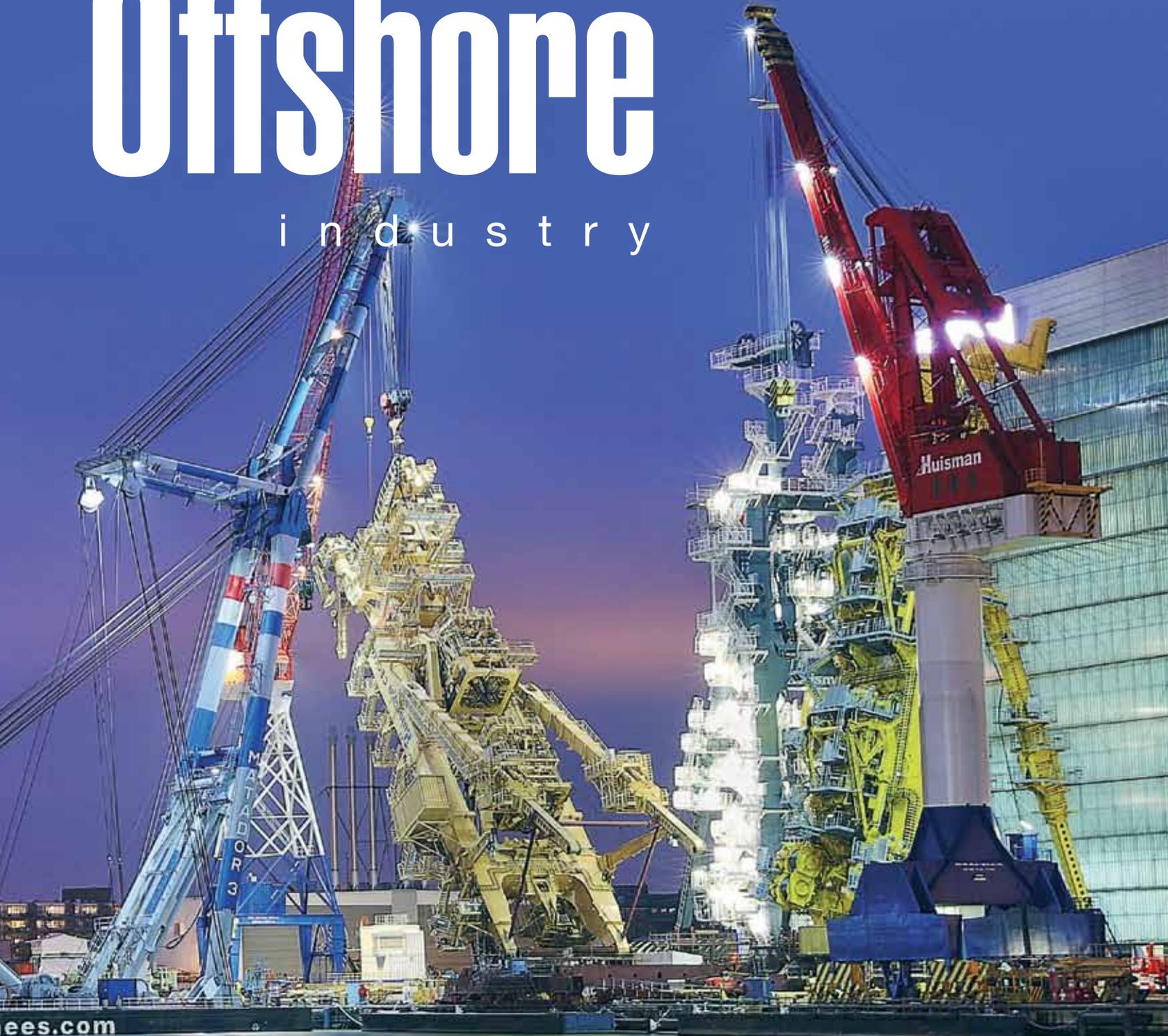


# Offshore

i n d u s t r y



## Towering High

IHC WELL INTERVENTION SYSTEM  
FOR HELIX SEAWELL

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## *Acta Orion*

CIG WIND VESSEL UNDER CONSTRUCTION

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## **BØYLA**

TIEBACK INCREASES ALVEHEIM PRODUCTION

ROYAL IHC SUPPLYING FULLY INTEGRATED WELL INTERVENTION TOWER TO HELIX SEAWELL

# Good Interventions

Royal IHC Offshore Systems, in expectation of increasing well intervention activity, has developed a fully integrated intervention tower. The system is purposely designed to tackle the challenging conditions of the North Sea. The first such tower is currently being installed on board Helix Energy Solutions' vessel, MSV Seawell. Offshore Industry's Ben Littler talks to Royal IHC Offshore Systems Managing Director Florian van der Broek and Project Lead Engineer Jurgen Zijlmans to find out more.

