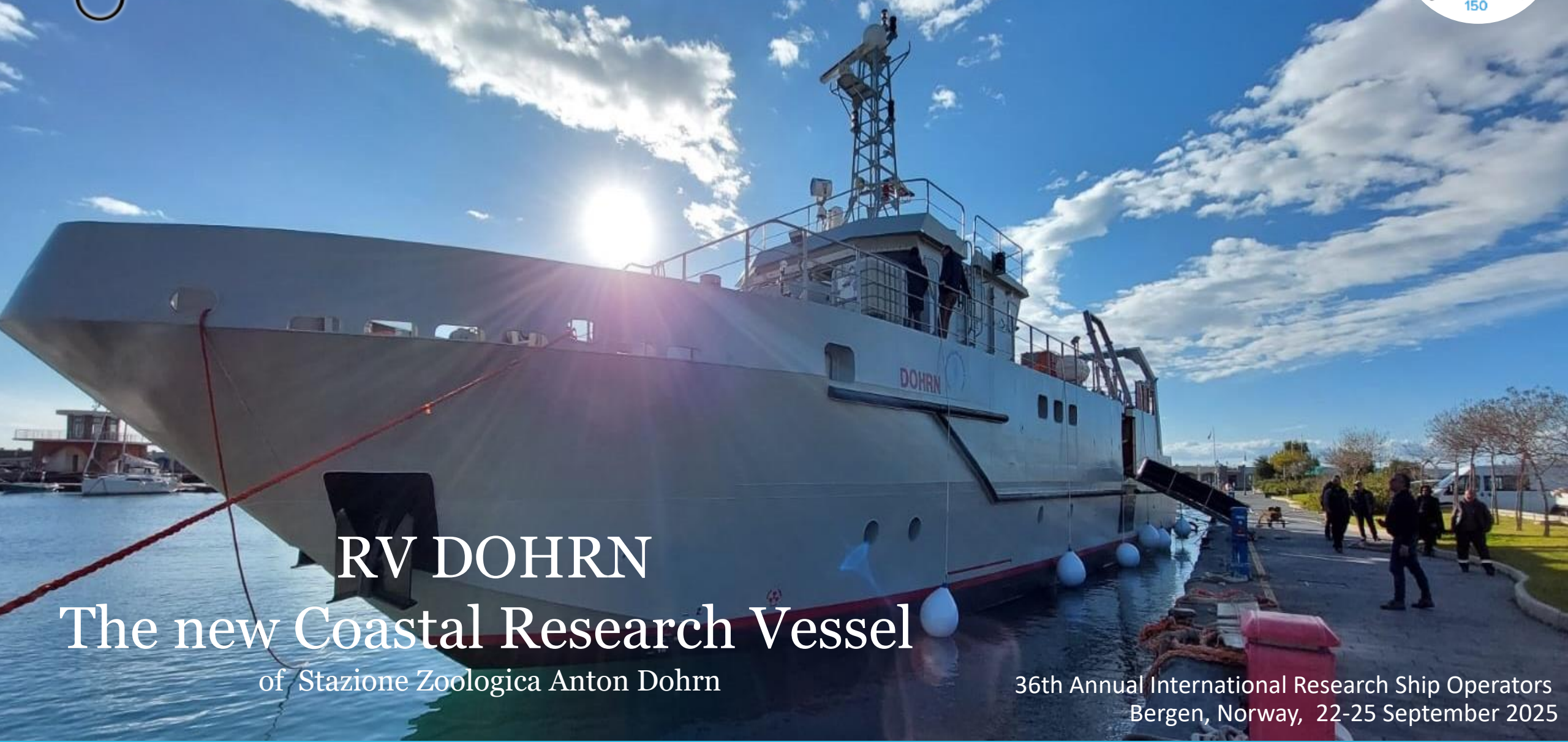




**International Research
Ship Operators**



RV DOHRN

The new Coastal Research Vessel

of Stazione Zoologica Anton Dohrn

36th Annual International Research Ship Operators
Bergen, Norway, 22-25 September 2025



Some History

The Stazione Zoologica Anton Dohrn (SZN), founded in 1872 in Naples, among the world's oldest aquariums, showcasing marine life since 1874



Since beginning **SZN** represented a focal point for scientists from across Europe and America

Actual development

Stazione Zoologica Anton Dohrn actually advances excellence in marine science through research, innovation, and international collaboration for the sustainable understanding and conservation of ocean ecosystems.

