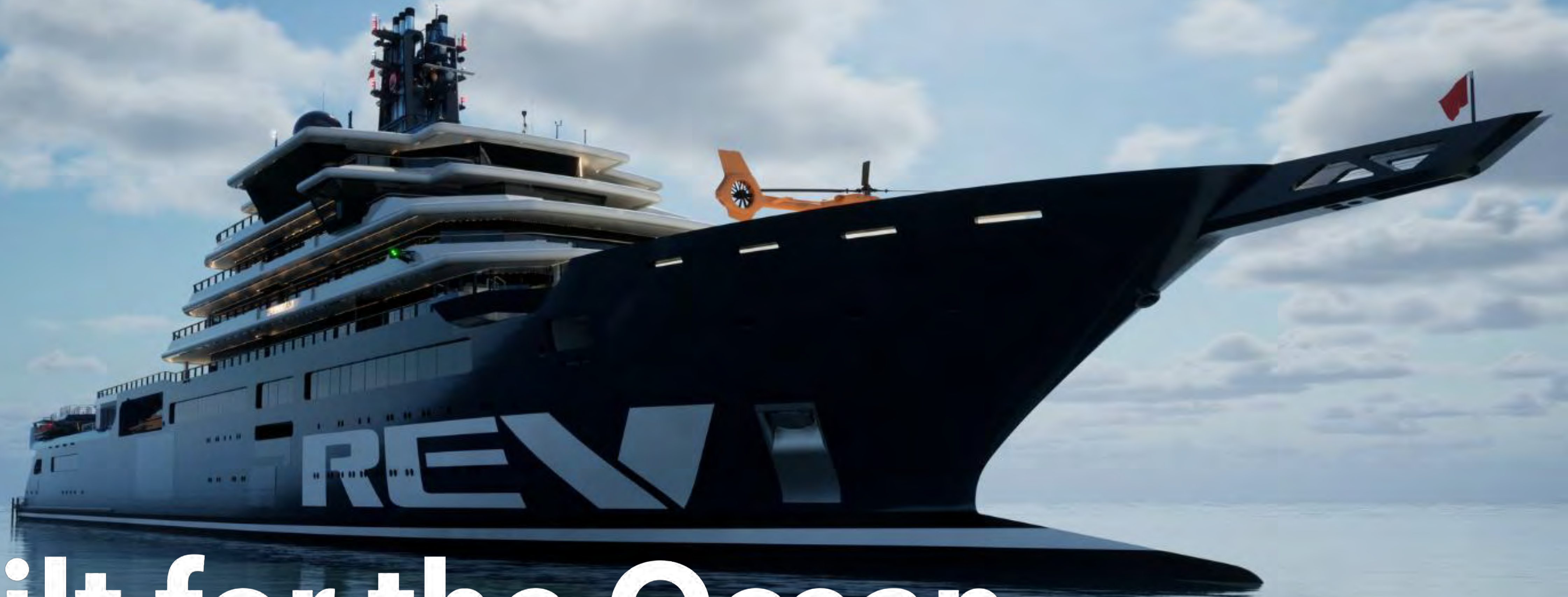




Built for the Ocean

You've heard about the ship. This is the story behind it.

And what comes next.

Stig Vågenes Head of Scientific Operations
REV Ocean

01

Why REV Exists

The origin of an idea – and the problem it was built to solve.





The initiative was started as a result of Mr. Røkke signing the Giving Pledge in 2017, vowing to donate more than 50% of his fortune to philanthropic causes.



Kjell Inge Røkke

The ocean problem

The ocean is understudied.

72.7% of the ocean floor remains unmapped to modern standards – and that is after almost a decade of concerted global effort.

There is a gap between knowledge and action.

Research vessels are few, expensive and inaccessible to many. Ship time is the scarcest resource in ocean science, and scientists rarely share a room with the people making decisions.

<1%

of global philanthropic funding goes to the ocean

*“Building what science needs to
protect what matters.”*

Kjell Inge Røkke

02

The Vessel

What it took to build it – and what it can do.



Eight years in the making.



