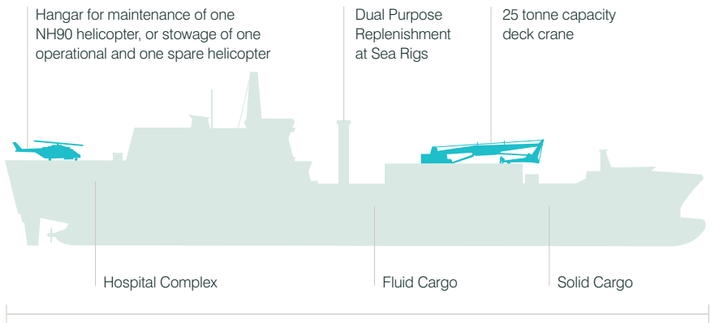
Norway’s new mothership

Ultra-flexible HNoMS Maud will support surface vessels and subs at sea worldwide

HNoMS Maud



Length: 180.7 m

Vital statistics

Built by Daewoo Shipbuilding and Marine Engineering (DSME), Maud will support Norway’s frigates, corvettes, mine countermeasures vessels, submarines, and small craft:

- **Beam:** 25.9 m
- **Speed:** 18 knots
- **Primary fluid cargo capacities:** F76 Diesel Fuel: 7000 te / F44 Aviation Fuel: 300 te
- **Primary solid cargo capacities:** 40x TEU (Twenty-foot Equivalent Units) containers/ 200 te ammunition or a mix of vehicles and boats

Named after Queen Maud of Norway, this 26,000-tonne logistics and support vessel is the first of its kind in the Royal Norwegian Navy. The fully winterised, bespoke design is based on BMT’s scalable AEGIR platform and provides global task force support from one multi-role ship, featuring helicopter flight deck and hangar, and a 48-bed hospital capability. On entering service, she will be the largest ship in the Norwegian Navy.

Logistics support is critical for endurance at sea and therefore for the operational strength of any naval task force. HNoMS Maud’s ability to deliver fuel, spare parts, ammunition, medical supplies and hospital facilities to all four corners of the earth, transforms the power of the Norwegian naval fleet.

The cost-effective AEGIR concept ticked all the boxes for the Norwegians, offering all the capacities, functionality and flexibility required by the navy.

“The most important features are the vessel’s ability to carry large amounts of solids and fuel and deliver them in open waters, to handle helicopter operations, and to deliver lifesaving treatment and surgery to close to 50 patients,” said Project Manager, Bjørn-Ove Stikholmen. “Her flexibility is seen in many elements of the design, from the large container deck and ammunition-classified holds which enable her to carry different types of cargo, to the large mess decks that can be converted into hospital wards supporting the overall medical capability when required.”

Maud’s global role means all her systems must remain fully operational in the most inhospitable conditions, including at temperatures as low as -30°C which gave the BMT engineers a complex design challenge. Not only did they want to protect equipment from the elements wherever possible to minimise the risk of icing, but they also had to factor in the significant power draw required by the ship’s heating and anti-icing systems.

“All the modifications required for winterisation have knock-on effects and we needed to understand the full impact of these from the start in order to properly balance our design,” explained Ian Savage, BMT’s Deputy Design Manager. “This involved many complex fundamental calculations and significantly advanced our learning about winterising designs.

For example, the power required by the anti-icing systems was more than we had originally anticipated as the wind had a larger cooling effect than expected; it wasn’t just the air temperature we had to deal with. This required a detailed analysis of the operating modes to ensure that sufficient power was available for other tasks on the ship.”

Winterisation requires a host of design considerations, including locating equipment and systems internally, protecting exposed equipment, a strengthened hull, incorporating additional crew shelters and drying facilities and designing freeze-resistant tanks.

“A lot of the innovation with this vessel was around putting it all together into a balanced design; dealing with the different operational requirements for each of the varied roles that this vessel will perform, the mix of commercial and naval design standards, and constraints as one,” added Simon Jones, BMT’s Design Manager. “That challenging holistic approach working closely with the end customer, the shipyard and other stakeholders was crucial for achieving this innovative design.”