

Innovation the key says thriving Dutch yard

European shipbuilders sometimes complain about competition from low cost yards in Asia, but by focusing on capable, low cost but innovative designs and on long-term relationships with key clients, Shipyard De Hoop in the Netherlands has built up an impressive orderbook

Speaking to *OSJ* in June, Patrick Janssens, who took over De Hoop in a management buy-out several years ago, explained that yards in the De Hoop group currently have a number of projects underway for clients in Mexico, Africa and the Middle East. A number of these are for new clients and others for long-term clients, who have come to appreciate the company's ability to respond to their requirements for cost-effective vessels that can be built in series and delivered in a timely manner.

One of the most impressive recent deliveries from the yard is for a client closer to home, however, and takes the form of a newbuild subsea support vessel, *Deep Helder*, which was launched at De Hoop's Foxhol yard Groningen on 23 April on behalf of client SeaMar Subsea, who has chartered the vessel to DeepOcean. The new ship will be equipped with survey systems and remotely operated vehicles and an offshore crane and has three moonpools and accommodation for 50 people. *Deep Helder* will be dedicated to geophysical and geotechnical survey and inspection, maintenance and repair work, along with trenching, excavation and mattress installation for clients in the offshore oil and gas and renewables markets.

Among other projects is a series of fast supply vessels (FSVs), for an as yet unnamed owner, that have an innovative hybrid diesel-mechanical/diesel-electric arrangement. The first of the series of seven 55.7m long FSVs was launched in March.

The vessels are designed for the combined transport of deck cargo and passengers to offshore oilfields. Custom designed by De Hoop to meet stringent environmental requirements, the hybrid diesel-electric powered FSVs were designed for low fuel consumption.

The dynamic positioning (DP2) vessels

Deep Helder was built for SeaMar and was due to start work for DeepOcean in July



provide day accommodation for a total of 100 seated passengers and cargo capacity of 150 tonnes on a 200m² deck. The spacious passenger accommodation has comfortable seats, ample luggage storage space and a self-service buffet. Music and video entertainment facilities are provided for each passenger. The vessel will be manned and operated by a crew of eight, accommodated in four double-berth cabins.

Mr Janssens explained that, at low speed and during manoeuvring, only one diesel engine will be used to drive a generator, which will produce power for two electric motors (driving the propeller shafts through the gearboxes) and a bow thruster. This provides fuel savings at low speed of up to 12 knots and when in DP mode. At high speed, both diesel engines will engage with the gearboxes to provide up to 4,700kW to the two propellers (which are directly driven through the gearbox).

The multi-chine all-steel hull is optimised for fuel-efficient operations during transit and in DP mode. The lightweight steel construction is built according to Lloyd's High Speed Craft (HSC) rules, whilst weight reductions have been achieved by using high tensile steel in combination with sophisticated construction techniques. The small entrance angle of the waterlines and the 'long' bowlines have the additional advantage of improved seagoing characteristics and thus less speed loss in more challenging sea states. Even at a speed of 20 knots, the accelerations remain well within comfort levels, and the extended and flared upper bowlines reduce the amount of green

water on deck and thus protect the deck cargo.

The first two vessels were due to be delivered by the end of the second quarter of 2014, with delivery of the remaining vessels spread over the next few months and the last to be handed over in September 2014. Such is the delivery schedule that outfitting and commissioning of the seven vessels has been split between De Hoop's facilities.

Another interesting design contracted to the Dutch yard is an intermix/transmix vessel for Awaritse Nigeria Ltd (ANL). This newly designed 68.23m x 15.77m offshore support vessel (OSV) is designed to work for Shell Nigeria and Chevron in offshore oil fields off the Nigerian coast. It will be employed transporting and discharging so-called 'transmix liquids', which are a byproduct of oil production and transportation in pipelines. Delivery of the OSV is scheduled for the last quarter of this year.

"Customising proven concepts and 'keeping it simple' is what we do best and is a big part of our success," said Mr Janssens. "This is a straightforward design, which is competitive in cost terms and in terms of running costs and operational reliability," he explained.

For this design, ANL chose a diesel-electric propulsion concept for enhanced flexibility and economic operation. The hull shape is based on a proven De Hoop design with excellent DP capability. The generators are located on the main deck, which not only allows much larger cargo volumes but also easier access for maintenance. The resulting tank capacities make this vessel stand out in its size range.

Providing accommodation for a total of 30 people, the DP2 vessel has a cargo tank capacity of 800m³ and space for 500m² of deck-mounted cargo. With a beam of almost 15.8m, the vessel has a deadweight of 2,600 tonnes.

