



**NEW
RESEARCH
FLEET
.NL**



Update on the new Dutch Research Fleet

Zeynep ERDEM – National Marine Facilities NIOZ

June 2024

ERVO meeting, Vigo



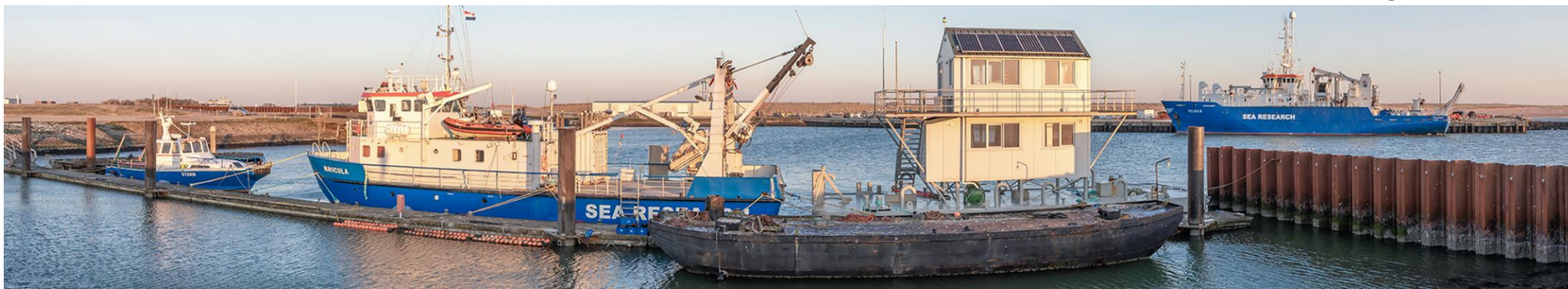


Dutch research fleet

RV Stern

RV Navicula

RV Pelagia



RV Adriaen Coenen



RV Wim Wolff



RV Anna Weber-van Bosse



The new research fleet

RV Adriaen Coenen
*has been in service
since the summer of
2022.*



RV Adriaen Coenen

RV Navicula will be
replaced by ***RV Wim
Wolff*** ~~in fall 2023~~
delivered today



RV Wim Wolff

RV Pelagia will be
replaced by ***RV Anna
Weber van Bosse*** in
2025.



RV Anna Weber-van Bosse



RV Adriaen Coenen

In service since August 2022



Specifications

- Length overall: 19 m
- Beam: 5 m
- Draught: 0.8 m
- Material: Aluminium
- Speed: 20 knts
- Crew: 2
- Max # people: 12
- Features: A-frame, side frame, ADCP & Multibeam deployment, wet lab, dry lab, towing arrangement



Building process at
**Next Generation
Shipyards** in
Lauwersoog,
The Netherlands



RV Adriaen Coenen





RV Adriaen Coenen

Technical information

- Engines: Scania (Stage V)
- Water jets: Hamilton
- Energy during cruising: HVO diesel engines
Anchored/grounded: solar panels and battery pack
Energy back up by a small generator