The main headquarters is in Naples



8 regional research centers



SZN is organized in 5 Departments: 1) Biology and Evolution of Marine Organisms; 2) Integrative Marine Ecology, 3) Marine Animal Conservation and Public Engagement 4) Research Infrastructures for Marine Biological Resources, 5) Marine Biotechnology

A legacy of research vessels

In more than 150 years SZN operated 16 research boats, from 9 to 27 m

- From the wooden steamship Johannes Müller (1877–1915)

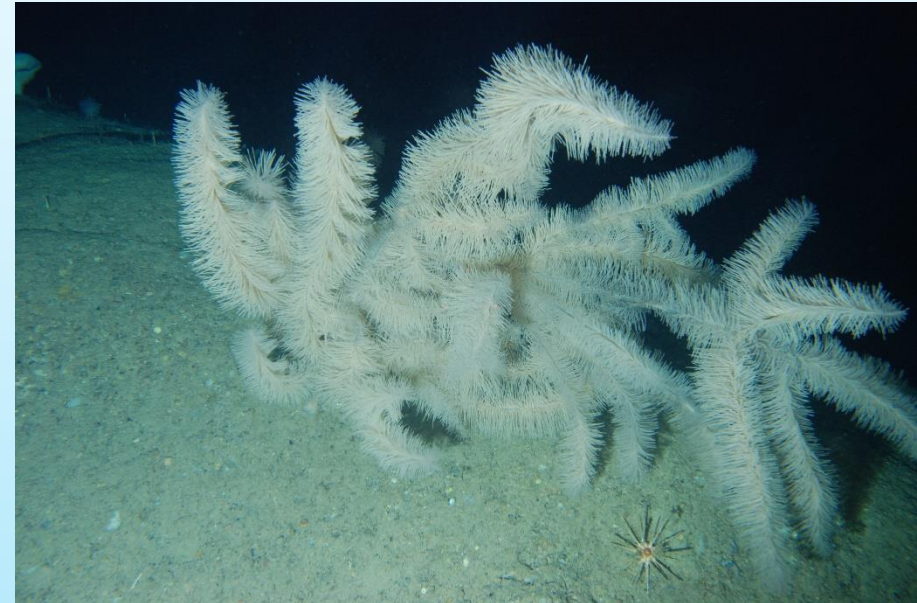
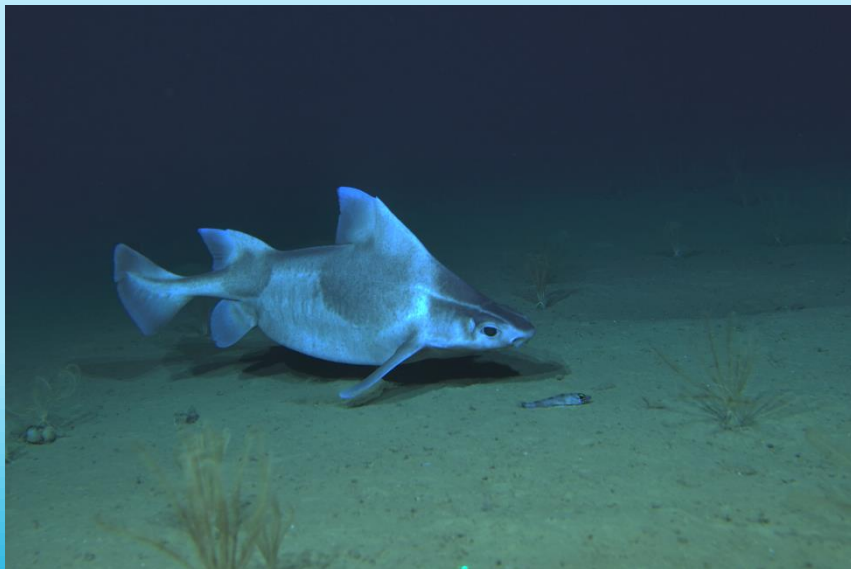
- To the hybrid aluminum RV Dohrn (2024)



Why a vessel?

