Construction RV *Anna Weber-van Bosse*

Progress report #1: March 2023

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INTRODUCTION

When it is complete, the RV *Anna Weber-van Bosse* will serve as the ocean-going research vessel for the Netherlands' 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 *Anna Weber-van Bosse* will eventually replace the current research vessel, RV *Pelagia*, which is approaching the end of its economic and technical service life. The new vessel must be capable of conducting marine research anywhere in the world, from the equator to the edges of the polar ice caps. That means it will be able to operate in the IMO sea areas A1 to A4.

The vessel has been designed in close consultation between researchers and crew, with input from both the NIOZ and other national stakeholders. The design has high ambitions with regard to sustainability, and this phase of the project strives to reach as close to zero emissions as possible. Where technological developments or the operational profile do not permit zero emissions at the moment, preparations are already being made for a retrofit approximately 10 years after delivery to completely eliminate CO2 emissions.

The RV *Anna Weber-van Bosse* will offer state-of-the-art facilities to the 16-member crew and up to 31 researchers, and will be equipped with a variety of flexible-use cabins and container-based laboratories. The vessel's design will facilitate the optimal use of the wide range of facilities necessary for the vessel's operations. The finished vessel will be 79.975 meters long and have a beam of 17 meters. The maximum draught will not exceed 5 meters, in order to operate from the home port of Texel. The vessel will be built under classification by Bureau Veritas, and will sail under the Dutch flag. It will also have a 'comfort class' rating for the well-being of all souls on board. To facilitate acoustic underwater research, the vessel will be delivered with a Silent R rating, to minimise underwater noise.

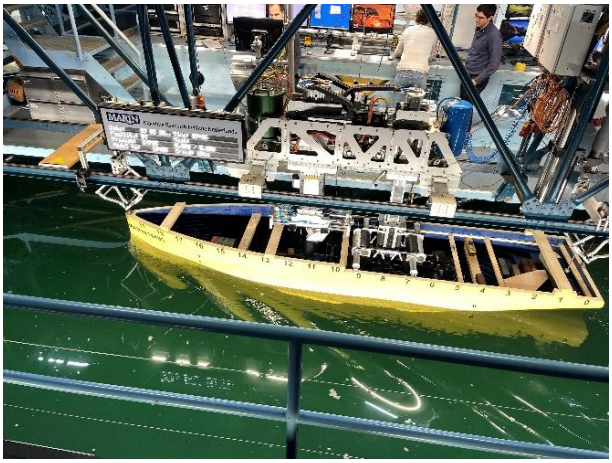
The work deck will be equipped with a variety of facilities and instruments, including A-frames and J-frames to lower research and sampling equipment into the water. A new Pistoncore control system will allow the vessel to take sediment core samples up to 30 meters below the ocean bed. The vessel will also be equipped with a drop keel for equipment that must extend below the vessel's hull, an independent USBL pole and a combined gondola for underwater sensors and multibeams.

The work deck and container hold will be able to carry up to 16 20-foot containers. Each container will have its own connections for electricity, water, air, etc., to facilitate scientific research.

The RV *Anna Weber-van Bosse* will be built by Astilleros Armon A.S. in Vigo, Spain, under order number V-147. Delivery is scheduled for the 3rd quarter of 2025.

A LOOK BACK AT THE PROGRESS SO FAR

The contract went into effect on 1 February 2023, which is also when the shipyard began work on the engineering and contracting for the major materials purchases. The contract stipulates a list of specific suppliers that are supported by NIOZ and the shipyard. The yard is currently hard at work validating the design, with a focus on model tests conducted at MARIN in Wageningen. The weather handling and propulsion tests were conducted in week 13. The next tests at MARIN are scheduled for the second half of April and early May, to examine how the design will handle in rough seas and how the crew can work on deck (green water). These tests will mainly focus on optimising the screw design.



Model in the 250 m test basin at MARIN ©JH

Scale model length 5 meters

PROGRESS

The progress of the work at the shipyard is on schedule as determined when the contract went into effect. The most important milestones are scheduled as follows:

- *Conclusion of the basic design phase - 15 September 2023*
- *Start cutting steel - 20 September 2023*
- *Laying the keel - 20 November 2023*
- *Launch - 10 October 2024*
- *Start shakedown cruises - 2nd quarter 2025*
- *Delivery - 3rd quarter 2025*

A dedicated site team from the NIOZ will monitor the project in detail, with the support of the crew and scientists as necessary. Meetings will be held with the shipyard every two weeks to discuss the most important issues. The project team will also visit the shipyard every six weeks for more in-depth discussions. The collaboration with the shipyard is effective and constructive. The site team will also meet one day per week at the NIOZ, and stakeholders are welcome to join and ask any questions they may have about specific details.

The shipyard is currently elaborating the plans, schematics and major purchases for the basic design. The yard will then send these blueprints to the NIOZ, which will check whether they meet the requirements and specifications and the users' requests in consultation with the crew and researchers. There is also a monthly report to the Taskforce Fleetrenewal.

SCHEDULE FOR THE MONTH AHEAD

Over the next month, the focus will lie on validating the basic design and elaborating the basic design plans. The shipyard will also continue with the purchasing of the major components. The model tests at MARIN will continue in the week of 17 April, with the specific goal of validating the vessel's sea handling.

In the week of 10 April, the team will once again visit the shipyard for the regular 6-week meeting. During the next meeting at the yard, the team will also schedule visits with potential subcontractors.

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