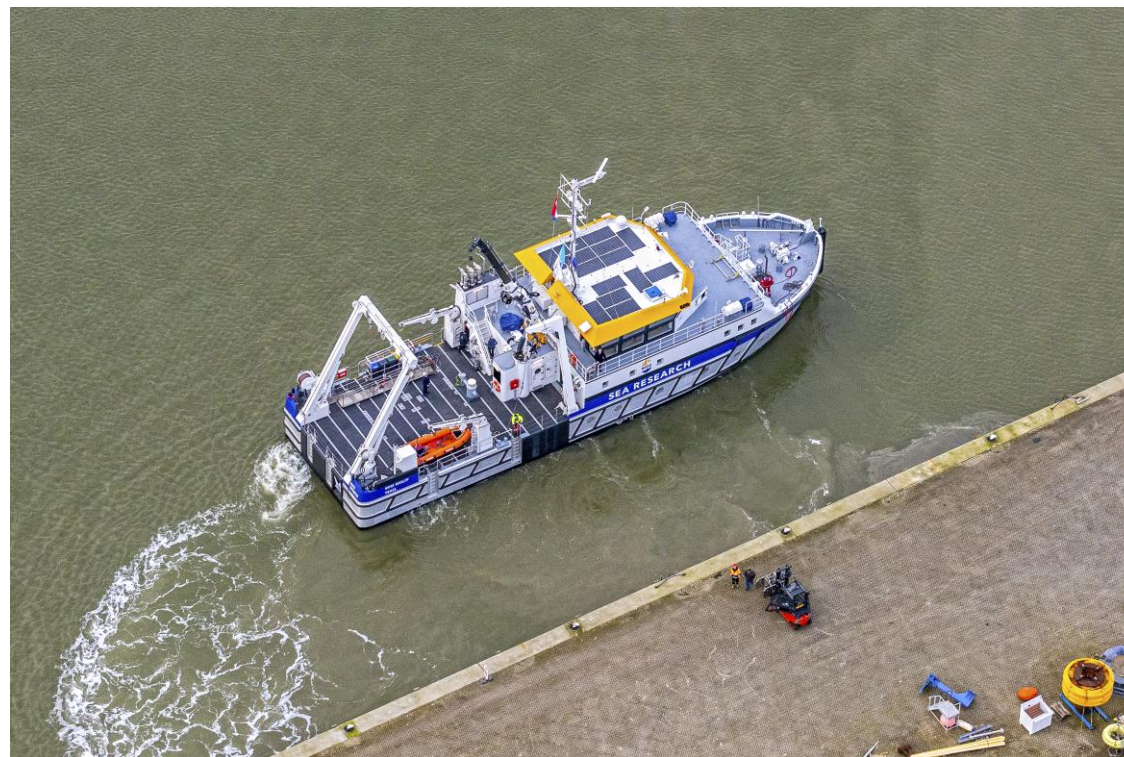


RV Navicula



Retired at the age of 41

RV Wim Wolff



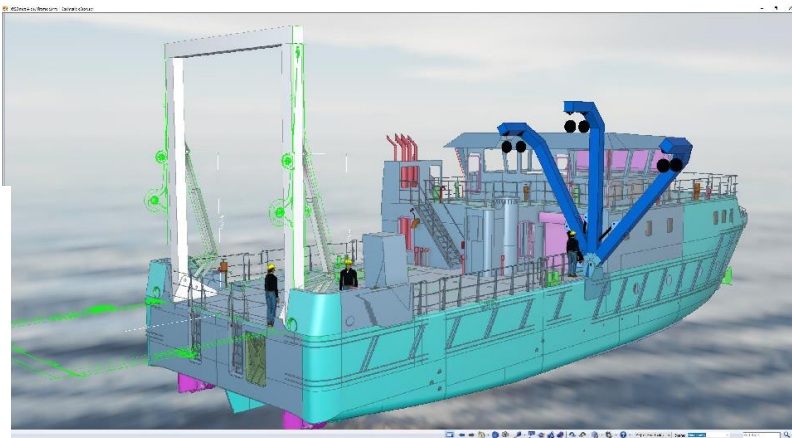
Delivered **today** first expedition is planned next week



RV Wim Wolff



THECLA BODEWES
SHIPYARDS





RV Wim Wolff



Building process photos were
taken from newsletters ©FH





RV Wim Wolff

Specifications

- Length overall: 36 m
- Beam: 10 m
- Draught max.: 1.20m
- Working deck area approx.: ~125m²
- Speed: 12 knts
- 4 crew + 12 passengers
- dry and wet lab
- 2 container space on the working deck
- hybrid diesel-electric system
- Scania (Stage V) engines using HVO.
- Emissions-neutral by 2031



RV WIM WOLFF

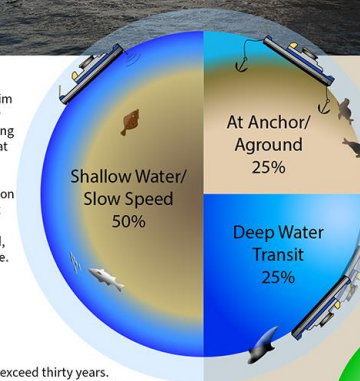
Marine Research Vessel



Operational Profile

Explaining the operational profile of the RV Wim Wolff, the vessel navigates at design speed for merely 25% of it's time underway. By optimizing hull shape and propeller design, fuel savings at design speed will be realized.

Thecla Bodewes Shipyards, in close cooperation with D&A® Electric will in extend, and without compromising on efficiency at design speed, focus on maximum fuel savings at partial load, which represent 50% of the operational profile.