Scientific needs:

- Deep-sea biodiversity & habitat mapping
- Large-scale oceanography
- Climate change, pollution, offshore wind farms
- Restoration & conservation
- Geology & volcanology



- Enhance SZN capacity for frontier marine science and innovation
- Strengthen SZN's role within European marine research infrastructures (EMBRC, EMSO) fostering transnational access, joint experiments, and industry-academia collaboration
- It will serve as a training platform for early-career researchers, promoting capacity building and skills development in line with EU priorities

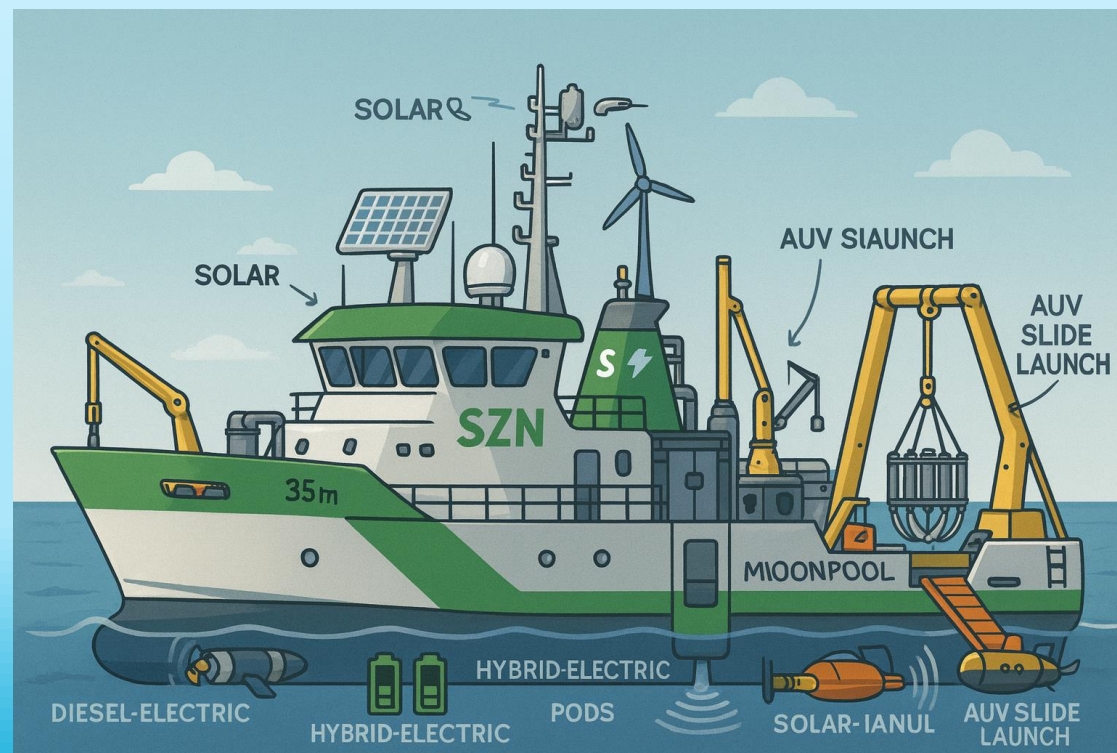
Project started 2018

The RV Dohrn was funded by the Italian National Operational Programme for Research and Innovation (PON R&I) 2014–2020, with EU support, as part of investments to strengthen research infrastructures and promote innovation in Southern Italy.



