

Around the world with IHC Services

In order to support customers and optimise their operations, IHC Services carries out a wide range of activities in locations worldwide. Take a journey to China – via the UAE, Saudi Arabia and

Thailand – to discover more about its innovative solutions, and learn why so many leading dredging, mining and offshore operators rely on its invaluable expertise.

IHC Services offers 24/7 worldwide customer support to operators in the offshore, dredging and mining markets. With service centres located strategically around the globe, including China, Singapore, UAE and South America, Royal IHC can respond quickly to customer requirements wherever they may be.

Services fall into three categories: operate, maintain and upgrade. Operate includes training and consultancy, 24/7 Service and rental services. Maintain comprises parts and logistics, repair and condition-based service. Upgrade covers feasibility studies, life-cycle engineering and renovation.

“Our goal is to solve problems,” says IHC Services Executive Director Wouter Kruijt. “To offer customers operational support in all they do – help with answers to questions, spare parts and training – we need to make sure they can operate as well as possible.

“We are a full service provider that can supply every single item our customers require as well as deliver a complete integrated system – from steel structures, electrical installations and power systems to mission equipment. We also have a presence in almost every location where our customers are, so we can provide a direct service.”

To illustrate the extent of this reach, as well as the varied and innovative work of IHC Services, this article shines a spotlight on some recent modification, repair and renovation projects in locations around the world, including Dubai, Dammam, Bangkok and Tianjin.

In collaboration with customers

IHC Services in Kinderdijk carried out an emergency repair on the QUEEN OF THE NETHERLANDS for Royal Boskalis Westminster NV (Boskalis) in March and April this year. Built in 1998 at Verolme shipyard, the trailing suction hopper dredger was equipped with an IHC dredge installation.

Dave Bartels, Superintendent Technical Services/Project Manager, explains: “The QUEEN OF THE NETHERLANDS had problems with her port side and starboard hull guides and sliding pieces. Without intervention, the installation would have gone out of service within the foreseeable future. The damage was limited to the sliding tracks and pads on the sliding piece, with minor wear to the sliding pieces.”

As an original equipment manufacturer (OEM), IHC had specific knowledge of the vessel’s engineering configuration. Experienced specialists were able to interpret the problem before offering assistance and collaborating with the team from Boskalis to develop a solution. An on-site specialist, an account manager and two engineers worked on the project, which had a lead time of approximately three months, including three and a half weeks in Dubai.

IHC replaced sections of the hull guides and the sliding pads, and carried out a touch-up repair to the apron, part of the trunnion gantry. The challenge was to be able to renew the sliding pads of the sliding pieces. The complete suction pipes were repositioned on the saddles to access the lower sliding pads, and in the aprons an access was cut away to replace the upper sliding pads.

The replaced sliding pads have an aluminium/bronze layer welded on top of a mild steel base, which were engineered and provided by Boskalis. Only the top hull guides were damaged severely, the guides below the flexion were worn but still smooth, so these were only cleaned and polished.

“During the work, the trunnion gantries were inspected and it was discovered that the port gantry was slightly out of alignment. So we adjusted the gantry catch by adding a filling plate in forward catch,” says Dave. “The starboard gantry needed longitudinal alignment, and so a plate to guide the apron in the correct position was added.”

While the vessel was in dry dock, the suction inlet was checked and was also found to require attention. The worn hull rings were replaced, as were both port and starboard liners. On the final day in dry dock, the sliding pieces and the movement down to the suction inlet were tested and no issues were noted.

“The main objective was to repair the tracks and sliding pieces to last until the vessel’s next scheduled repair. The long-term modification can be engineered and prepared – having said that, it looks like this repair will easily last longer,” adds Dave. “This project highlights the collaboration between IHC and Boskalis – both parties put in their best effort to pursue a joint objective, with positive results.”

A quick response to minimise downtime

IHC Middle East & India is based in Dubai and Mumbai. The IHC Services team is able to provide a quick response to all customers in the region, aiming to be on site within a day.