WORDS BY BEN LITTLER

The Seawell has served as a pioneer of North Sea well intervention since the 1980s. She has a successful track record of over 650 wells behind her. The new Royal IHC system will imbue the vessel with increased payload handling and lifting height capacities, preparing her for the inevitable increased action in the region in coming years.

## Next Generation

The IHC set-up is part of a series of upgrades that Seawell is undergoing at Damen Shiprepair Vlissingen. After the work, the vessel will return to operations in the North Sea fulfilling a versatile scope encompassing IMR, well stimulation, P&I, handling christmas trees and ROV and diver support. Mr Zijlmans explains the idea behind the new tower: "The original derrick had the first generation 5" subsea interventional lubricator (SIL-1). Now, there's a new third generation tool called SIL 3, much bigger than the original at just over 7". The new tower can handle both the SIL-1 and the new SIL-3." He says this more than doubles the payload capacity for the new equipment, taking it from 40t up to 95t. "The system's own capacity is actually 150t, which means there is some spare capacity available for handling christmas trees."



Royal IHC Offshore Systems Managing Director  
Florian van der Broek

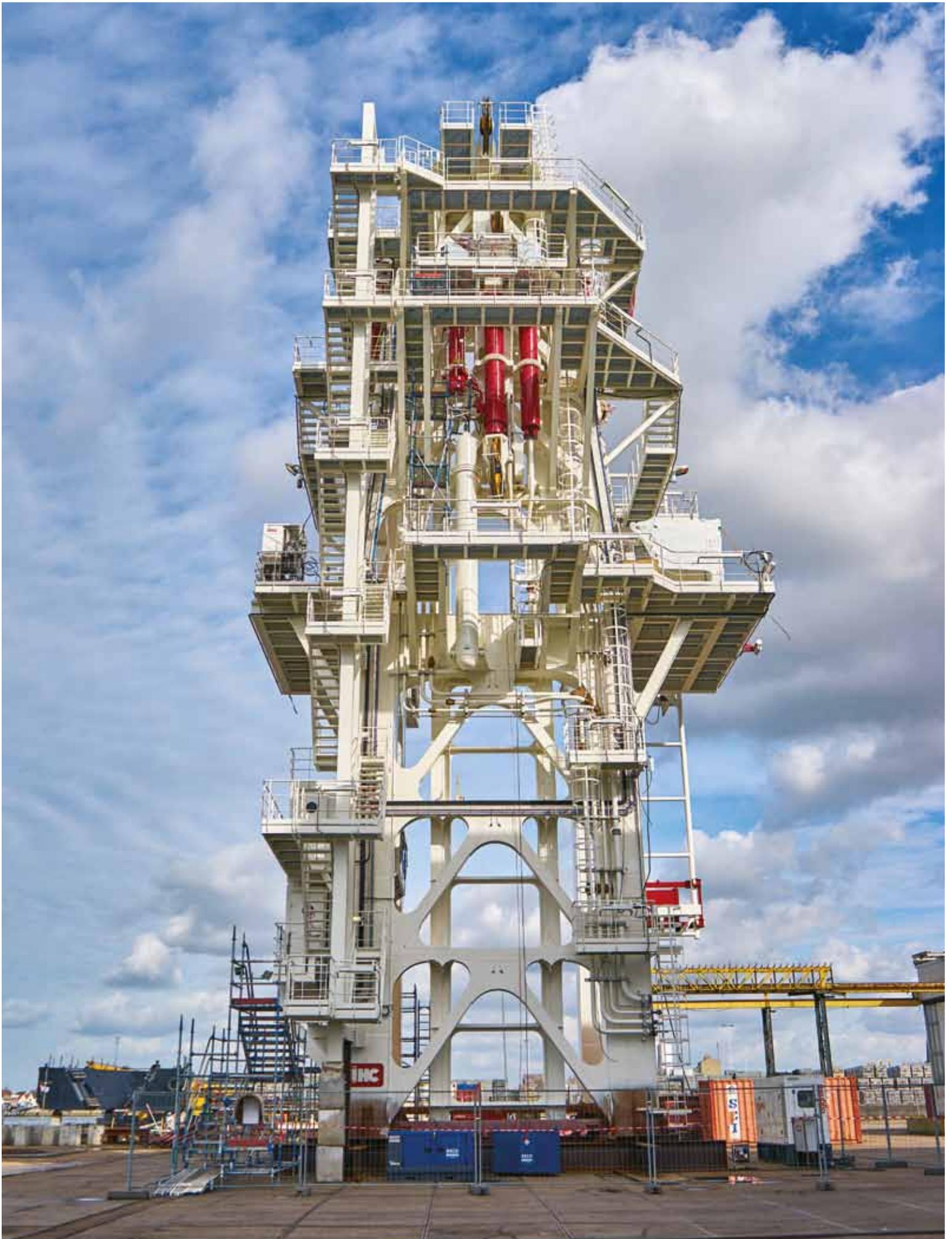
## Fully Integrated Intervention

The increased capacity is not the only advantage of the Royal IHC tower, however, as Mr Van der Broek explains. "This is a fully integrated system. Other examples are typically combinations operated independently of each other. In our system, the operator truly has everything controlled within a single process. We have a fully redundant control system with two operator positions. All information is presented to the operator on a single, customised screen. Even the control cabin is

operated from the tower, whereas on other systems you see it as a separate, solitary box."

The completely integrated nature means improved safety, maintenance and ease of operation. It also offers relative independence from the vessel. The electricity is supplied from the engine rooms of the vessel, after which the system converts it into hydraulic power. Aside from this and a few auxiliaries such as a cooling water connection, the only thing the system requires from the vessel is DP.

A further implication of this integration is that the entire thing can be placed on a skidding system and tested in the harbour – in the perfect conditions. >>





“This means that the vessel only has to sail to the well and deploy the SIL, without having to build up separate systems offshore,” says Mr Zijlmans.

