

Construction RV *Anna Weber-van Bosse*



Progress report #2: April 2023

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 into the open ocean.

In the last progress report, we explained the specifications for the design of the *RV Anna Weber-van Bosse*. In anticipation of the actual start of construction, each month we will look back on the progress made in the past few weeks and provide an explanation of the specifications for the vessel's various components to give an idea of how the *RV Anna Weber-van Bosse* will look upon completion.

To facilitate her research activities, the *RV Anna Weber-van Bosse* will be equipped with a wide range of state-of-the-art equipment and resources. A brief overview of the equipment mounted on the working deck is provided below.

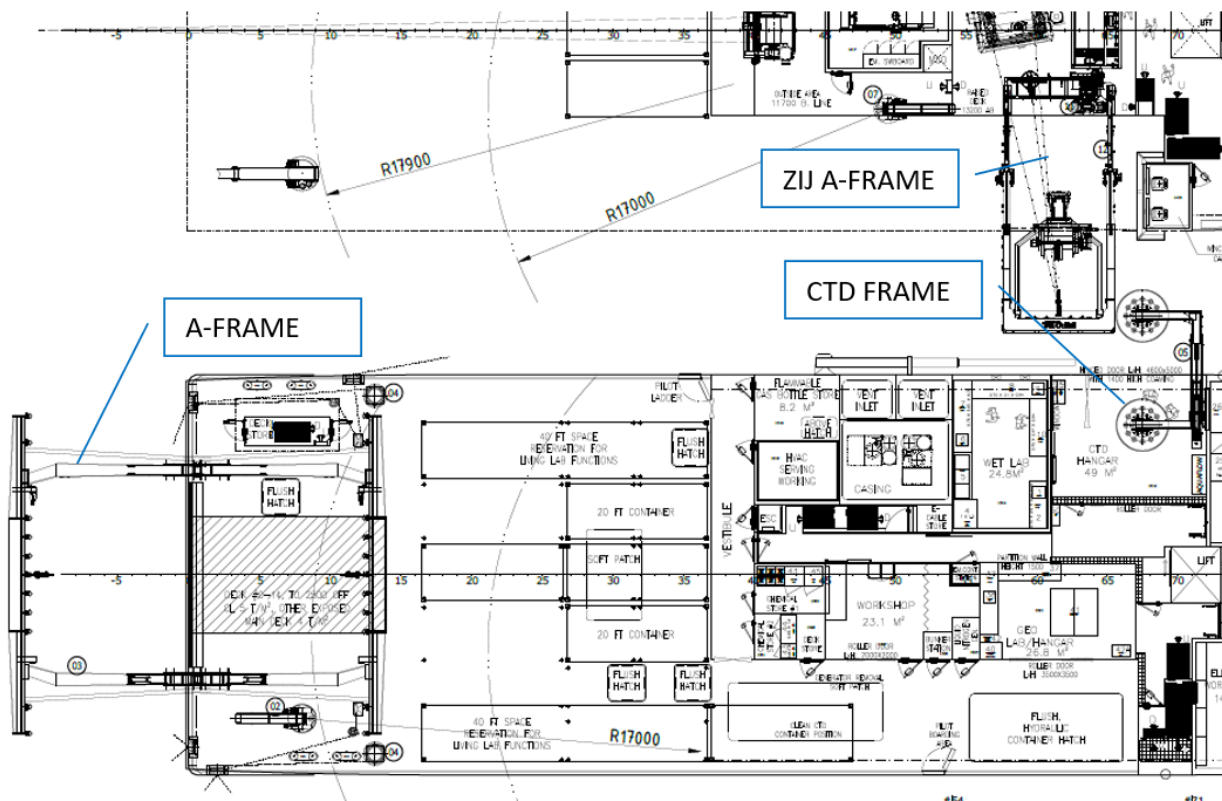
A-frame: an A-frame with specially designed winches will be installed on the aft deck to lower scientific equipment into the water for underwater research. This A-frame will be designed to lift even the heaviest equipment used by our sister institutes, including the autonomous MEBO coring device used by MARUM and the RockDrill used by the NOC. Extra winches and lifting eyes will be fitted to the A-frame as well. In contrast to the A-frame aboard the *Pelagia*, the *RV Anna Weber-van Bosse*'s A-frame will be able to fold completely flat against the deck to allow for adjustments at the top of the frame.

Side A-frame: This may be the most heavily used feature of the *AWvB*, as most research equipment will be lowered over the side. The multicorer, box corer and piston corer will all be placed on deck here. The vessel will also be able to launch Landers straight from the GEO hanger here. The more spacious dimensions will also make it possible to use the clean CTD for expeditions using the piston corer, which is not possible today aboard the current research vessel.