The vessel concept was developed considering these fixed points

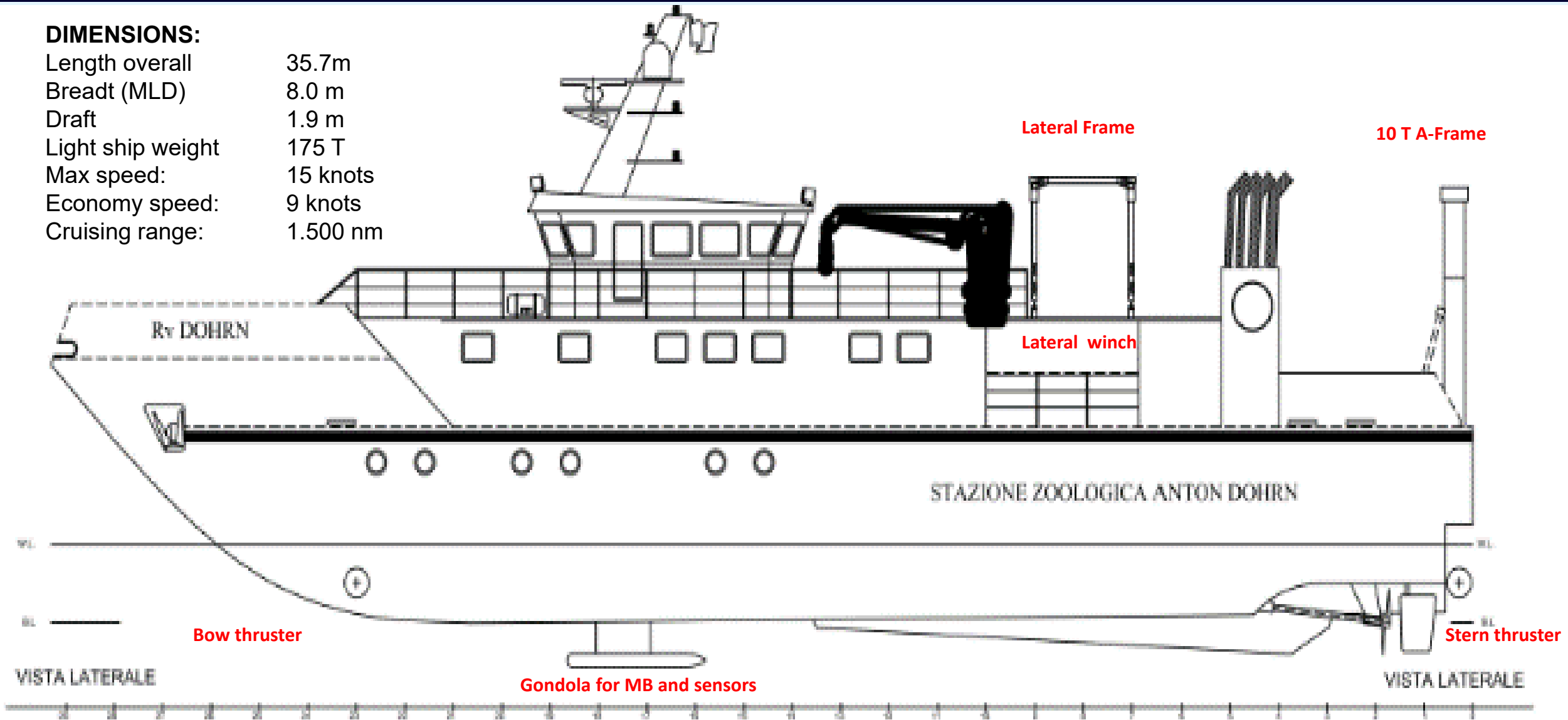
1. Expand SZN's research capacity to offshore areas and map and explore canyons, seamounts down to 1.500 meters
2. It should need limited management and operational expenses
3. Flexibility for small ports – limited draft
4. Length between 30 and 40 meters
5. Gross tonnage below 400 GT
6. Technicians and Scientist max 15
7. Deploy heavy scientific gear and vehicles
8. Low environmental impact (CO₂, noise)
9. Aluminum construction for lightness, durability, and sustainability
10. Keep the budget LOW



