

# Abundant power refloats freighter

During the night of 4<sup>th</sup> February 2008, the anchor-handling tug *Janus*, owned by the Hamburg-based company Harms Bergung Transport & Heavylift GmbH & Co, succeeded in refloating *Zhen Hua 10*, which had run aground near Rotterdam. The 86,843dwt freighter, built in 1981, was lying at anchor when a storm forced the vessel sideways on to the bank of the Maas. *Janus* was called to the scene and its crew managed to refloat the 243.8m x 39.4m vessel and tow her to the Port of Rotterdam.

The tug is equipped with two Schottel controllable-pitch propeller systems of type SCP 119-4XG (7000kW each) and three of the same company's transverse thrusters of type STT 330 T-LK CP (400kW each). Built at the Mützelfeldt shipyard in Cuxhaven and delivered to the owners as recently as October 2007, this tug has a bollard pull of 220 tonnes and is the most powerful of its kind in Germany. It is indicative of the furious pace of development at Schottel in recent years as a manufacturer of propulsion systems.

In the tug world, it is well known that a tug named *Janus* was supplied to the same shipowner back in 1967. Following the introduction of the Schottel Rudderpropeller in 1950, applications were at first confined to inland shipping. However, this vessel ushered in an era of rapid development of more powerful propulsion units, first for harbour tugs and then also for special ocean-going vessels. This *Janus* was the very first entry in the Schottel list of references for tug propulsion systems. While this tug still had a modest bollard pull of approximately 10 tonnes, the figures for today's tugs range from 50 to 120 tonnes.

Now, some 40 years later, another Schottel tug with the same name is attracting attention – measuring 65m x 18.5m with a draught of 6.8m, this vessel is of an entirely different calibre than its earlier namesake. The two Schottel 4,400mm diameter controllable-pitch propellers are powered by four MaK engines, rated at 3,000 and 4,000kW per shaft giving a speed of 17.2 knots for operations worldwide as a salvage and anchor-handling tug.

## ● ITS Stand No 43

Top: The new, extremely powerful *Janus*.  
Below: The original, built 40 years ago.



## Remote control added to propulsion system

Florida-based Hydraulic Marine Systems recently shipped a number of its multiple thruster units, to be put into service by a Nigerian customer with an important new feature. The company has utilised Kar-Tech radio control systems to remotely operate its barge mounted, self-contained hydraulic propulsion units. With frequency hopping, spread spectrum, digital phase lock loop technology, the thruster propulsion units can be operated from anywhere on a barge.

The addition of the Kar-Tech systems means that an additional operator is no longer required at the helm. With this new feature, the Nigerian customer anticipates fewer safety risks, increased productivity and an overall improvement in the bottom line. The controls are a positive addition to a unique propulsion system that incorporates existing technology to harness the power and durability of hydraulics.

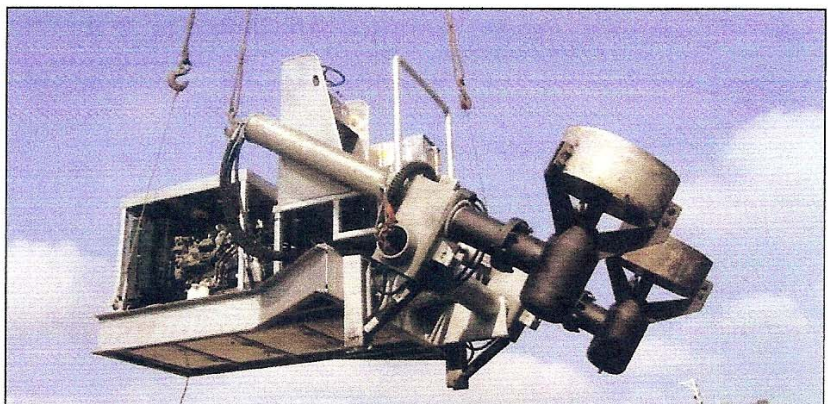
John Williams, owner and principal designer at HMS, spoke to *IT&S* of the design and his vision of its far-reaching application.

He said: "The addition of the Kar-Tech remote controls sets these machines on the cutting edge in the hydraulic propulsion arena. Combined with their power and long reach capability, these machines are going to revolutionise the industry."

Williams believes that his is the only company in the world manufacturing a twin propeller, self-contained hydraulic thruster.

The units are designed to function under extreme conditions and are built to have a long life cycle. The range offers a full line suited to the marine construction industry, where there is a need to self propel barges and sectional floats. They are transportable by truck or trailer, quickly set up (typically 30 minutes) and are extremely manoeuvrable.

The range spans from single drive 50hp units to twin drive 275hp versions, incorporating Perkins diesels, which produce more than 3 tonnes' thrust. There is an optional long reach drive capability, allowing up to 3.5m or more from the barge deck to the propeller centre-line.



The HMS engine and thruster package can be easily lowered on to the barge deck and the drive legs tilted downwards to provide almost instant propulsion.