145m Research Expedition Yacht

November 2016



REV 1.0



12-meter extension: 2024



REV Ocean

194.9m
Length

22m
Beam

5.65m
Draught

38m
Air Draught

19018
GRT

13MW
Power

Key Features

Aft trawling arrangement for mid-water column pelagic sampling. 3000m trawl wires.

Eco-harvesting system for live catch and release of biomass and pelagic samples.

Large deck crane, 15T @ 25 meters, that also can be used for coring system (6000m sampling).

Container deck with capacity for 12 x 20' containers with multiple voltage power, data water, connections for containerised laboratories and reefer containers.

Multiple tenders, workboats and zodiacs.

30 seat auditorium for lectures with Dolby Atmos sound system.

Starlink high-speed satellite communication terminals.

Twin helipods and a single hangar for helicopters and drones Airbus H145 2+8 seat helicopter.

Ice-reinforced hull, Polar Class 6 vessel.

Dive centre - with decompression chamber, air, nitrox systems.

9 science laboratories with multi-functional usage, dry, wet chilled, freezers.

Media broadcast suite for livestreaming, podcasts, videography/documentaries.



CTD and winch with 8000m umbilical.

ROV control room/survey room.



6000 m depth rate ROV

Twin drop keels with biological echo sounders, sonars and Acoustic Doppler Current Profilers.

7.7 x 5m Moonpool with Launch and Recovery System for AUV, ROV, CTD, submarine and other scientific equipment.



Three coring systems for sediment sampling.

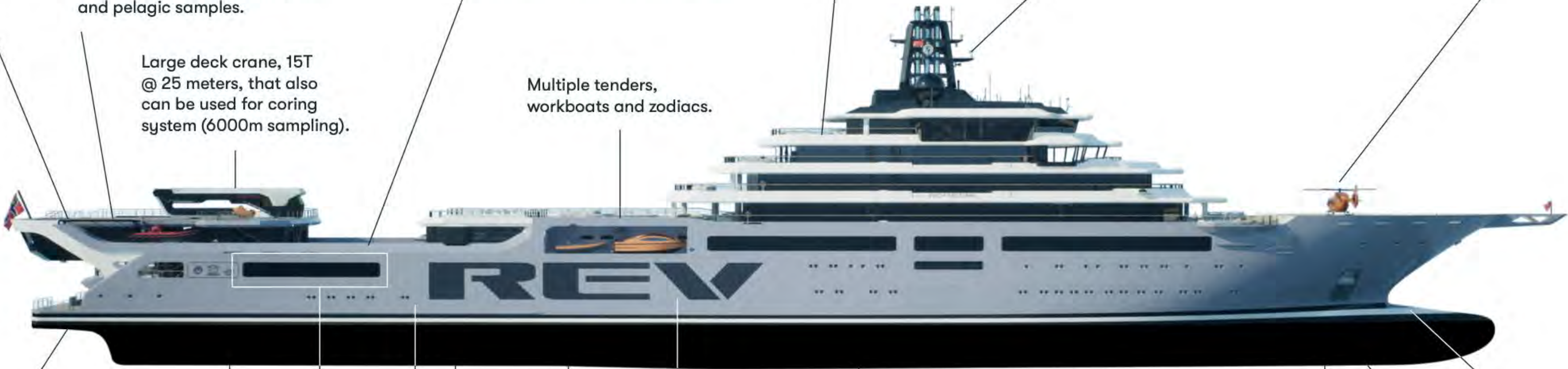


2300 m depth rated submersible.

Forward air sampling snorkel with a direct feed to aerosol lab.

Under hull gondola with sub-bottom profilers and twin multi-beam echo-sounders for mapping the seabed down to 8000m.

Underwater hydrophone system.