CTD frame: The Conductivity, Temperature, Depth (CTD) frame will be installed on the port side, between the dry lab and the wet lab. The CTD frame will be able to lower 'standard' CTDs with the NIOZ Rosette sampler into the water, to take water samples at extreme depths. This winch will also be equipped with a heave compensator, to compensate for rapid vessel movements by quickly feeding or reeling in the line. This will allow researchers to take measurements and samples under a wider range of sea conditions.

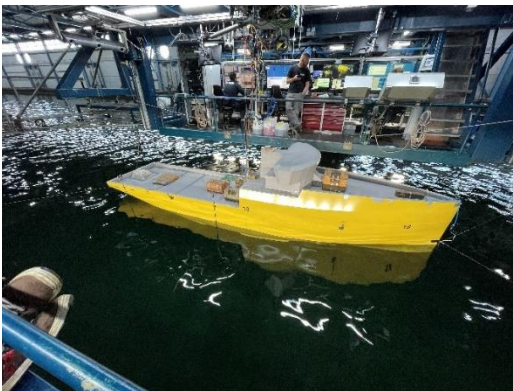
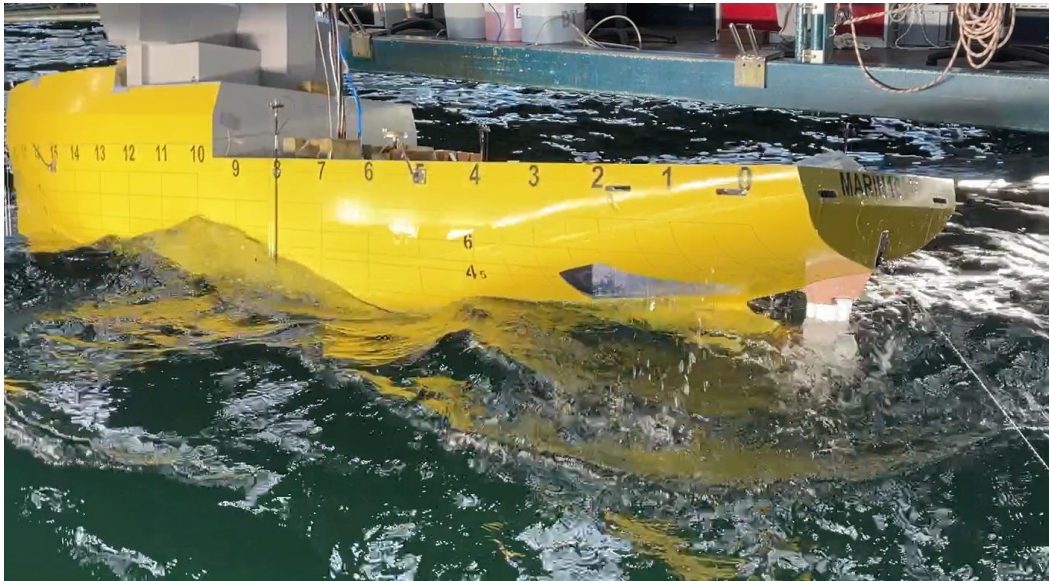
All of the deck equipment described above have their own control room with a view of the work. Researchers will also be able to operate the equipment by remote control, and the instrument readings will be visible throughout the vessel. This will make it possible for all aboard to observe the operation of the winches.

SCHEMATIC DIAGRAM OF THE DECK FRAMES



A LOOK BACK AT THE PROGRESS SO FAR

In the first progress report, we provided a brief summary of the drag and propulsion tests. Since then, seakeeping tests were conducted in week 16 at MARIN in Wageningen. These tests monitored the vessel's sea handling under various wave heights and directions. The model was also used to conduct manoeuvring tests. The main purpose of these tests was to check how much water washes over the deck, the expected acceleration at various specific locations, and the flow of any bubble clouds below the hull. The report on the results of these tests is expected in June.



PROGRESS

The shipyard is running slightly behind schedule with the blueprints, but the necessary draughts for the basic design are expected to be finished before production begins. Over the past few weeks, the yard has submitted several plans, diagrams and specifications to the NIOZ for approval, and the designs have been discussed and checked by the site team. The research community and the crew of the Pelagia are also contributing to the review of the designs. The latest versions of the stability certificates have been received and reviewed. These will be updated later, based on the vessel's definitive design. The shipyard has also issued several purchasing specifications, including those for the navigation and communications equipment and the HVAC system.

SCHEDULE FOR THE MONTH AHEAD

The yard will continue to work on the basic design and purchasing for the project. Several preliminary versions of the basic design components are already in use. These are the versions with which Armon and the NIOZ can exchange ideas to arrive at properly functioning systems. We expect that the schematics should be ready to submit to NIOZ for the last comments and definitive approval by late May. These schematics will serve as the starting point for the design of the engine room installations. The construction schedules will also have to be elaborated and submitted for official approval. A preliminary version has already been received. Another visit to the shipyard is scheduled for early June. No visits with potential suppliers have been scheduled as of yet. In late May, MARIN will begin testing and optimising the propeller design, which is expected to be complete by week 32.

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