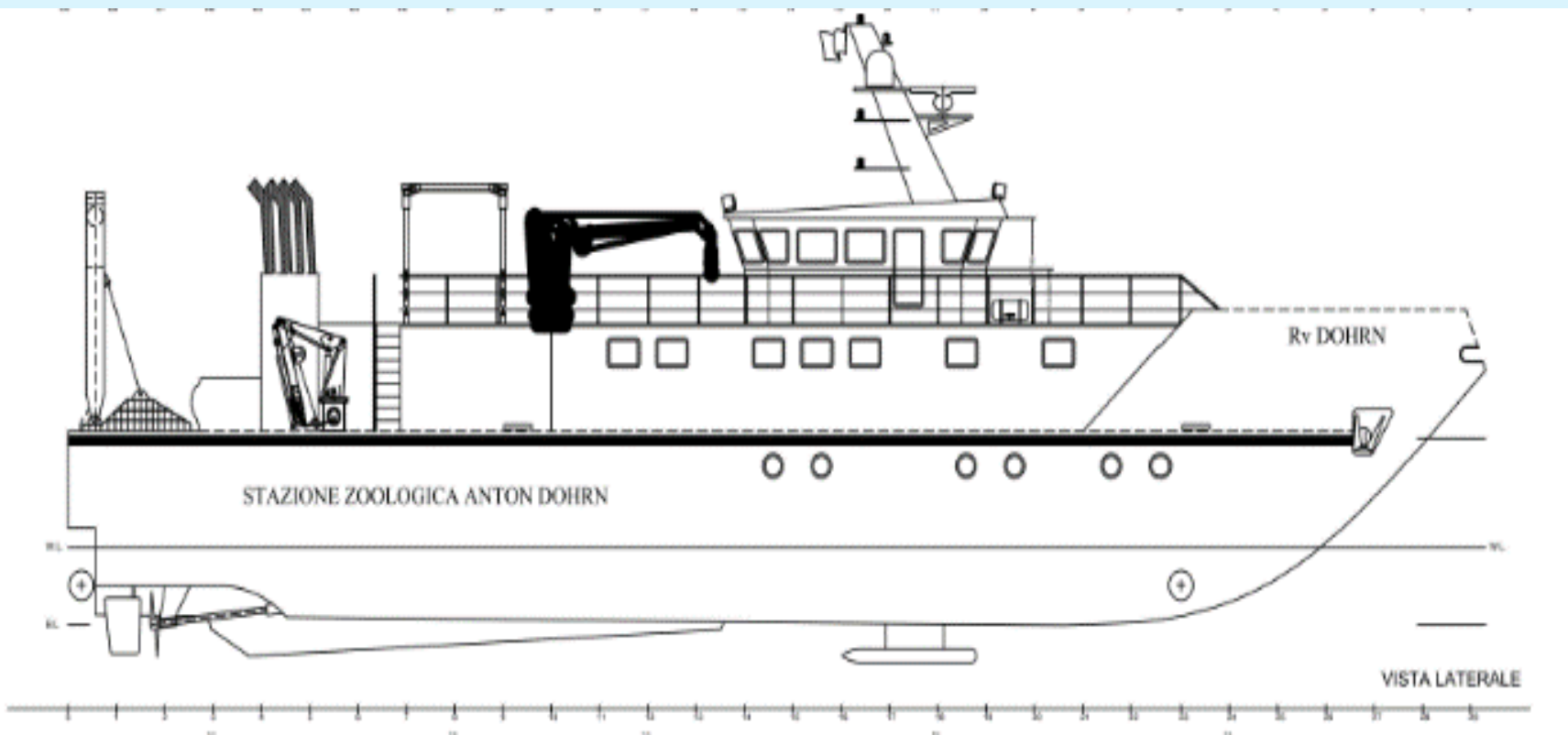
The Research Vessel Dohrn – The Project

DIMENSIONS:

Length overall	35.7m
Breadth (MLD)	8.0 m
Draft	1.9 m
Light ship weight	175 T
Max speed:	15 knots
Economy speed:	9 knots
Cruising range:	1.500 nm



