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## **GERMANY Husum Wind 2021 brings innovation back into touching distance**

23 September 2021 by Eize de Vries

Eize de Vries rounds up some of the exhibits that caught his eye at the recent Husum trade fair in northern Germany



Clockwise from top left: Wallaby Boats crew transfer vessel, Eno Energy Eno160, Anker Foundations prefab foundations and Nawrocki Alpin's RomotionCam

Around 8,500 professional visitors and 387 exhibitors gathered last week (14-17 September) in the small North Sea coastal town of Husum, which has hosted major wind industry fairs since 1989. This was the first physical German wind exhibition since the pandemic struck in 2020, and the mood was very positive — despite strict Covid-19 measures including bans on drinking alcohol and exhibitor-sponsored parties, plus compulsory mask wearing, electronic visitor registration and limitations on the number of people at exhibitor booths.

## Wallaby Boats

A striking new product innovation introduced by somewhat incongruously named German company Wallaby Boats is a novel high-tech catamaran-type crew transfer vessel (CTV). The overall solution represents a genuine alternative to two common methods for transferring service personnel from a crew transfer vessel (CTV) to an offshore wind turbine.

The first, rather dangerous, method is to direct the vessel bow to a boat-landing substructure, give it full throttle and let technicians step over when the bow reaches the highest point.

A second, highly-advanced but much more expensive method is with a motion-stabilised walking bridge mounted to a vessel deck, such as Ampelmann or equivalent. These are now widely used and perhaps rapidly becoming a semi-standard solution. The Ampelmann picture is from the Dutch OWEZ windfarm (2010)



Crew transfer in the early days of the offshore sector was not for the faint hearted (pic: South Boats)...



.....while motion-compensated platforms such as the Ampelmann solution offer much more safe and more comfortable options, they require much greater investment compared to the early above boat landing method (pics: OWEC)

The overall Wallaby Boats concept comprises an upper main deck structure and two separate hulls, plus an active hydraulic suspension with dampening system and accumulators built in-between. This advanced technology was developed by West-Australian company Nauti-Craft. Harald Hübner, senior captain and Wallaby Boats main partner, took a trip on an 8.5-metre Nauti-Craft demonstrator in the Indian Ocean off the coast near Perth in 2015 and was impressed by the sea performance.

"We sailed at 25 knots (around 46km/h) under 1.2-metre significant wave height conditions and made full circles on the way, and I always felt completely safe on board," he recalls.

"This April, Wallaby was awarded an exclusive worldwide licence from Nauti-Craft for vessels of 14-20metre length. The standard length of a catamaran-CTV is 26 metres, but the Wallaby Boats design offers similar or superior performance when travelling at 30 knots and is only 18 metres long," he adds.

Indeed, Hübner was so impressed by the sea performance, he not only ended up adopting the technology, but also chose to pay homage to his Australian experience when naming his company, based in Kappeln, Schleswig-Holstein.



Wallaby Boats aims to have its first catamaran crew transfer vessel ready by April 2022

## **Balancing motions**

The Nauti-Craft's unique hydraulic suspension system allows the hulls to conform to the ocean's surface while providing improved stability and safety on the deck for crew transfer.

This active interaction between the hulls and hydraulic system in balancing wave-induced motion

reduces the acceleration forces on humans by up to 30%.

A conventional 18-metre catamaran-type CTV can only operate in significant wave heights up to a maximum of maximum of 1.2 metres, versus 1.75 metres — or possibly even up to 2.1 metres, as Adams multibody dynamics simulations suggest — for an equivalent Wallaby Boat type.

The overall energy demand is equally favourable, based on a complete sea-transfer cycle. When the Wallaby-CTV is in port, the system is depressurised, which takes 5-10 minutes and requires a power input of around 6kW during pressurising. Sailing is a mainly passive process, but with an active mode engaged during turns, which makes the Wallaby-CVT tilt in a similar fashion to a motorbike taking a bend. This active mode, consuming 2-3kW, is only engaged for short intervals and helps to reduce seasickness.

When the vessel approaches a turbine and during personnel transfer, a semi-automated bow-height control mode is engaged, power input increases to 10-15kW. A fully automated deck altitude control system (DACS) can be engaged to keep the deck completely horizontal and stable, without heaving or pitching. This system can also be used during crane-hoisting and recovery operations, and requires up to the full 31kW systems power input — or less — depending on sea and weather conditions.

"Our biggest challenge was finding the product development finance, but we received support from the Schleswig-Holstein state government for the basic design and from the federal government for building the first prototype. Both considered our business case convincing. Another major boost came when German utility EnBW chartered the first Wallaby Boat for a two-year period, which also opened doors to others. Our planning is having the first vessel ready in April 2022, being built here in Schleswig-Holstein," Hübner concludes.

## Smaller players enter 6MW onshore market

While <u>Nordex</u> announced its entry into the 6MW-plus onshore market the week before the Husum show, two smaller players used the event to highlight new models in this increasingly competitive market segment.

Eno Energy's eno160 6.0MW flagship with a 160-metre rotor, LM blades and a maximum hub height of 165 metres is aimed at low and medium wind sites (IEC S). It is part of the German company's new 6MW platform that builds technologically on a 20-year product and technology heritage.