HYDREX®
UNDERWATER TECHNOLOGY

NEWS
LETTER | 282

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KEEPING SHIPS IN BUSINESS

ISO 9001 certified

Underwater services and technology approved by:

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RINA 1861

BUREAU VERITAS

ClassNK

RECOGNIZED ABS SPECIALIST

ADC International

Underwater propeller repairs

When damage to propellers occurs due to impact with ice and other debris we can help you, even if the damage is quite extensive. Our teams can restore the propeller's balance and efficiency.

By taking advantage of the in-house developed cold straightening technique, damaged blades can be straightened underwater, allowing the ship to return to commercial operations without the need to drydock.

If straightening is not an option, the affected area of the blade will be cropped. This is done to achieve the greatest possible efficiency. Cropping is carried out using our propeller blade cutting equipment.

Our teams can also carry out any other repair work on the propeller. Examples of this are the removal and reinstallation of entire propeller blades or replacement of the propeller seal ring.

Contact us for more information on underwater propeller repairs. We are at your disposal 24/7.

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hydrex@hydrex.be

Scrubber overboard pipe repairs in Belgium and the Netherlands

Last month our diver/technicians carried out scrubber overboard pipe repairs in Belgium and the Netherlands. In Flushing the corroded overboard pipe of a 229-meter bulker was replaced. In Antwerp the same was done on a 200-meter roro vessel. In both cases the new pipe was protected with Ecospeed, a chemical resistant coating produced by Subsea Industries.

Exhaust scrubbers are systems that filter out all harmful toxins from exhaust gasses of marine diesel engines. These can severely corrode the pipes of the scrubber which can result in water ingress if not handled quickly enough.

Corroded scrubber pipe of bulker in Flushing.

Hydrex technician cutting away the old pipe.

Permanent in-water rudder repairs now possible without drydocking

Hydrex has developed an entirely new method enabling permanent repairs of rudders without drydocking the ship. Permanent repairs were hitherto not possible and ships had to drydock in case a major defect was found. The newly designed equipment is light-weight and can be mobilized very rapidly in our special flight containers. Therefore this new service is now available world-wide.

Major defects on rudders very often cause unscheduled drydocking of ships. The new method designed by our technical department allows engineers, welders and inspectors to perform their tasks in dry conditions. Class approved permanent repairs on-site, without moving the ship, are now possible and commercial operations can continue. Steel repairs and replacements can be performed and pintle and bushing defects can be solved without the loss of time and money associated with drydocking.

The equipment can be mobilized within hours to any port in the world and is available for rapid mobilization from the Hydrex headquarters in Antwerp.

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Hydrex welder during installation of the new pipe on the bulker.

The new pipe was secured with a full penetration weld.

Reconnecting the new overboard pipe.

New overboard scrubber pipe with Ecospeed protection on the inside.

Portside scrubber pipe coated with Ecospeed 8 months ago and still in perfect condition.

Flushing

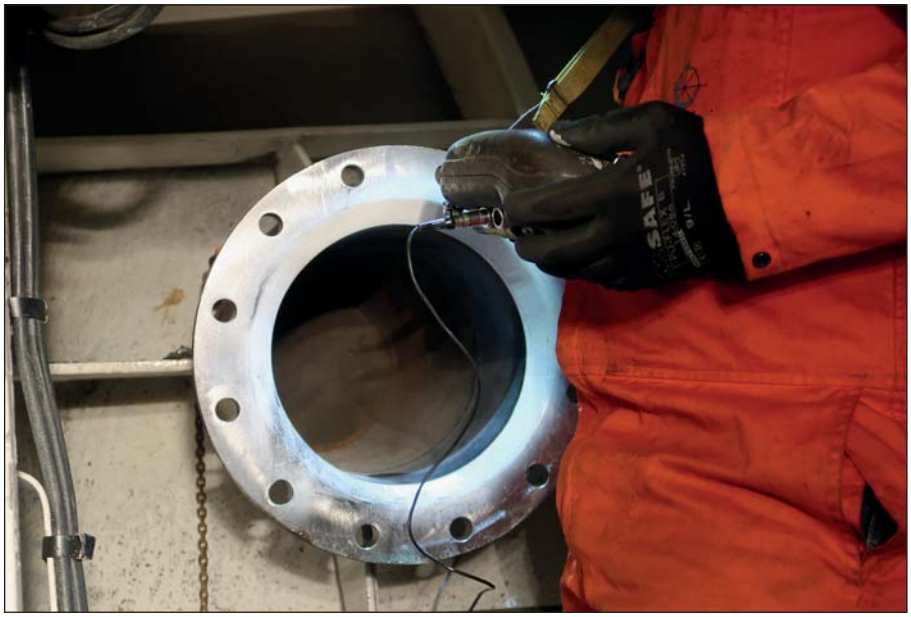
A small team traveled to the location of the bulker to perform an inspection of the damaged pipe on both the waterside and the onboard side of the hull. This confirmed that the scrubber outlet was corroded. Replacing the affected part of the pipe in its entirety was the only option.

