes provide for a depth reach lowering capability as well as a heavy lift capacity to install topsides, jackets, and other structures.



## Aegir

Fast-sailing Heavy Lift Vessel Aegir is a monohull vessel with a lifting capacity of 5,000 metric tons. Due to Aegir's retractable thrusters, shallow draft, and extensive clear deck space, the vessel has the possibility to load-out directly from the quayside and transport on deck.



#### ANCHOR HANDLING TUGS

## Bylgia and Kolga

Supporting towing, anchoring, and mooring operations worldwide. Both tugs are 72 meters long and 18 meters wide with bollard pulls of 200 and 212 metric tons.

Within our fleet, we have a range of barges for transportation, jacket launch, and floatover use. Including the H-851, the world's largest barge.

### Wind foundation installation

#### **Monopiles**

There are significant advantages to using floating vessels for monopile and transition piece installation projects. Such as increased flexibility, no soil interference, and weathervaning using our DP III systems.

#### **Pre-piled jackets**

For pre-piled jacket installations, there are significant benefits to working with Heerema's floating vessels. As the vessels are able to receive barges or Heavy Transport Vessels alongside, we can shuttle components to the field. This action makes us flexible to accommodate the transportation needs of our clients.

In addition, due to the Dynamic Position systems onboard we can optimize the vessel heading and position during installation. What this means is predictability and efficiency for our clients.

#### **Gravity Base Structures**

Heerema has the technical knowledge and feasibility to execute Gravity Base Structure installations. We value safety and efficiency, which is why we have designed connect and disconnect seafastening for quick load-out of these structures. In addition, to further minimize the intervention of our offshore team we use rigging that is operated remotely. We like to keep it simple, safe, and sustainable.





### Wind turbine installation

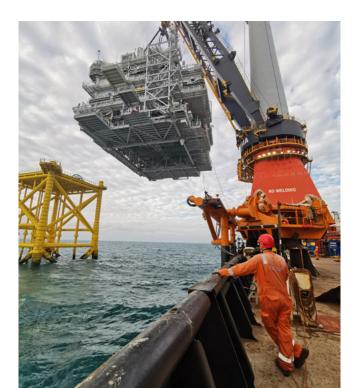
Heerema's Rotor Nacelle Assembly (RNA) installation method avoids all interaction with the seabed by utilizing a floating installation vessel to assemble the wind turbine generator components. The installation vessel will remain in the field, where it will load in the turbine components from feeder vessels. This provides great logistical flexibility as well as a continuous installation cycle. The semisubmersible platform provides for a highly stable platform where the wind turbine is pre-assembled. After the pre-assembly onboard, the turbine will be installed on the foundation. Whilst bolting the turbine on the foundation, the next turbine assembly will commence.



Preparing for your next-generation wind turbine generators
Decreasing project
risk and reducing project time
No seabed interruption
No limitation on water depth
Increased flexibility for your project

#### Offshore substation installation

We offer transport and installation solutions for the smallest to the largest offshore substations. We provide all installation aids such as hammers, ILTs, lifting sheaves, and more. As well as extensive experience with noise mitigation, grouting, and swaging.





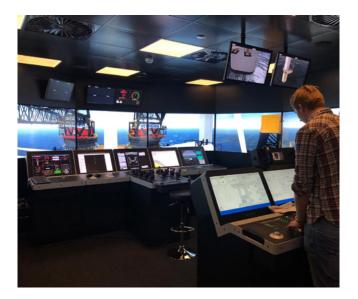


#### We are a partner that can be relied upon

With remote locations, harsh environments, heterogeneous soil profiles, and increasingly large wind turbines we know that offshore wind can be challenging. But, with Heerema's expertise, problem-solving capabilities, and passion you can trust us to deliver.

You can trust our methods, and we deliver predictable execution by examining all aspects of projects in our onshore Simulation Center. The Center is a real-time offshore environment where our offshore crew and project teams examine all project aspects and associated risks. These measures ensure we bring fully engineered and risk-assessed solutions to the field.





## New tools, for new challenges

In-house innovation is essential for tackling the unique challenges offshore wind presents. Which is why Heerema has a dedicated Product Development team integrated within our Wind Business Unit. One in-house development is our Guided Root End Positioning tool that enables offshore handling and installation of blades safely and efficiently.



### We focus on safety and sustainability

We work together with clients to transport and install offshore wind projects in a way that is safe and sustainable. Our team is dedicated to delivering solutions that limit the environmental footprint of projects and follow our strict Dare to Care safety program.





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