### Seven-Winch System

Mr Zijlmans explains the workings of the new tower: “In total there are seven winches. There’s a main hoist system, which is capable of doing the toughest job – handling the 150t payload. It features an active heave compensator to ensure safe deployment.

“Then there is a guideline system consisting of four separate winches – that is also active heave compensated – and a podline to control the SIL umbilical.

Last, but not least, there are two cursor winches that provide the control of the SIL when it is inside the tower structure or the moon pool. The SIL is connected mechanically to these cursors, which remain in the moon pool when the SIL is deployed to the seabed.”

### In-House Development

Aside from the wire, the entire system is produced in-house by Royal IHC. “The basic and detailed design, material procurement and fabrication – the entire scope,” says Mr Zijlmans.

Royal IHC has provided all the individual components separately to previous projects, but this is the first time the entire system has been mobilised. It originated as part of an R&D project that the company conducted in the expectation of a growing well intervention market – something that Mr Van der Broek says is already being seen. “It’s driven by the need for higher output from existing wells via the most efficient means. It’s a niche, highly specialised market that is growing in need and, therefore, demand.”

### Good Prospects

It’s likely then that there will be more calls for the Royal IHC tower before too long. With the company having developed the system for the rigorous conditions of the North Sea, there is every opportunity for it to be more widely applied.

“The system is designed to be able to cope with significant wave heights of 5m and water depths of up to 500m – the conditions you find West of Shetland,” says Mr Van der Broek. “What this



implies is, the system can also be installed on vessels operating in less challenging arenas – for example, West Africa.”

There would be some slight modifications required to customise the set-up to the specifications of the vessel to which it was outfitted. For example, the tower design would have to be aligned to the vessel’s sea-keeping behaviour.

Similarly, greater water depths could also be achieved with slight modifications to the main hoist, though this would impact on the payload capacity.

### Keeping Contact

Royal IHC’s service provision will continue once Helix has taken delivery of the new well intervention system. “We will be preparing the vessel’s crew for the use of the new tower, familiarising them with the system and providing training,” says Mr Van der Broek. “Besides this, we have a service agreement with Helix so we will be overseeing the maintenance of the tower and ensuring its continued smooth operation.”

**i. [www.royalihc.com](http://www.royalihc.com)**

**i. [www.helixesg.com](http://www.helixesg.com)**