A recent job involved the overhaul of the cutter drive of a Beaver 65, which was working on a port construction project in Dammam, Saudi Arabia. This was an emergency repair because the damaged drive had a direct influence on the efficiency of the vessel and had to be repaired as soon as possible to minimise downtime. Its owner requested assistance from IHC because of its in-house knowledge and expertise, and to ensure the downtime was kept to a minimum.

Technical Manager Catalin Gherghe says: “The customer is quite new to dredging and a relatively new customer of ours – this is its first IHC vessel. So it was an advantage that we could react so quickly, even in a different country. Within a day of notification, our specialist was on board.”

IHC was required to initially provide technical advice and then supervise the overhaul, which took place at a non-IHC workshop that had limited tool availability. The work required the removal of the complete lower part of the ladder, the cutter motor and shaft, and the replacement of bearings. All parts were then mounted back on to the lower part so it could be fitted back on the dredger.

Two specialists from IHC Middle East Service Centre were supported remotely by IHC colleagues based in Kinderdijk, The Netherlands. The required spare parts, including the bearing, were

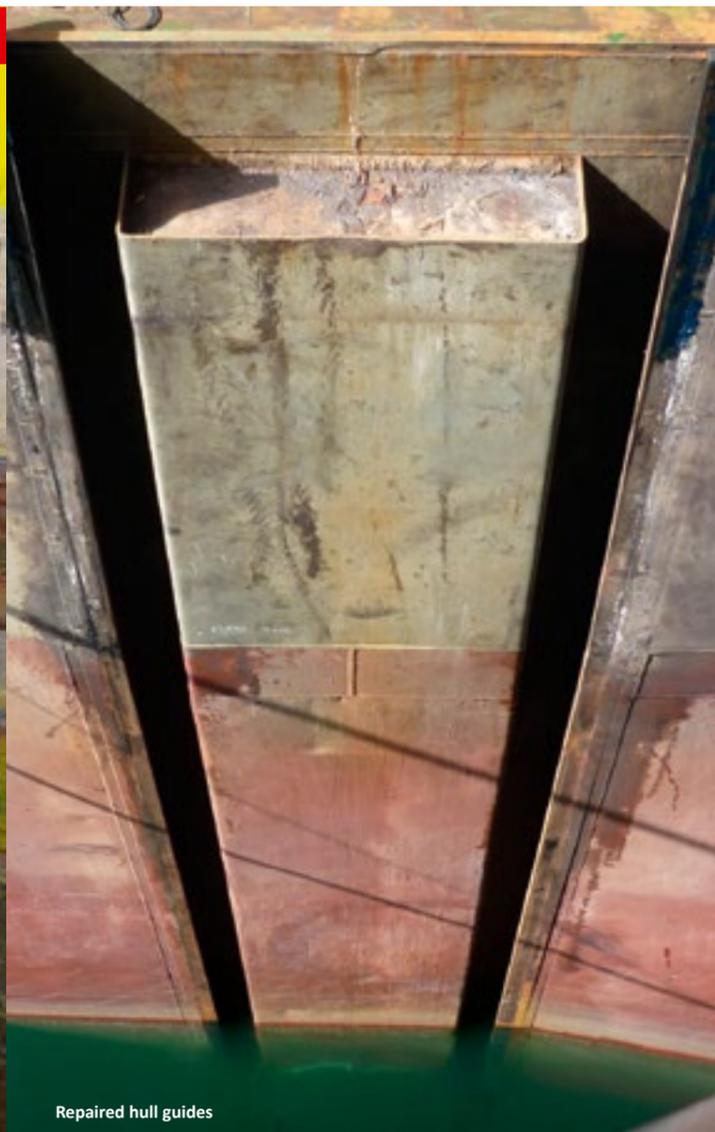


Fitting the back lower ladder part

THE NETHERLANDS



Installation of upper sliding pads



Repaired hull guides

DUBAI



Lower part in workshop, motor removed



New bearing

sent from the office in Dubai. The overhaul was completed in eight days. “On the eighth day, the motor performed its test run and dredging commenced on the following day,” says Catalin.

