

Construction RV *Wim Wolff*



Progress report #32: September 2023

The RV *Wim Wolff* is a new shipbuilding project for the Dutch national research fleet. The fleet is owned and operated by the National Marine Facilities (NMF), a department of the Royal Netherlands Institute for Sea Research (NIOZ). The NMF fleet consists of three vessels capable of conducting research from the shallow coastal waters out into the open ocean.

The RV *Wim Wolff* is intended to replace the Wadden Sea research vessel RV *Navicula*, and with its shallow draught of 1 meter it is specifically designed for overnight voyages for research in the Wadden Sea, the Zeeland delta or the coastal zone.

With a permanent crew of four, the RV *Wim Wolff* will offer state-of-the-art facilities for a maximum of 12 passengers, and is equipped with onboard dry and wet lab facilities. The vessel also has room for two customised lab containers on the working deck.

The RV *Wim Wolff* will be built by Thecla Bodewes Shipyards (TBSY) in Harlingen, and is scheduled for delivery by the end of the 4th quarter of 2023.

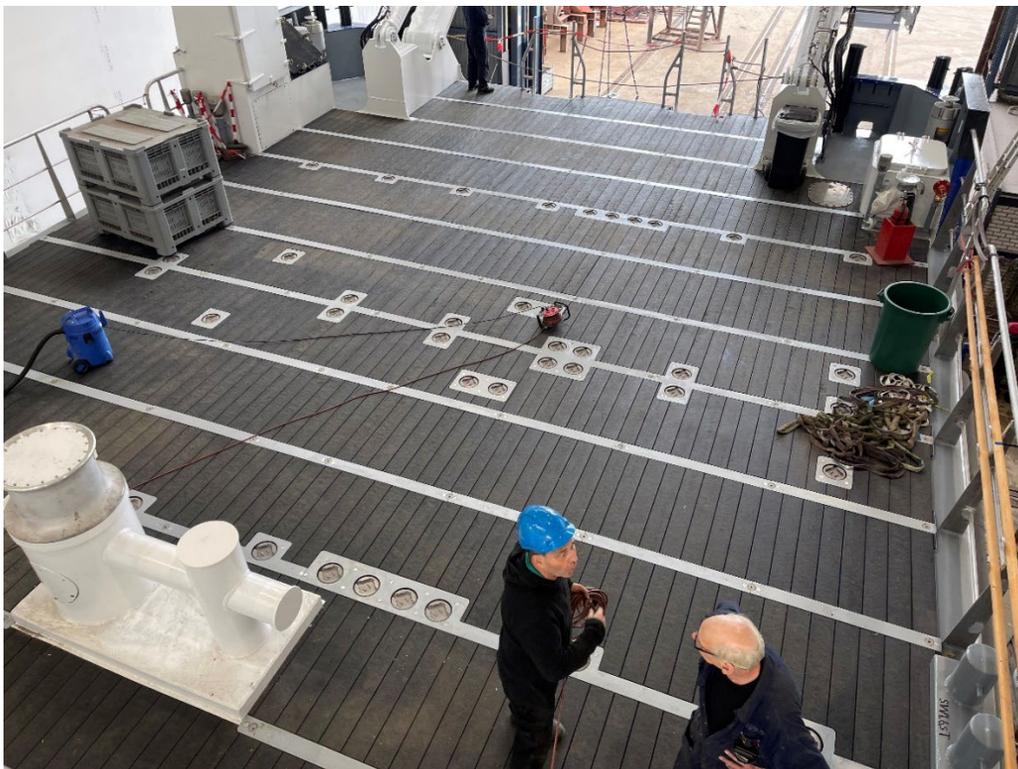
LAST MONTH IN THE

The entire month of September was devoted to preparations for the launch on 26 September, followed by the vessel's move to the TSBY shipyard in Kampen for the finishing work and delivery.



Side view of the RV Wim Wolff, now clearly recognisable as a vessel of the NIOZ fleet, thanks to the logo and the title SEA RESEARCH on the hull. ©FH

One requirement for the launch on 26 September was the completion of all the work on the outer hull. The paint work was largely completed last month, and the last few weeks were spent finalising the details: adhesive labels were applied and the last of the work deck coverings were installed.



Rear view of the RV Wim Wolff, showing the synthetic work deck coverings and the many attachment points for cargo and containers. ©FH

Work continued on all the interior cabins, and the vessel's definitive appearance has become more apparent both inside and out.

WEATHERPROOFING BELOW THE WATER LINE

Weatherproofing the hull below the water line requires special care, due to the risk of galvanic corrosion: deterioration of the aluminium hull. The effect is exacerbated by the many different types of metals used in the propeller and rudder components.