The Research Vessel Dohrn – The Project



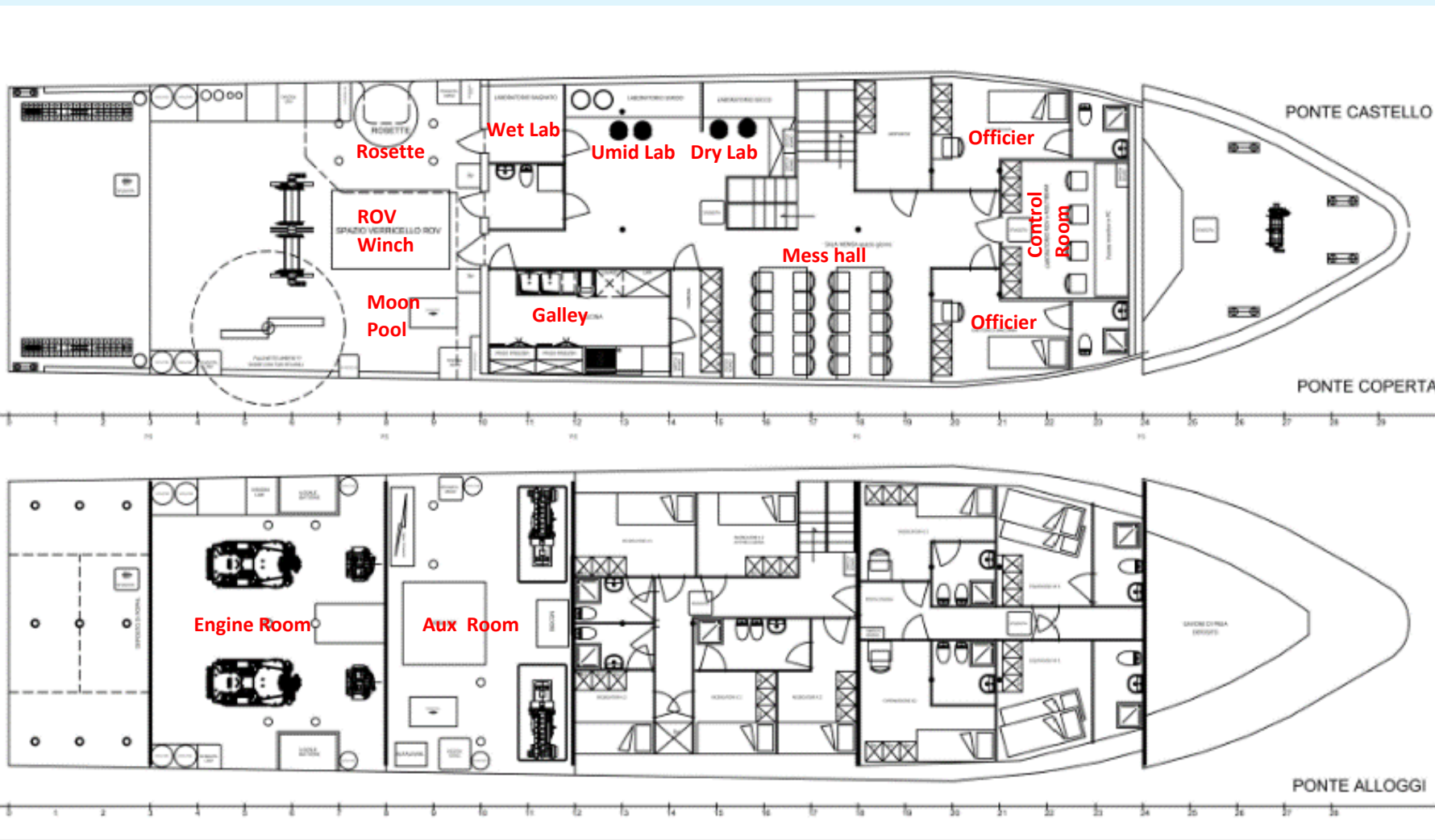
BV CLASS NOTATIONS:

- ✱ HULL ● MACH
- AUT-CCS ;
- SDS; ● ALM ; ● ALM-SUBSEA
- CLEANSHIP, ● GREEN PASSPORT;
- BATTERY SYSTEM;
- HYBRID MECH. PROPULSION;
- ELECTRICAL HYBRID – ZE

In compliance with Marpol annex I – IV – V - VI

Unrestricted navigation (Mediterranean sea)

Rv Dohrn internal arrangement



CAPACITIES:

Free deck area:	90 m ²
Control room:	10 m ²
Dry lab.	9 m ²
Wet lab:	7 m ²
Umid lab	9 m ²
Cap, bunkers	30 m ³
Fresh water	22 m ³
Water maker cap.:	2x 5 t. / 24 hrs.