Acoustic systems - Multibeam and SBPs

Kongsberg EM 304

Multibeam echosounder. 10 – 8,000m

1x1 degree beam width

Kongsberg EM 712

Multibeam echosounder. 3 – 3,600m

1x1 degree beam width

Kongsberg EA640

Single beam echosounder. 11,000m

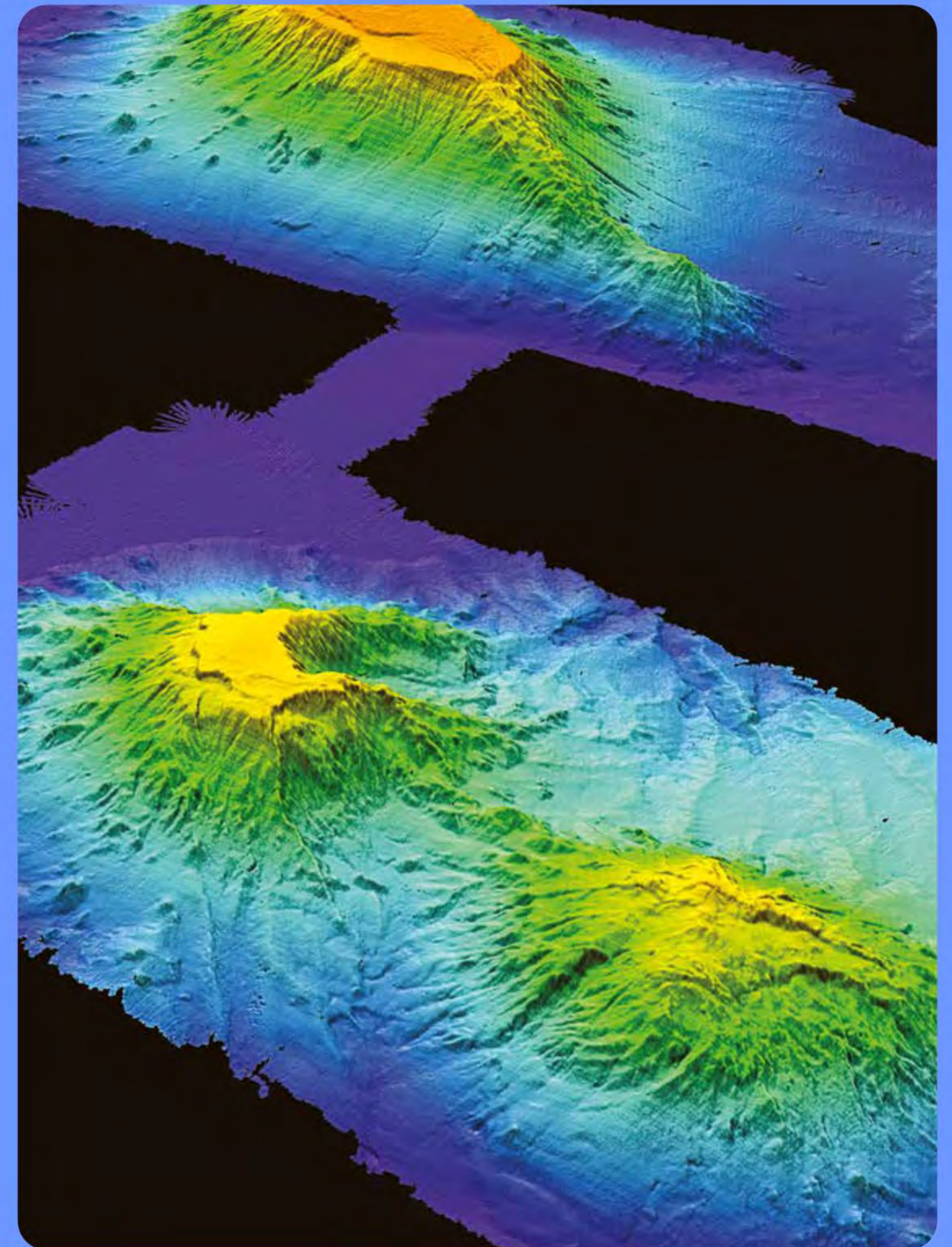
Kongsberg SBP 300-6 Sub-Bottom Profiler

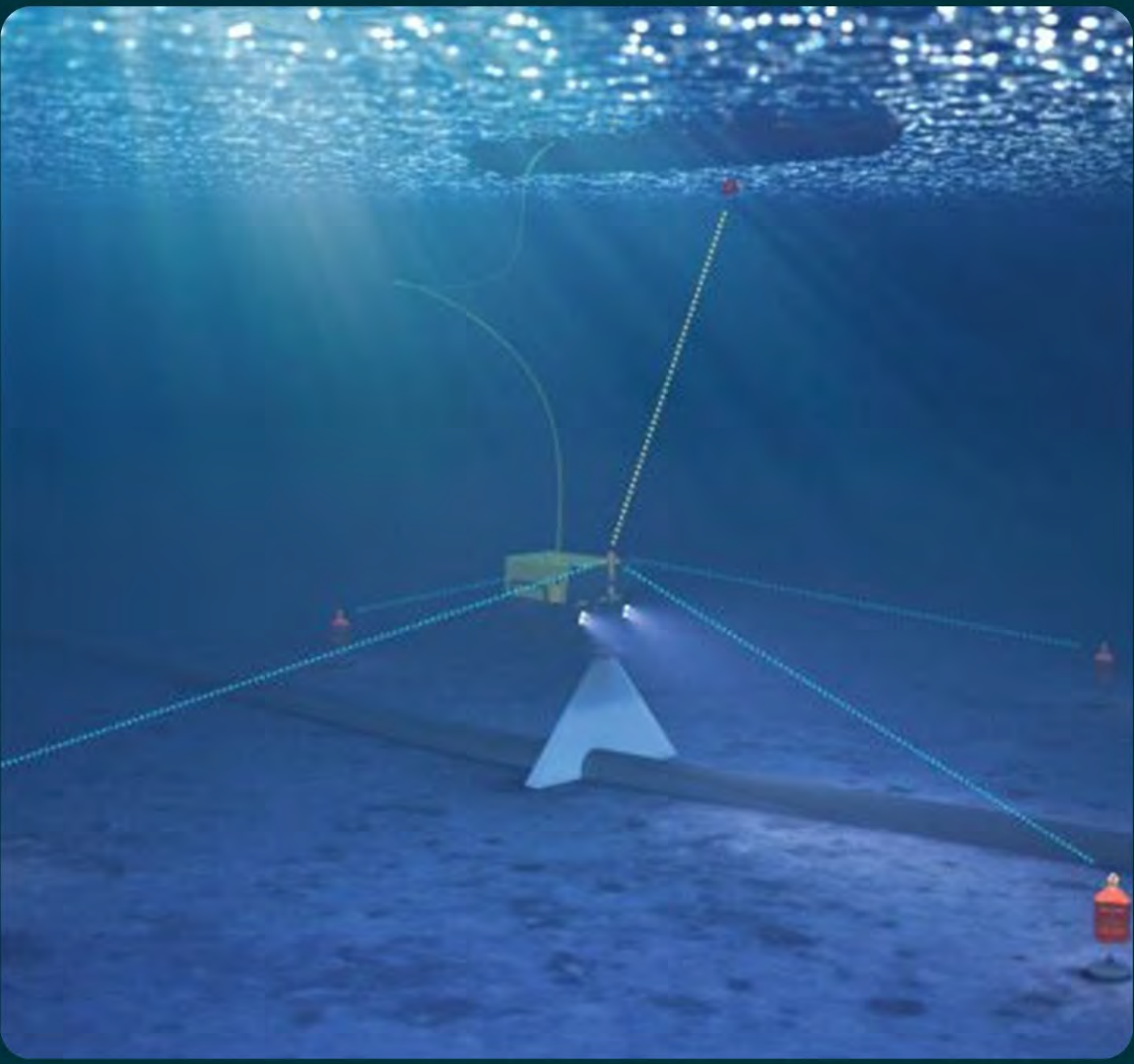
Full ocean depth system

Kongsberg TOPAS PS40 Sub-Bottom Profiler

5m to 1,000m operation

All systems mounted in gondola below keel





Miscellaneous acoustics and support systems

- ADCP 38 and 150 KHz
- SIMRAD PX and FX80 wired and wireless trawl monitoring system
- Kongsberg K-Sync Acoustic Synchronizing System
- Kongsberg Seapath 380+ Motion, positioning and heading sensor
- Kongsberg HiPAP502 Hydro acoustic positioning system
- Valeport SVS & SVP Sound velocity probes

