

## HEAVYLIFT@SEA – Offshore Accommodation Vessel (OAV)

HeavyLift@Sea, the design specialist of offshore and multipurpose vessels, presents an advanced purpose-built Offshore Accommodation Vessel (OAV) for operations at offshore wind farms. In terms of effective supply logistics the OAV serves as base for up to 60 technicians and crew members. Throughout the full service life of offshore wind farms the vessel responds to preventive and corrective maintenance tasks that cannot be solved by remote diagnostic techniques. Consequently, the OAV is a key asset for wind park stakeholders when it solely comes to performance and availability of electricity.



The distant locations of wind farms necessitate extended work patterns. Typically, offshore workers spend two or more weeks offshore followed by a period of shore leave. The design concept of the OAV accommodates the current practices and focusses on the wellbeing of the passengers.

The OAV prevents different measures for a comfortable and restful stay on board:

- 60 single cabins
- Low noise level during operation of the vessel through acoustically insulated bulkheads and decks in the accommodation and adjacent to thruster rooms, engine rooms and hydraulic rooms
- Response to roll motions by a roll reduction tank system

At a length of 71.40 m, a breadth of 16.70 m and a draught of max. 5.60 m the OAV is designed for optimal sea going capabilities. The speed of 13 knots is achieved by two (2) main engines of 1,400 kW, three (3) auxiliary engines of 1,200 kW and two (2) controllable pitch propellers. High maneuverability is realized by two (2) high lift flap rudders and five (5) transversal thrusters.

The proven conventional diesel-mechanical propulsion system is more cost efficient than azimuth thrusters or similar systems and particularly appropriate for long distances and fast transits.

Exact positioning and station keeping (DP2) of the vessel is secured by three (3) bow thrusters and two (2) stern thrusters in combination with the propellers and the rudders.

Several transfer systems onboard enable technicians and workers to access the offshore structures:

- The motion compensated gangway gives the OAV walk-to-work capability and is arranged on portside. A lift is arranged next to the gangway and elevates personnel and spare parts up to 300 kg weight. Spare parts can be transferred via a pallet truck between the OAV and the offshore structures.
- The 9.0 m daughter craft is a closed superstructure type with redundant propulsion.
- A stern hangar is fitted for safe boarding of six (6) service technicians and cargo up to 500 kg weight in the daughter craft. The stern garage is operated by a hydraulic stern ramp which extends the runway of the daughter craft when open. A guiding structure for safe and easy recovery of the daughter craft is built-in to the stern door. The stern hangar concept sets this OAV apart from other service vessel designs and allows safe launching and recovering of the daughter craft even in worse weather conditions. The principle of the stern hangar system is already successfully operated by the vessels of the maritime rescue organization "Deutsche Gesellschaft zur Rettung Schiffbrüchiger" (DGzRS) since decades.
- For the use of external vessels (e.g. crew transfer vessels) the OAV is equipped with an additional boat landing system for safe entering of the OAV.

The OAV accommodates a covered warehouse for spare parts and tools. The dimensions of the cargo hold is 10.8 m x 15.2 m allowing the stowage of 6 TEU containers. The cargo hold is covered by two pontoon hatch covers. The respective deck area of 300m<sup>2</sup> gives sufficient space for service and maintenance work outside the workshops.

The deck crane of SWL 25t@20m is arranged portside and shall be of knuckle boom type. The operation of the crane is possible under harbor and offshore condition (HS = 2.50 m).

The North Sea will remain the main region for offshore deployment. More than 3,200 turbines are now installed and grid-connected. Including sites under construction, there are 84 offshore wind farms in 11 European countries. The European wind service market has high growth potential due to the increasing number of installed capacities, aging of turbines and associated components resulting in growing demand for maintenance and repair measures and suitable service vessels.

HeavyLift@Sea provides an advanced and well thought out Offshore Accommodation Vessel design that fulfils all the technical and operational requirements to successfully service the stakeholders in the wind energy market:

- Accommodation for sufficient number of technicians, workers and crew
- Lay-out of the vessel corresponds to the technical workflow
- Clear und logical spatial separation of accommodation and working areas
- 300m<sup>2</sup> deck space for service and maintenance work at sea
- Save and fast launching / recovery of daughter vessel through stern hangar
- Capable deck equipment for handling of spares/tools and walk-to-work capability
- Conventional propulsion system ideally for long distance and high speed transits

For associated equipment solutions please visit [www.mate-at-sea.de](http://www.mate-at-sea.de)

Image download: [http://heavyliftatsea.de/downloads/05\\_2016\\_PM.zip](http://heavyliftatsea.de/downloads/05_2016_PM.zip)

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Media contact:

HeavyLift@Sea GmbH

Am Kaiserkai 69

20457 Hamburg

[info@heavyliftatsea.de](mailto:info@heavyliftatsea.de)

[www.heavyliftatsea.de](http://www.heavyliftatsea.de)

phone +49 (0) 40 30 38 32 640