ACCOMODATION :

Officers	2 single bed cabin
Crew	2 double bed cabin
Researchers	7 double bed cabin

Machinery, craned, A-frame and winch

MACHINERY:

Main engine: 2 x 12 V MAN D 2869 LE 483 - 1066 kw @ 2100 rpm **EU stage 5 IMO tier 3**

Electric motors 2 x Auxilia 70 Kw

Aux.: 2 x Coelmo- Scania DG 200Kw @ 1500 rpm EU stage 4 IMO tier 2 Continuous duty

Thruster bow: 1 x 0.9 tons CMM hydraulic side thrust

Thruster stern: 1 x 0.9 tons CMM hydraulic side thrust

CRANES:

- 1 x Sormec 4t SWL @ 2.5 mt. - 0.8t SWL @ 9.8 mt.
- 1X Rescue Boat Crane Sormec

A- Frame:

- 1 x A-frame aft. 10 ton.
- 1 x A-frame side 1.5 ton

Winch:

- 1 x DTA double drum 2 t and 4 t SWL
- 1 x DTA single drum for CTD and Rosette 1.5 t SWL

Construction has begun – 2021 - *Cantieri*

Navali Cilentani



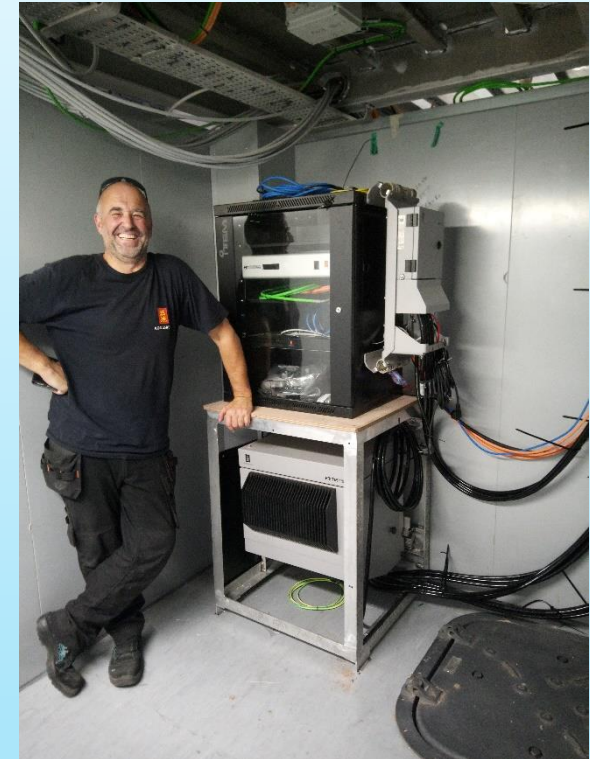
Unveiled from the hangar 2022



Engine room

VEEM Gyrostabilizer

Multibeam EM712, K-Pos DP-1 System and μ PAP USBL installation



RV Dohrn's Launch december 2023



RV Dohrn is now in shipyard slipway in Naples



Integrating

- ROV
- AUV
- Submersible



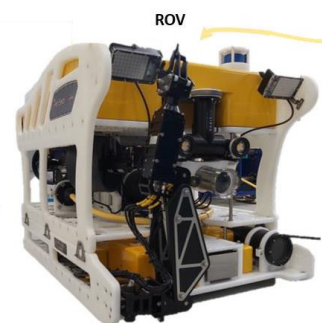
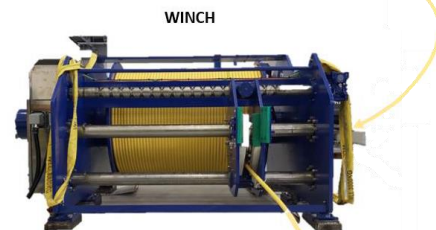
Carry out a new painting cycle

Intersleek®900 fluoropolymer foul release coating

- Fuel consumption reduction savings of over 9%
- Biocide-free, avoiding all related restrictions