Life-cycle Proof Vessel Design

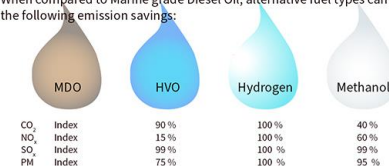
Expected lifespan for RV Wim Wolff is likely to exceed thirty years. With marine fuels rapidly evolving into cleaner types, further limiting emissions, power plants could become outdated multiple times within the ship's life-cycle. Thecla Bodewes Shipyards developed a Modular Energy Concept, with a propulsion train independent of the energy system. This enables the use of alternative energy systems, without the need for a major ship conversion.

Alternative Fuel Types & Emission savings

Appliance of alternative fuel types result in reduction of various forms of emission. RV Wim Wolff will operate on HVO at delivery and is prepared for future use of Hydrogen/Methanol, to further limit emissions.

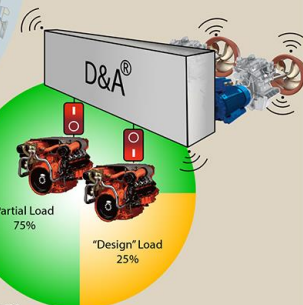
Possible Emission savings

When compared to Marine grade Diesel Oil, alternative fuel types can lead to the following emission savings:



D&A® Electric Propulsion System

In essence, D&A's unique Eprop® propulsion system focuses on the power requested by the propeller, instead of the engine's rpm, as is the case for conventional propulsion systems. This system "feels" the environmental and sailing conditions through the digitally measured propeller load, which results in lower engine rpm and thus lower fuel consumption and less under water noise.



Operational Savings

The combined energy saving solutions, when compared to a conventional Diesel-Electric propulsion system, result in sustainable savings for the customer and the environment.



Under Water Noise

Operating at the equilibrium of optimal Propeller and Engine rpm, noise & vibrations of the propeller are noticeably reduced, resulting in less disturbance of the marine environment.