As well as highlighting IHC’s capability to act fast and travel to a customer’s site, wherever it may be, this job demonstrates the high level of cooperation between various departments within IHC to provide the best solution for the customer. It also demonstrates IHC Services’ ability to perform large-scale, high-risk projects with shipyards and workshops around the Middle East.

OEM expertise

From its location in Singapore, IHC Asia Pacific Pte Ltd serves the region of Southeast Asia. One of its longstanding customers in

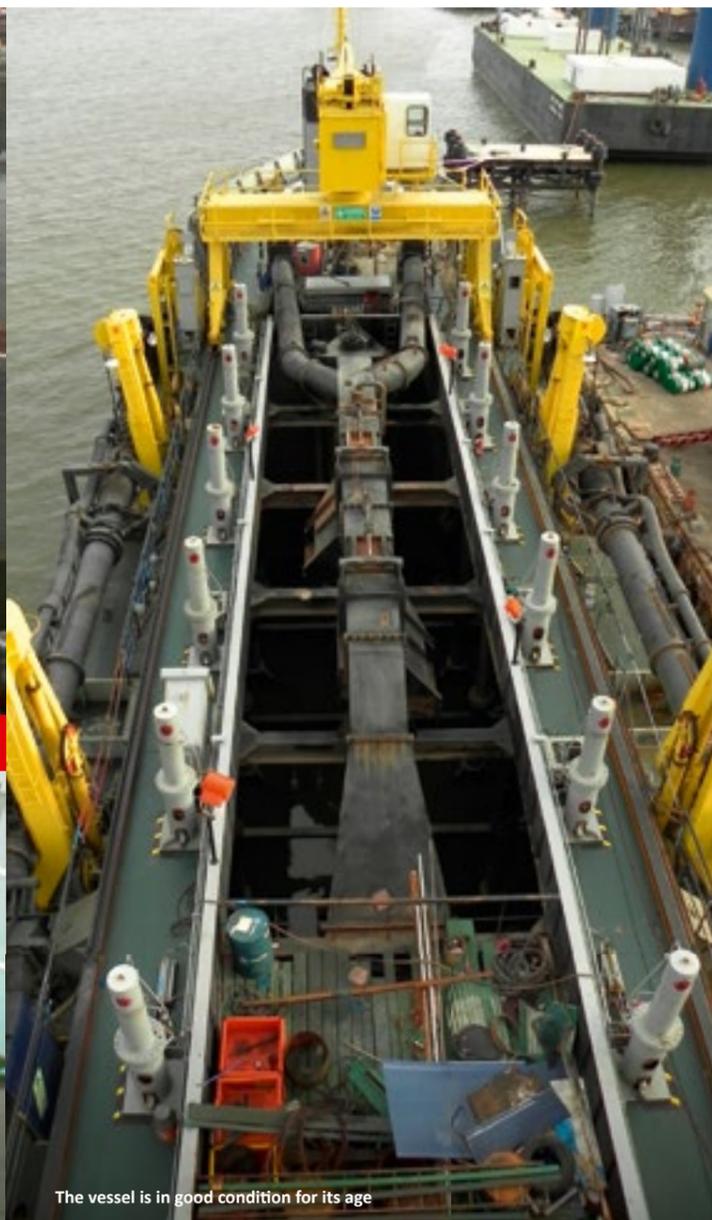
that region is the Port Authority of Thailand (PAT), a state-owned corporation responsible for the regulation and governance of the country’s ports, based in Bangkok.

Royal IHC has worked with PAT since 1955. It has a fleet of hopper dredgers with IHC equipment installed, including two vessels that IHC built in cooperation with ItalThai Marine Ltd shipyard in Bangkok.