ROV (Remotely operate Vehicle) Perseo GTV L3Harris-Calzoni



Deck Cable

Umbilical Cable

Dimensioni (mm)	Larghezza:	950
	Lunghezza:	1550
	Altezza:	1070
Peso (Kg)		350 (con skid e manipolatore)
Profondità operativa		1500 msw
Spinta motori (kg/f)	Orizzontale:	90
	Verticale:	50
	Laterale:	60
Payload (Kg)		24
Camera	Cam 1:	Imenco OE14-504
	Cam 2:	Z-CAM E2-S6G
	Cam 3:	TC-42
Luci	Light 1:	2 x Lampada a led Teledyne 20K lumen
	Light 2:	2 x Spot led modello SL-55
Pan&Tilt		Sidus SS109
Automatismi		Auto-Heading, Auto-Depth, Auto-Altitude
		Manipolatore idraulico 5 funzioni Heavy Duty
		Cassetto raccolta campioni
		Sonar

New instruments purchased in the 2025



Multi-beam echo sounder	Kongsberg EM2040 MkII
Synthetic aperture sonar	Kongsberg HISAS 1032
Digital still image camera	Cathx Ocean color still image camera, Voyis color still image camera
Optional instruments	
Magnetometer	OFG self-compensating magnetometer
Environmental sensors	Several environmental sensors can be integrated
Sub-bottom profiler	EdgeTech 2205 sub-bottom profiler

Depth rating	3000 m
Operating depth	2990 m
Length (typical)	5.44 m
Diameter (center section)	750 mm
Weight in air (typical)	1150-1250 kg
Weight in water	Neutrally buoyant (trim weights provided)
Speed range	2 – 6 kn
Battery	3-battery 33.6 kWh Li-Pol
Charge time	6-9.5 hours (with sufficient power input)
Endurance	18 hrs at 3 kn
Data storage	Swappable NAS
Communication	cNODE acoustic, UHF radio, Iridium, Wi-Fi (option), cabled Ethernet
Safety systems	Releaseable nose, inflatable CO2 bladder, drop weight, cNODE MiniS, Xenon flasher
Motion stability (valid at 4 knots)	< 0.5 degrees in roll and pitch < 0.5 degrees in heading over a 10 sec duration
Turning radius	ca. 20 m

New instruments purchased in the 2025



Condizioni operative massime e principali specifiche del batiscafo 3300/3MKII

Profondità d'immersione nominale	1000 metri	Condizioni marine massime (lancio / recupero)	3 / 4 Douglas
Tempo operativo nominale	10 ore	Corrente superficiale massima	1.5 kn
Supporto vitale	96 ore	Velocità massima di traino	2 kn
Numero massimo di occupanti	2 osservatori 1 pilota	Velocità massima in superficie	2.5 kn
Carico utile totale	800 kg	Velocità massima in immersione	3 kn
Lunghezza	4 m	Larghezza	3 m
Altezza	2.6 m	Peso a vuoto	8000 kg
Diametro interno dello scafo in acrilico	1.766 metri	Diametro esterno dello scafo in acrilico	2.100 m

Others Scientific Tools on board

- **Long-Range Real-Time 45 kHz ADCP**
Pinnacle Teledyne Marine Technologies
- **CTD SBE 911 plus** Sea-Bird Scientific
- **Rosette 24 bottles 10L** General Oceanics Inc.
- **Multiple Corer MC 4-8x100** Oktopus GmbH
- **Benna**
- **Box Corer**
- **MULTI PLANKTON SAMPLER MultiNet®** HYDRO-BIOS Apparatebau GmbH



Rv Dohn is expected to enter into



Summary....

The construction of RV Dohrn took longer than planned:

1. The shipyard underestimated the construction costs
2. The COVID-19 pandemic caused major delays and sharp increases in material procurement costs
3. DP system, electric propulsion, and the Veem gyrostabilizer were financed after project approval, requiring mid-construction design changes and causing further delays
4. Classifying all the systems turned out to be extremely challenging

RV Dohrn is the first research vessel constructed in Italy in decades...