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RV Pelagia

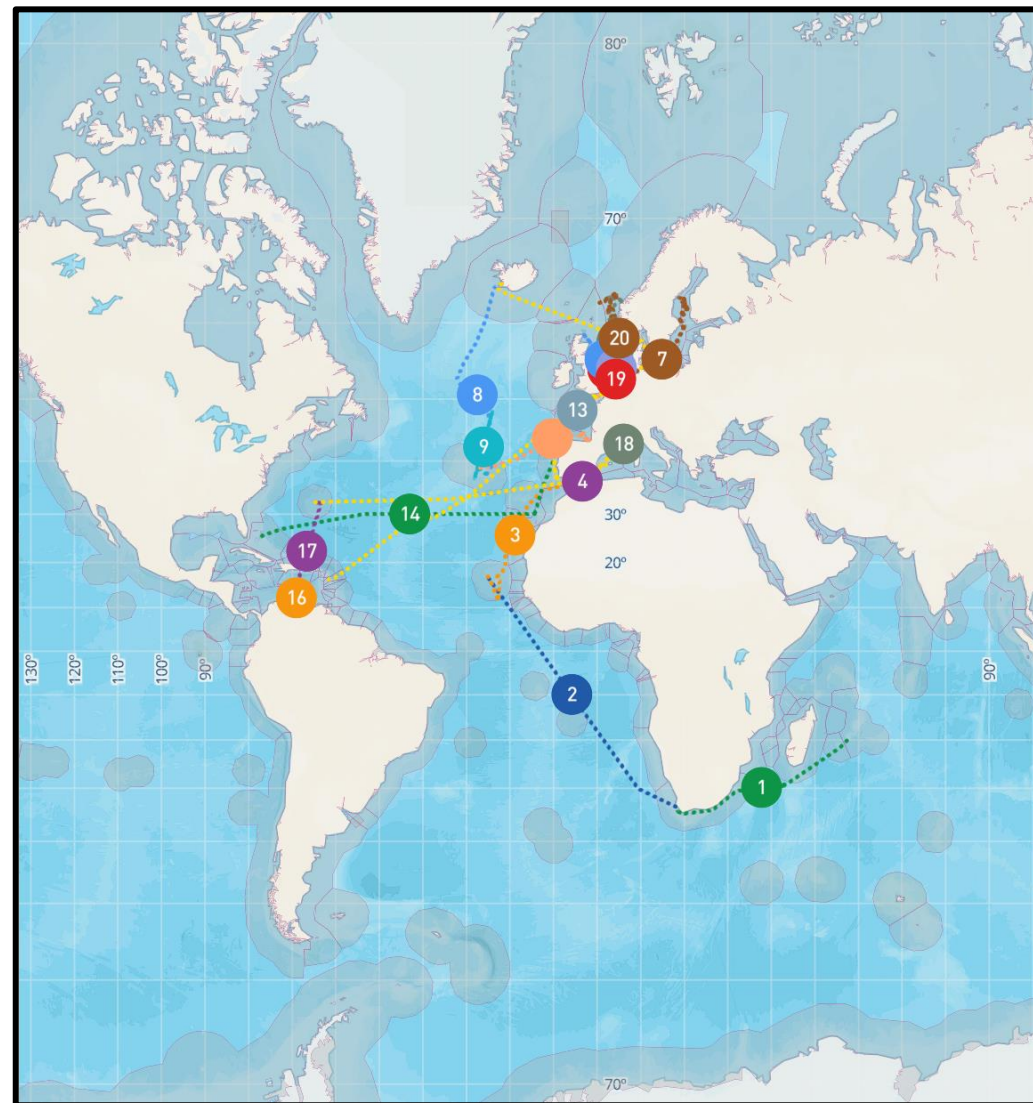


Specifications

- Length overall: 66 m
- Beam: 12.80m
- Draught: 4.20m
- Cruising speed / Maximum speed: 9knts / 11knts
- Diesel
- Fuel consumption at cruising speed: ~4.5 m³ per day
- No DP
- 12 scientists + 2 tech support + 11 crew (single berth).
- Planned retirement Summer 2025

RV Pelagia in 2023 and 2024

Reporting Periods	2023, 2024
Total Days	731
Days at sea	335,9
NL EEZ	47,2
Foreign EEZ	200,3
International waters	88,5
NL Ports	112,1
International ports	93,4



Info taken from MFP on June 9th

RV Anna Weber-van Bosse



Specifications

- Length overall 80m
- Breadth molded 17m
- Depth to main deck 8.70m
- Summer draught 5m
- Scantling draught 5.50m
- Accommodation 46
(16 crew and 30 scientists)



RV Anna Weber-van Bosse



- Ice-class 1C
- Longer periods at sea with more people onboard
- Capable handling equipment; AUV, MEBO, ROCKDRILL
- Piston cores up to 30m
- Main-, dry-, wet- and geolab
- Room for 12 laboratory containers (max 17)
- Dynamic Positioning (DP2)
- Methanol ready
- Aim for 'zero emission' after 10 years refit