A cofferdam had been constructed at our workshop based on the drawings sent by the customer. The team installed this cofferdam over the outlet of the pipe. This allowed them to perform work inside the engine room without water ingress.

Next the team cut away the old pipe. The shell plating was then prepared for the installation of the replacement part. The new pipe had also been constructed at our warehouse in Antwerp with a diffuser and flange already in place. The pipe was then positioned and secured with a full penetration weld. Next and independent inspector carried out NDT testing of the welding work.

To prevent the new pipe from corroding, the inside was coated with Ecospeed. This product is produced

The heavily corroded starboard side pipe was replaced and given the same protection.



Independent NDT testing of the welding work.

by Hydrex sister company Subsea Industries. www.subind.net. Ecospeed is highly chemically resistant. Taking into account the nature of the process taking place inside a scrubber, this is essential for a lasting protection of the pipe. Ecospeed can also be used to protect a newly installed scrubber system from day one.

Antwerp

The same procedure was followed on the corroded starboard overboard scrubber pipe of the roro vessel in Antwerp. The portside overboard pipe of this vessel had been replaced eight months ago and had also been coated with Ecospeed at that point. An inspection of the portside pipe revealed that the pipe and the Ecospeed coating were still in perfect condition. No further action was needed for this pipe.

Conclusion

We offer a full package to owners that are experiencing similar damage. We replace the corroded exhaust pipe while your vessel stays on schedule and we make sure that you will not have to call us again in a few months' time for the same problem.

Contact us to find out how we can assist you. We are available 24/7. ■

In-water bow thruster repairs

The Hydrex lightweight flexible mobdocks are designed to be easily transported around the world and are used to close off the thruster tunnel on both sides, allowing divers to perform repairs and other operations in a dry environment around the bow thruster unit.

This technique enables them to reinstall the propeller blades of an overhauled thruster inside the thruster tunnel after the unit has been secured or replace the blades or seals and perform repair work on a specific part without removing the unit.

Since the development of this flexible mobdock technique, numerous thruster repairs have been carried out by Hydrex diver/technicians around the world.

There is no need to send the vessel to drydock as all operations can be carried out in port or while the vessel is stationary at sea. Normal commercial activities can therefore continue without disruption.

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Sisimiut, Greenland
Emergency rudder repair