Other sampling equipment

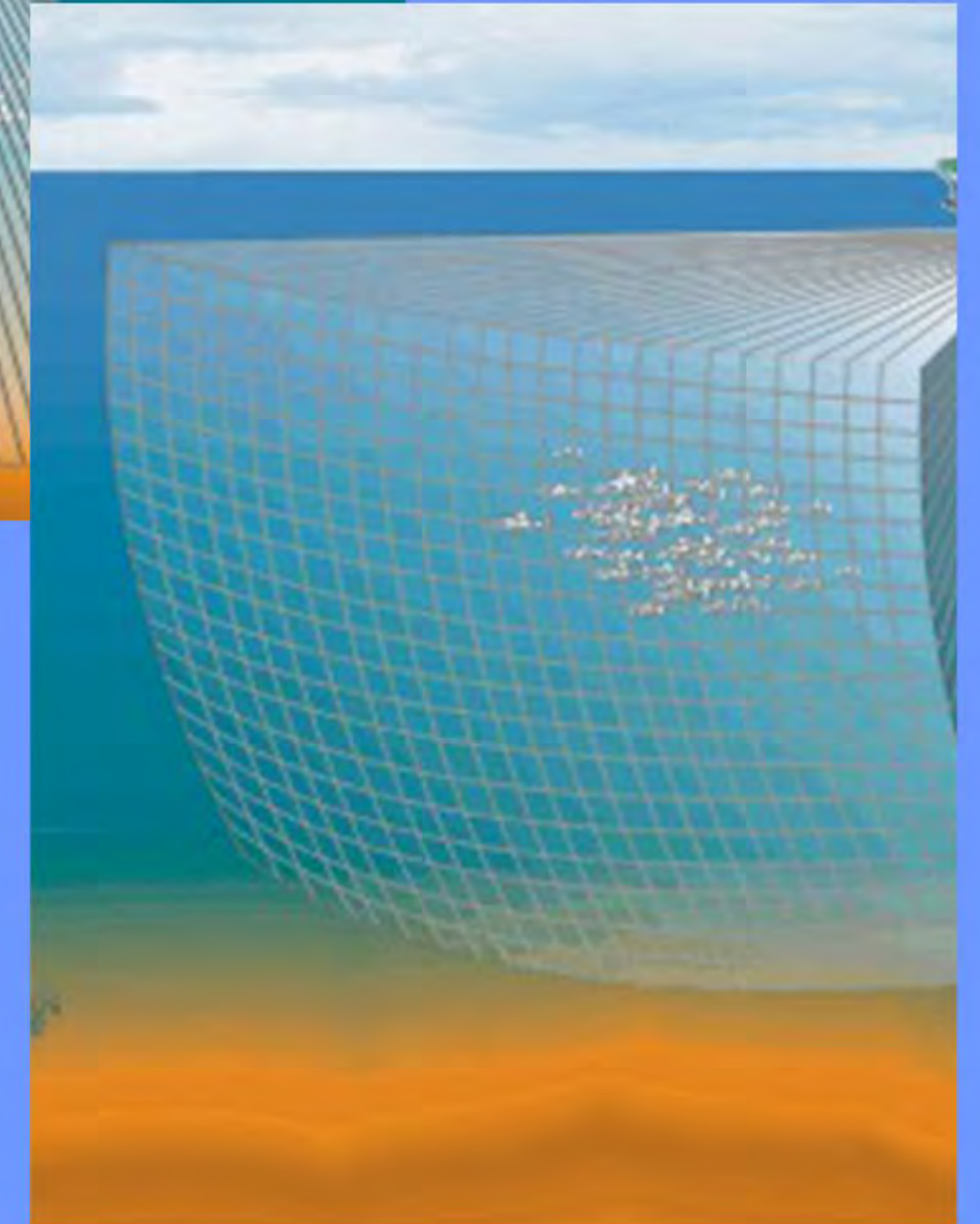
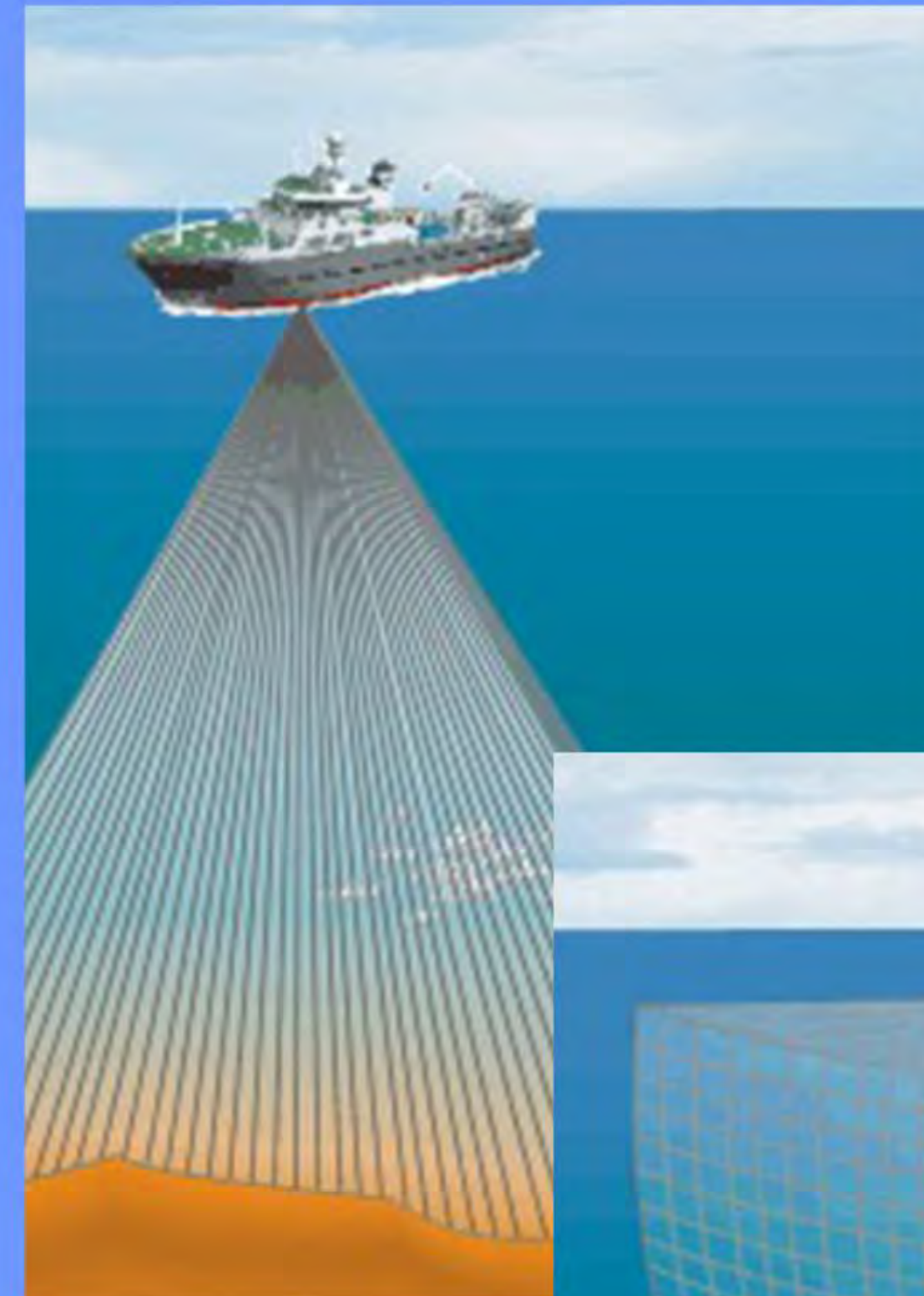
- 18 m Calypso gravity corer
- 12 tube megacorer
- Ferrybox underway measurement system
- Vaisala AWS 430 weather station
- 2 x Seabird CTD w/24 and 12 bottle rosettes