One of these vessels, SANDON 8, which was built in 1990, required a replacement suction tube and draghead. The vessel performs maintenance dredging in Bangkok Port, and the starboard pipe was worn and severely corroded. PAT contacted IHC as the OEM and designer of the vessel and equipment to carry out the work. Project Engineer V Jayakumar says: “We supplied the upper and



Replacement is needed



The vessel is in good condition for its age



SINGAPORE

Communication can be a challenge

lower suction tube, sliding piece with suction bend and dragheads. All these parts were sourced in The Netherlands and delivered within six months."

With Service Engineer Tin Maung, Jayakumar supervised the removal of the vessel's old parts and ensured that the installation of the new components was completed to IHC standards. The job was carried out in a Bangkok shipyard in 20 days.

"The main challenge was the tight schedule," says Jayakumar, "but the coordination between the shipyard, the customer and IHC was very good. PAT performed the sea trials and we received positive feedback regarding the performance of the equipment."

Increasing production, reducing labour costs

IHC Dredging Technology (Tianjin) Co., Ltd has responsibility for IHC customers in China. One of its longstanding customers, with a considerable fleet of IHC vessels, is CHEC Dredging Co., Ltd. (CHECD), a subsidiary of China Communications Construction Company Ltd (CCCC). In September 2013 it signed a contract with

IHC for the renovation of the pump room in its dredger, HANG JUN 4007.

Built in 1979 in Japan, the vessel was no longer performing satisfactorily and it was becoming increasingly tough for CHECD to compete. "Before renovation, the dredger's production levels were quite low as a result of the pump's decreased efficiency, and so could not meet the requirements of the customer and its dredging projects," says Project Manager Liu Peng.

An improvement to its operation was required from IHC. Together with Dredging Advisory Services (the in-house consultancy of IHC based in Kinderdijk), the company began discussions with the customer on possible solutions and which kind of pump would complement the vessel's existing technical installation.

Once the pump type had been confirmed (an IHC high efficiency dredge pump), its pump room was modified according to the design of IHC's Life-Cycle Engineering department to ensure compatibility. Following delivery in August 2014, the pump was installed by service engineers from IHC China, who worked

alongside the customer's engineers. The renovation was completed in January 2015. The trial run of the pump and fresh water test were performed smoothly.

MTI Holland BV Measuring & Diagnostics then monitored the pump, as well as the pump of the sister vessel, which had been converted by a local supplier. "The pump efficiency measurement was much higher for the IHC pump on the HANG JUN 4007 than the renovated pump on its sister vessel," says Liu. "The high-efficiency working range of IHC's pump is also much wider than the other pump. We proved to the customer that by using the IHC pump for dredging, total production increases by at least 30%."

As well as increasing production, the renovation will save the crew time and labour costs on repair and maintenance. They also receive full support on spare parts, such as impellers and Liquidyne, and advice on technical issues from the office in Tianjin. Following the success of this project, IHC secured the contract for another two CHECD dredgers. Furthermore, IHC also won renovation orders for the XIN HAI LONG hopper dredger – to increase suction depth and upgrade the SCADA system.

General Manager Ton de Grijter says: "In China, the decision to grant an order is based on the business relationship much more than in western Europe, where the decision depends more on price. Economics are important here, but relationships are crucial, which is why we have a local office with local employees, who speak the language of the customer and understand the local culture."

Optimal tools at sea

IHC Services values its relationships with customers, who in turn rely on its expertise and ability to respond quickly. Operators in the offshore, dredging and mining industries are becoming increasingly international in their outlook and consider their vessels as assets. The services provided by IHC take care of these assets, enabling customers to focus on delivering their core business to their own clients.

"We try to step into the shoes of our customers and see things from their point of view," concludes Wouter. "Our innovative strategies and technological solutions can help develop their operation, bringing in greater revenue for them. Our aim is to provide optimal tools at sea."



CHINA

The dredger HANG JUN 4007



Installing the IHC pump equipment on board



Pump efficiency measurement by an IHC MTI engineer