Rotterdam, the Netherland
Rudder crack repair

the Netherlands – Rotterdam

Belgium - Antwerp

Tacoma, U.S.A.
Bow thruster replacement

Spain - Algeciras

Alge
Shel

Grand Isles, Gulf of Mexico, U.S.A.
Moonpool hull repair

Palm Beach, U.S.A.
Insert repair

Las Palmas, S
Doubler plate

U.S.A. – Tampa

Veracruz, Mexico
Double seal repair

Caribbean
Bow thruster repair in stages

Dakar, Senega
Hull repair

Balboa, Panama
Stern tube assembly renewal

Port Gentil, Gabon
Thruster tunnel repai

Punta Del Este, Uruguay
Pipe repair and insert installation

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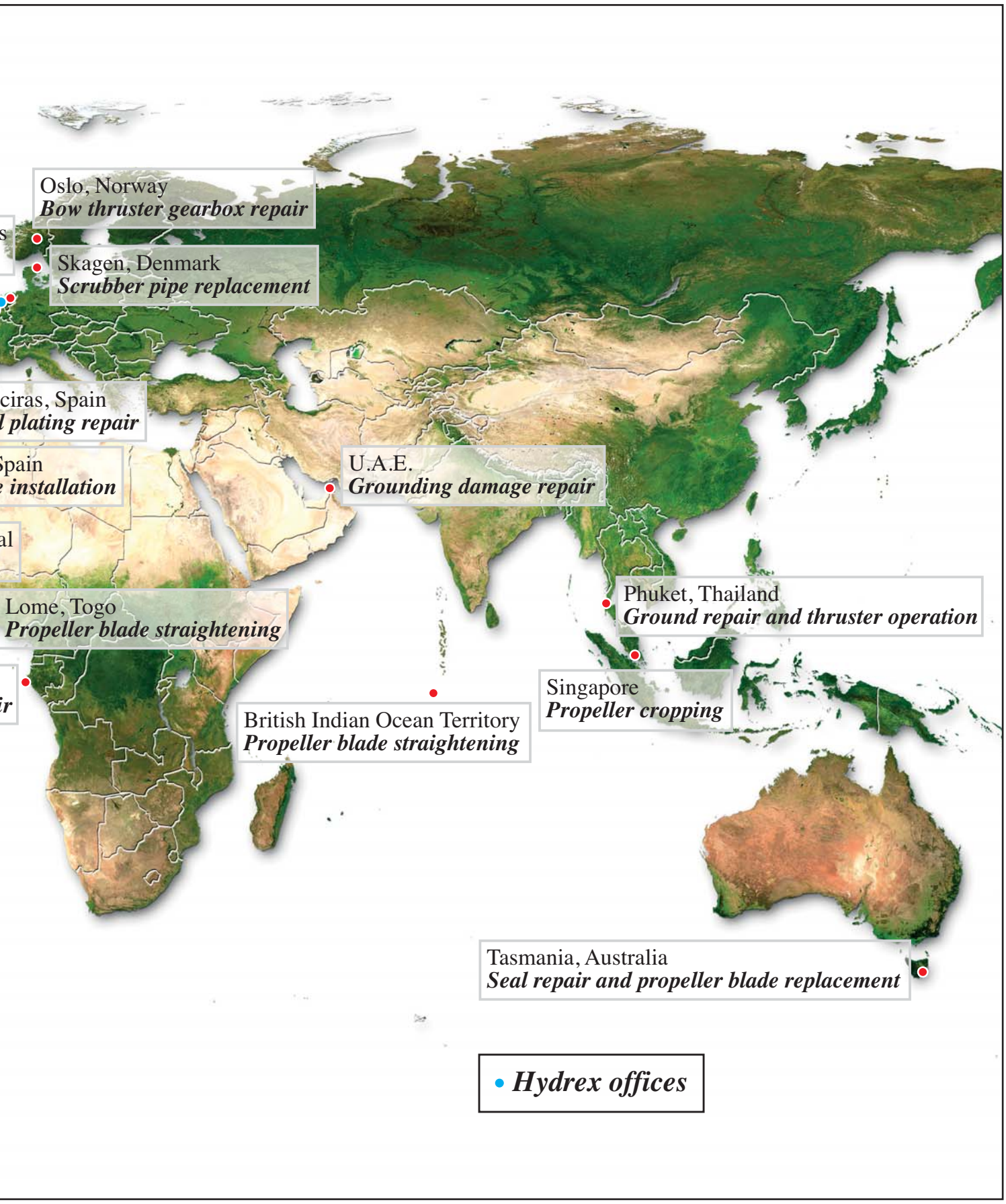
in and fix your ship



Large fuel savings with new propeller surface treatment technique

We discovered an unsophisticated but very efficient technology to enhance propeller blade surfaces. With this method we can achieve surface conditions that were never seen before. This can only be done underwater.

We have four workboats equipped to deliver this service on a very short notice in the Rhine-Scheldt delta from Antwerp to Rotterdam.

When a comparison is made between the surface condition of an average propeller, as our divers regularly see it, and the smoothness that is obtained with our cleaning technique, savings are in the 5-10% range. These results are easily achieved. The cost of such an operation is very attractive and is very easily gained back in a matter of days (or even hours).

With our method we can achieve surface conditions never seen before.

