

In a bold initiative to stimulate Dutch maritime innovation, MARIN decided to create a Concept Basin. And less than a year on, several new initiatives tested there have already been launched.

Free concept testing well received by Dutch maritime innovators

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MARIN recognises that innovation starts with new ideas and in an effort to help customers during the concept design phase of their projects it took the decision to convert the High Speed Basin into a Concept Basin. MARIN offers six free, two-week slots every year to Small &

Medium Enterprises in the Netherlands. As soon as MARIN announced this initiative, the response was amazing. MARIN allocates projects based on selection criteria including innovation, feasibility and added value. Report highlights three of the concepts tested.



Unique floating EcoTLP

Mocean, DBD Systems and Ewind decided to test their unique floating concrete Tension Leg Platform (TLP) foundation for deep-water sites, which is suitable for the Siemens SWT 6.0-154 6MW offshore wind turbine generators and similar WTGs.

Jelte Kymmell, Mocean Managing Director, explains that the tests were carried out to validate numerical models and to prove the concept's feasibility.

Results of the tests indicated lower than predicted wave induced accelerations and tendon loads, and support the development of a practical foundation solution that allow offshore wind farms to capture the highest wind resource in deep-water sites. The design was validated for survival conditions up to 10m Hs and above, in a depth of 150 m or more.

"The tests enabled us to increase design conditions while reducing mooring costs, which made the feasibility of the concept much better."

Without MARIN we would not have been able to obtain these results and subsequently, the development of this groundbreaking, deep-water wind farm project might have run aground, stresses Mr Kymmell. "In this sense MARIN truly enables innovative developments that will shape the future of offshore structures."

www.mocean-offshore.com

Sea Support Campaign Runner[®]

Sea Support's Campaign Runner[®] concept was established in anticipation of a steady growth in walk to work offshore service and accommodation vessels.

To date, the transport of maintenance personnel and spare parts for near shore offshore wind farms is mainly carried out by small crew transfer vessels. However, this is not practical further offshore.

The Campaign Runner[®] concept focuses on being able to stay at sea for several days, for example two to four weeks, before having to exchange crew. Specifically designed for comfort at sea and to provide safe access to turbines, the Campaign Runner[®] allows a crew of up to 45 technicians carry out round the clock maintenance.

The tank tests were performed in order to validate comfort, workability in gangway or walk to work mode where the gangway is deployed to create access to the wind turbine and finally, to validate the DP characteristics through captive current/tow tests.

Simon Anink, Director Sea Support, explains: "Results turned out slightly better than initially thought when based on the AQWA simulations. MARIN turned out to be a real enabler as both potential investors and clients visited the basin during the tests, which generated a lot of enthusiasm and solid interests were established as a result." Sea Support is approaching the market for a private equity placement in order to start building two CR60s next year.

www.seasupport.nl

AntiRoll roll damping system

AntiRoll, a new roll damping system, was successfully tested at MARIN and the first system has already been produced and installed.

The unique, dual-axis fin stabiliser, which rotates whilst sailing and flaps at anchor, provides stabilisation both underway and at zero speed without compromising performance. In addition, with the fin flapping at zero speed as opposed to rotating, a greater lifting force is generated providing a more stable platform.

AntiRoll Chief Executive Officer Arnold van Aken says the measurements were found to fit well with the theoretical predictions and were often amazingly accurate. He points out that the flapping motion indeed provided much greater stabilisation than a traditional fin system.

"The collaboration with MARIN has been excellent. We had a dedicated Project Manager as a direct point of contact, who put us in touch straight away with the right experts in relevant fields such as simulation and hydrodynamics. MARIN has an unprecedented wealth of theoretical knowledge and practical experience and these seamlessly link together. The added value of MARIN is therefore invaluable."

For a young company to be given a chance to participate in the programme is very important, he stresses, adding that otherwise it would be difficult to get such an innovative product to the market.

www.dms holland.com