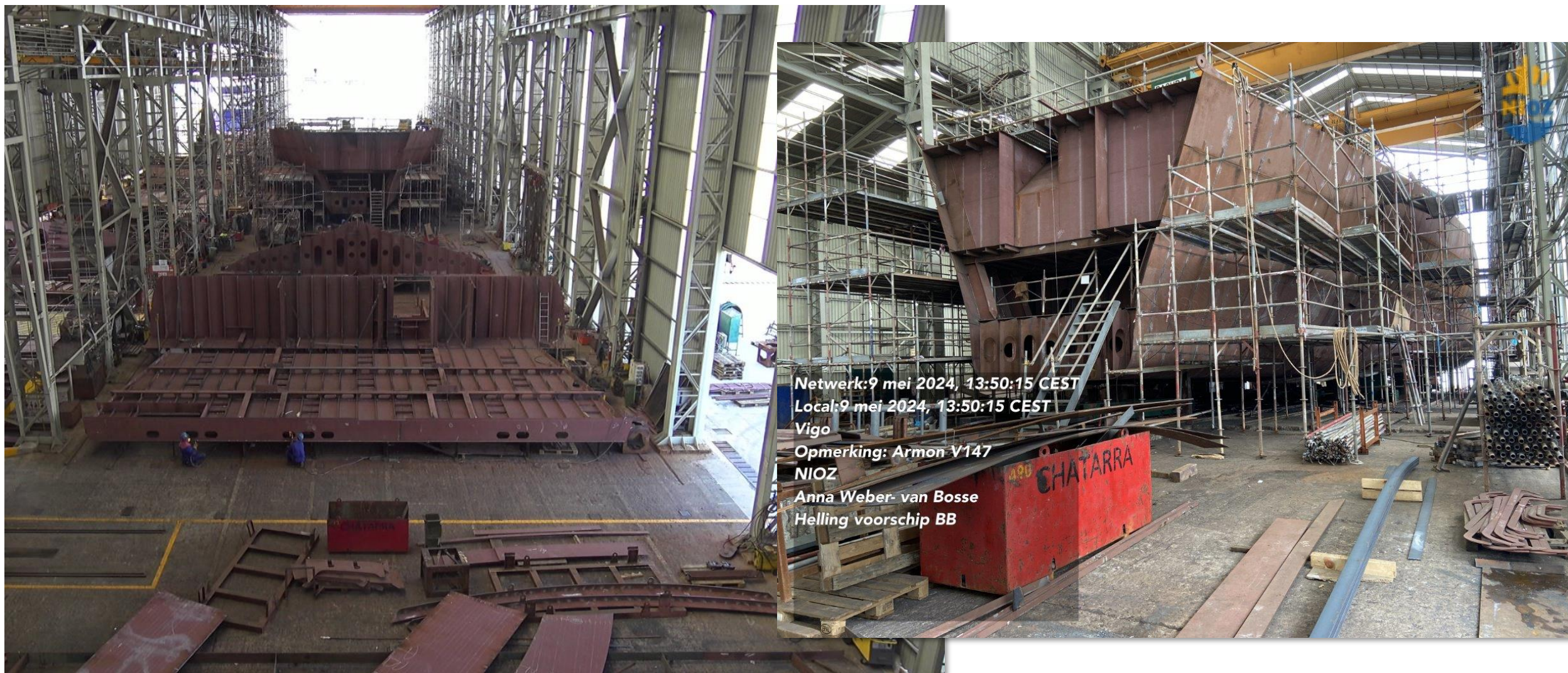
The *RV Anna Weber-van Bosse* will be built by **Astilleros Armon A.S.** in Vigo, Spain.

Delivery is scheduled for the **3rd quarter of 2025.**





RV Anna Weber-van Bosse





Working area: World wide,
and near polar regions

Coming years large scale infrastructure

- 3 gliders
- 1 AUV
- Working class ROV



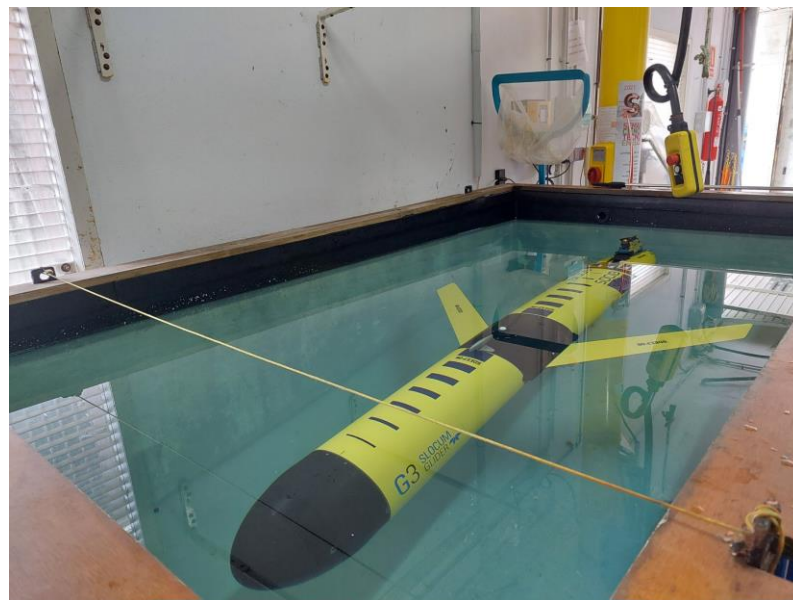


New Equipment



Coming years large scale infrastructure

- 3 gliders (in operation)
- AUV (delivery in early 2025)
- ROV (tender phase)





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New Equipment





Thank you

Contact: Zeynep Erdem: Zeynep.Erdem@nioz.nl

Follow the project at: www.newresearchfleet.nl

Royal NIOZ National Marine research Facilities (NMF) manage and operate the national research vessels and equipment for the benefit of the marine and maritime research community