To provide ample cargo pump capacity, there are two pump rooms: one in the aft ship (forward of the thruster room) and one in the forward area, just aft of the bow thrusters. The combination of pumps provides a transmix transfer capacity of 1,000 barrels per hour. For hose handling and loading or unloading deck cargo, two knuckleboom cranes are fitted: one on the starboard side aft and one on portside amidships, both with a capacity of 10 tonnes each at a maximum outreach of 15m.

Although the vessel is designed primarily for the transportation of intermix/transmix liquids, it is a multipurpose unit. Apart from working as a straight supply vessel, it is suitable for oil recovery and inspection, maintenance and repair work.

Another customer, Delta Logistics Ltd, recently ordered a new class of 70m x 15.8m platform supply vessel (PSV) derived from De Hoop's KISS (keep it simple stupid) design, which has been described in *OSJ* on a number of occasions. The first of the type was recently delivered to Pemex in Mexico. The new vessel, which has deepwater capability, will operate in the offshore fields near Trinidad and Tobago in the Caribbean Sea. The PSV is scheduled for delivery in the third quarter of next year.

The beam of this latest evolution of the KISS PSV has been widened to 15.8m to allow for a deadweight in excess of 2,500 tonnes. The hullform is optimised for fuel-efficient operation during transit and in DP mode. It will be fitted with a specially developed bulbous bow, designed to maintain a service speed of 12 knots whilst reducing power demands and hence fuel consumption.

As with the original KISS design, the generators are located on the main deck. This

ANL's intermix/transmix vessel under construction



ANL's newbuild will work for Shell Nigeria and Chevron transporting transmix liquids

not only allows for much larger cargo volumes but also easier access for maintenance. The resulting tank capacities make this vessel stand out in its size range.

Mr Janssens said this technically advanced ship will exploit Shipyard De Hoop's knowledge and experience in luxury cruise vessels to provide a high standard of accommodation. This includes low noise and vibration levels and optimised air-conditioning features to provide the crew with an exceedingly high level of comfort.

Shipyard De Hoop is also in the process of building a total of 10 PSVs for Abu Dhabi National Oil Company (ADNOC). ADNOC issued an invitation to tender at the beginning of 2013. Following technical prequalification, the group of tenderers was reduced to a shortlist, and the contract was won by Shipyard De Hoop during a final commercial round of tenders.

The first vessel is due to be delivered early in 2015, with the delivery of the other nine vessels over the following 18 months and the last PSV to be handed over at the end of 2016. Production of the vessels will be split between the two shipyards in the De Hoop Group – at Lobith and Foxhol. The vessels will operate in the offshore oil and gas fields of the United Arab Emirates, under operating company ESNAAD, which is part of ADNOC Group.

The ships, with main dimensions of 65m x 15.8m, are yet another evolution of the proven De Hoop PSV design and will meet the imposing operational and environmental requirements for working in the Arabian Gulf. The design will have the highest possible environmental regularity number (ERN) from classification society DNV.

The diesel-electric propulsion system consists of two azimuth thrusters in the stern and two bow thrusters. The hullform below the waterline is optimised to reduce drag, allowing for a transit speed of 13 knots at lowest possible power (2,500kW), and the shape above the waterline is designed to obtain a very low drag coefficient (Cd), thus reducing the power requirements in DP mode considerably. The vessels will have three generator sets, each of 1,600kW, driven by medium speed diesels. The DP system is designed to ensure that the vessels remain operational, even with one generator set out of service. The PSVs will operate in DP mode (Lloyd's class DP(AA)/DP2) when carrying out loading/unloading operations at drilling rigs or production platforms.

These vessels will also benefit from Shipyard De Hoop's knowledge and experience in luxury cruise vessels and its ability to provide a high standard of accommodation. This includes meeting the low noise and vibration levels required by Lloyd's rules for crew accommodation (the PSV will be assigned with the CAC3 class notation). The forward superstructure offers accommodation for up to 28 people in single-berth or two-berth cabins with en-suite bathrooms. The accommodation is spacious, with air conditioning and other features to provide the crew with an exceedingly high level of comfort. The full-width navigation bridge, with 360 degree visibility, will have an extensive package of nautical, navigation and communication equipment. The bridge wings are enclosed, and each has a navigation console containing all of the relevant controls from which the vessel can be operated. To facilitate worship by the mainly Muslim crew, a prayer room will be provided on the vessels.

Although primarily intended as offshore suppliers, the vessels can also be configured for safety standby services and fire-fighting. *OSJ*