Every seagoing vessel, such as the RV *Wim Wolff*, uses different metals in close proximity: the hull is aluminium, the propellers are bronze, the stern tube is plastic and the drive shafts are stainless steel. And salty sea water is an extremely good electrical conductor.



Sacrificial anodes on the rudder, the propeller duct and drive shaft, and the hull. To function correctly, these anodes must remain untreated (unpainted), so they can 'sacrifice' themselves to preserve the rest of the components. ©FH

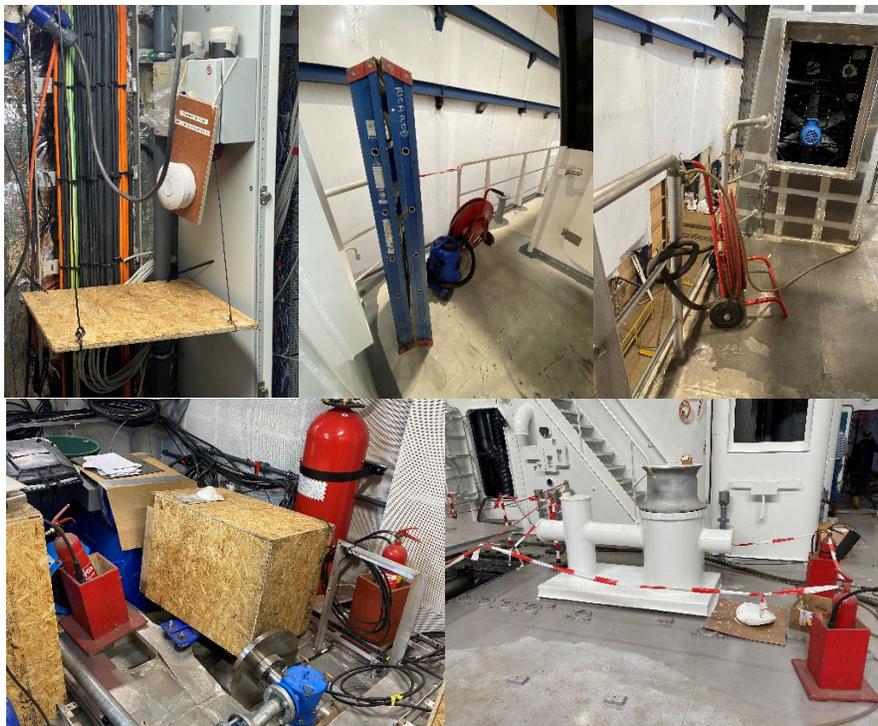
When two metals are immersed in an electrically conductive fluid, and electrical current passes through the metals, the current will continue to pass until the basest metal (the metal with the lowest electrochemical potential) has been corroded ('eaten away').

On the RV *Wim Wolff*, the basest metal is aluminium, and the noblest metal is bronze. When there is a difference in voltage between the vessel's hull and the propellers or stern tubes,

the hull will gradually disintegrate due to corrosion. In principle, sealing the hull with a tough, hard-wearing coating protects it from galvanic corrosion. But if the coating is scratched, electric current will begin to pass through the different metals, causing them to corrode.

To protect against this, a second layer of protection is added: cathodic protection by means of galvanic sacrificial anodes. Bits of bare aluminium are installed on all components under the water line, especially on the plastic stern tubes and bronze propellers, to serve as sacrificial anodes. If an electrical current passes between the metal components, these anodes have the lowest electrochemical potential and will gradually corrode over time, which protects the vessel's hull. The sacrificial anodes must therefore be replaced on a regular basis.

SAFETY DURING CONSTRUCTION



Smoke alarms and fire extinguishers have been installed throughout the vessel to minimise the risk of fire on board.

Safety was a constant priority during the construction phase. In addition to the risk of personal injury, there is also always a potential risk of fire as a result of the construction work. Smoke alarms were installed everywhere during the work, and fire extinguishers were placed at several points on board.

THE LAUNCH

Following a final inspection, the vessel was moved outside of the production facility on Monday, 25 September, in preparation for the launch on the morning of Tuesday, 26 September. It was moved from Harlingen, via the Kornwerderzand to the TSBY shipyard in Kampen that same day.



Reception at TBSY, with coffee and pastries.

The launch offered quite a spectacle from the second floor of the TSBY office building. Seeing the *RV Wim Wolff* floating in the water, rather than as a construction site, was a special moment for all involved.



The RV Wim Wolff rolled outdoors on wheeled carriers.



The first water under the vessel. ©EK



The RV Wim Wolff afloat for the first time. ©EK



Ready for the move to the TSBY shipyard in Kampen. ©EK

For more information, please visit: www.NewResearchFleet.nl

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