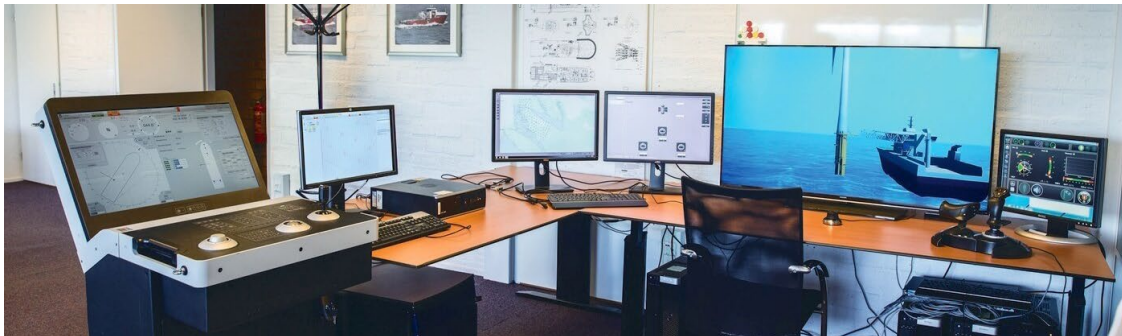


## Performance Assurance by Digital Twin

The Bibby/Damen designs and partnership are based on Digital Twin Technology. The technology underpins the hull design validating it as designed for walk to work as opposed to general offshore duties. Beyond the core design it is fundamental to assuring our ongoing safe operations.

Bibby working with Damen designed the Digital Twin simulator to initially support the ASV9020 platform which forms the basis of the Bibby WaveMaster 1 (operating speculatively in the central North Sea) and her sister ship the Bibby WaveMaster Horizon (dedicated to SGRE and ENBW on the German EEZ HoHe See Offshore Wind Farm).

The Digital Twin brings together the vessel dynamic model with the actual DP and gangway controller. By adding the client supplied met/metocean data for their site, we can analyse the performance that can be expected based on the time of year. In simplistic terms this allows us to state the predicted access likely to be achieved over the charter period and allow a discussion around the execution of the works to take place with greater certainty. It also facilitates discussions around the impact of additional access points and how that could increase accessibility. In summary driving the efficiency of operational planning we seek.



## Committed to performance

Whilst using the Digital Twin to predict performance and predict access Bibby utilise the expertise of BMO Offshore to periodically review real life performance data. Most recently reviewing the 2 years of almost continuous operations of the Bibby WaveMaster 1 and the first months of the Bibby WaveMaster Horizon.

In summary the analysis concluded with great certainty that for individual locations, the Digital Twin data matched the extrapolated data from our experience to date on BWM1 with the rather limited data we have for BWMH (only operating for a few months). A great success, and information that will now be available to our clients as well as the predicted information from the simulator to add to confidence levels.

This ongoing benchmarking allows us to uniquely analyse technical and operational performance. We are able to analyse for patterns in performance whether it be for the gangways or our crew.