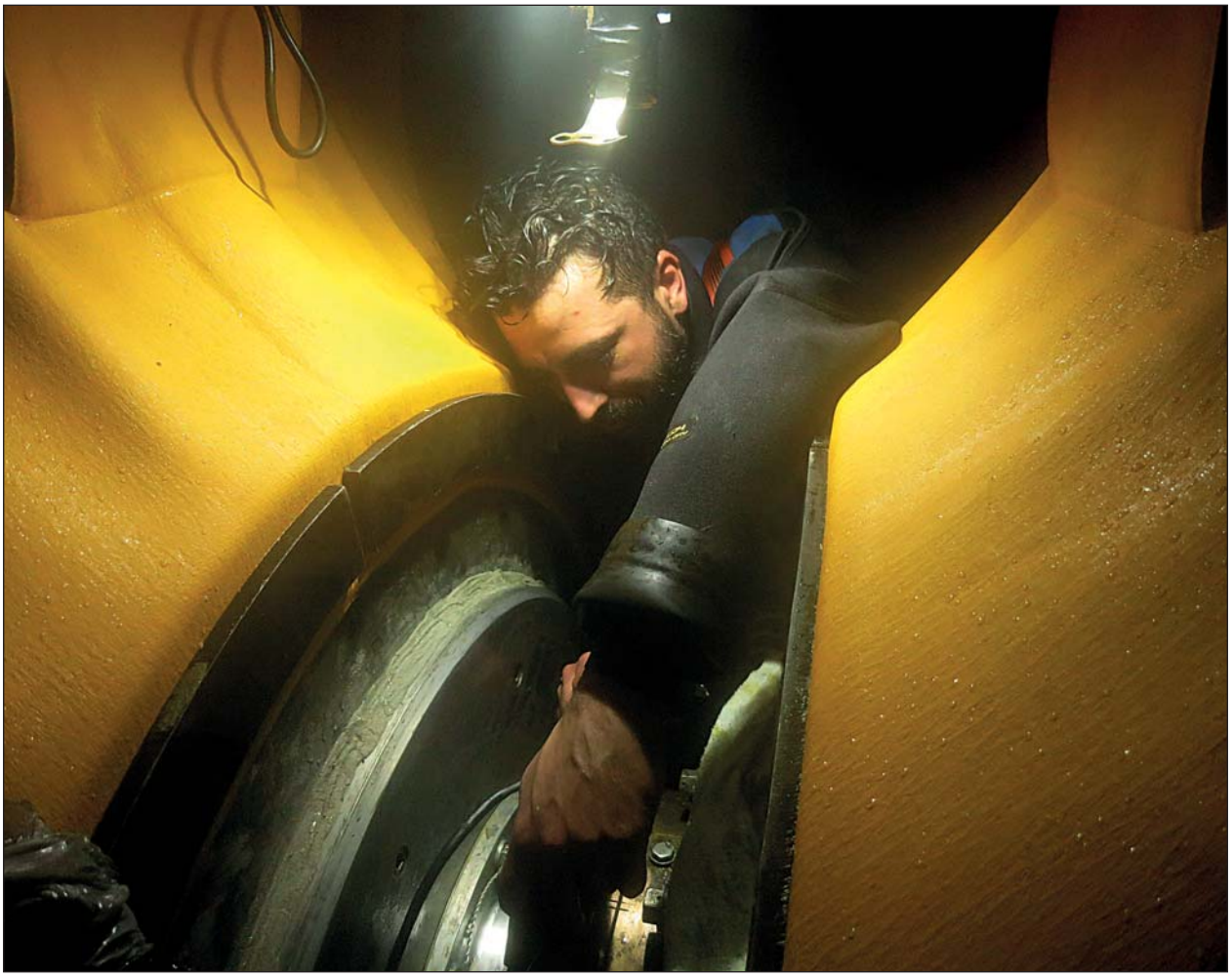
Regular maintenance is easy to schedule and results in ultra-smooth propeller surfaces. Continuous and large fuel savings are now possible.

This award-winning surface treatment technique justifies having the propeller cleaned every time it calls a port.

Please contact us for more information, we will gladly discuss the benefits of this new technology with you. ■

Our workboats are equipped to deliver this service at very short notice.

Stern tube seal repairs



Using our flexible mobdock method to create a dry underwater environment, we have carried out stern tube seal repairs and replacements underwater for some years now in cooperation with OEMs.

This technology brings drydock conditions to the ship rather than having to take the ship to drydock, saving a considerable amount of time and money in doing so.

This class accepted method is performed by our diving teams under our warranty. It can be used while the ship is carrying out its usual cargo or other commercial operations in port.

Visit the special stern tube seal repair section on our website for more information and examples of the many seal repairs we have performed in recent years.

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