

# Nauti by nature

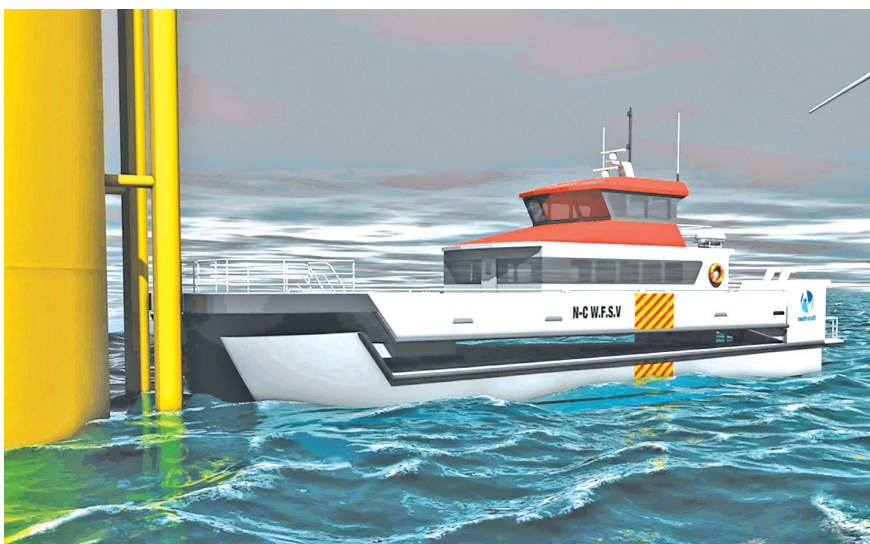
Could Nauti-Craft's suspension technology assist in the creation of a "baseline change" in offshore wind farm support vessel design? Strategic Marine, which has gained exclusive rights to market this technology in Europe, certainly thinks so, writes Phil Rood

Australia- and Asia-based boatbuilder Strategic Marine is looking to an agreement with ride suppression technology experts Nauti-Craft, to breathe new life into a European wind farm support vessel (WFSV) market that many analysts regard as having plateaued.

Strategic has the exclusive rights to market to the European offshore wind industry the patented hydraulically dampened suspension arrangement developed by Nauti-Craft's chairman Chris Heyring on the back of his Kinetic suspension system developments for the car industry.

Strategic Marine chairman Mark Newbold tells *Ship & Boat International* that, based on industry feedback, although wind farm developers are progressing programmes to plan as forecast, there is an excess tonnage of support craft, particularly at the smaller end.

"The lower levels of building activity won't change in the foreseeable future unless



A rendering of Strategic's proposed WFSV, incorporating Nauti-Craft's suspension technology; by enabling operations in 2.5m wave heights, operational windows could be boosted from 180 days to between 200-240 days per year

someone comes in with a baseline change to the boats that are currently on offer," Newbold explains. "We believe that change comes with the suspension boat and it will become one of the successes of the future. If this technology works as well as we think it will, it will totally 're-baseline' the travel of people at sea." The proposed suspension boat, the NautiStrat 26 WFSV, is the result of this collaboration.

### Stability boost

Newbold is convinced the game changer is in the Nauti-Craft's suspension technology, which can separate deck from hull by up to 2.5m to ensure a softer ride and dramatically increase stability, both in transit and transfer modes.

The technology separates the vessel's hulls from the deck and superstructure via a "passive reactive" interlinked hydraulic system, which boosts comfort, control and stability in stationary mode or when travelling at speed. The benefits can be enhanced by introducing active control

using Nauti-Craft's own Deck Attitude Control System.

Pressed against a turbine tower, the system enables greater stability when it comes to crew transfer operations, as the vessel deck remains stationary while the vessel's hull moves in concert with the waves.

Nauti-Craft has worked closely with environmental experts from the UK-based Carbon Trust in developing the suspension boat technology. Ken Johnsen, managing director of the Australian company, adds that the concept will bring major economic and safety benefits to the wind farm industry.

"If you take a 26m boat, the maximum wave heights in which it can comfortably operate range from 1.5m to 1.7m," says Johnsen. "Data suggests that would give you an operational window of around 180 days per year in the European wind farm industry when you can transfer personnel.

"If we can increase that operational window to 2m or 2.5m, we can take it up

#### TECHNICAL PARTICULARS

##### NautiStrat 26 WFSV

Length, oa.....	26m
Length, load line.....	23.9m
Breadth, moulded.....	up to 11m max
Depth.....	up to 4.5m
Design draught.....	1.3m
Max draught.....	1.6m (incl. propellers)
Displacement.....	85tonnes (lightship)
Deadweight.....	30tonnes
Gross tonnage.....	<200tonnes
Service speed.....	25knots@85% MCR (based on 10dwt)
Bollard pull.....	14tonnes, approx.
Main engines.....	4 x Volvo IPS900 drive units
Complement	
Crew.....	3
Offshore technicians.....	12

to 200 or 240 days, so there's a significant economic benefit.

"Then, there's the human safety aspect where, even at a wave height of 1.5m, it's safer to transfer because the deck is more stable. There's also a greater fuel economy aspect because of the way the boat negotiates the waves, and it can also remain on station against the turbines. A 26m suspension boat can do what a conventional 40m boat can do – and, obviously, it costs a lot less."

Johnsen claims that, as wind farms progress further offshore, the industry will become even more attracted to the attributes of suspension boats.

"The two main elements that the wind farm operator focuses on are transit and transfer; getting technicians out to the turbine in an acceptable state by minimising motion sickness and

then transferring them safely once they are there," he says. "We can hit both those hot buttons because we can get to the turbine more quickly and more comfortably. Once we are there, we have a more stable platform for transfer."

### Beyond WFSVs?

Preliminary plans for the NautiStrat 26 WFSV posit a likely arrangement of four Volvo IPS900 drive units and two Cummins Onan gensets.

Onboard tank capacities would permit the NautiStrat 26 WFSV to carry up to 20,000litres of fuel oil, 1,500litres of fresh water and 1,500litres of black and grey water. Strategic estimates that, when operating with a deadweight of 10tonnes, fuel consumption rates would be in the region of 338litres per hour, increasing to 474litres per hour at 25knots and 681litres per hour at 100% MCR.

Nauti-Craft currently has three licensing agreements. Besides Strategic Marine, which would probably look to build these wind farm vessels at its facilities in Singapore or Vietnam, Nauti-Craft has agreements with a Middle East-based group regarding the development of a luxury quadmaran, and a Japanese boatbuilder, the latter of whom is investigating the possibility of applying the concept to a sports fishing craft.

Johnsen also believes that there are other sectors where the technology would provide major benefits. "The applications are unlimited but there's strong interest from the cruise industry which is looking to use suspension boats as tenders," he says. "There's also potential as high-speed military pursuit craft, where the provision of a more stable cushion would make a significant difference." *SBI*