Fisheries acoustics

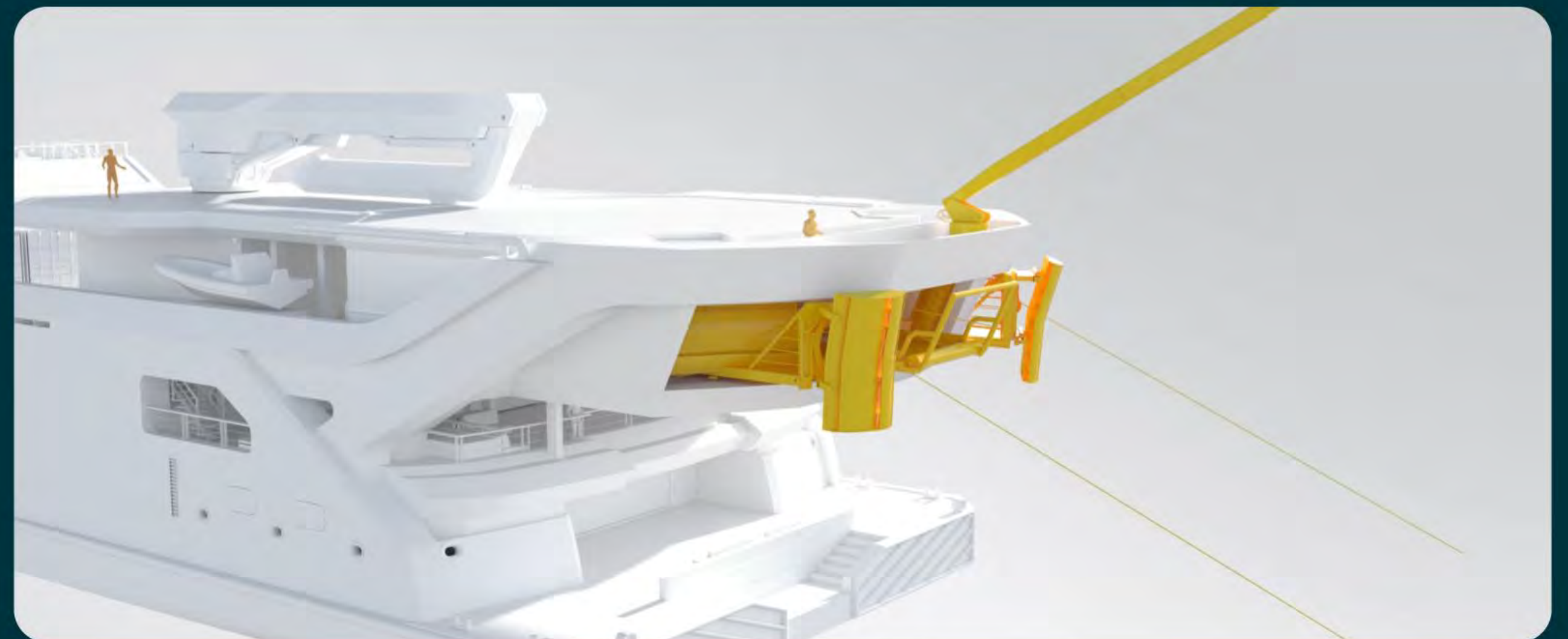
- SIMRAD EK80 Scientific echosounder
- 18, 38, 70, 120, 200 and 333 KHz
- SIMRAD SU94 Fish finding sonar
- SIMRAD SC94 Fish finding sonar
- SIMRAD ME70 Multibeam sonar for biology
- SIMRAD MS70 Multibeam sonar for fisheries

All systems mounted twin 3m drop keels



Trawl Sampling

- Pelagic trawl system
- 2x35 T winches – 3000 m wire
- Vacuum suction hose from trawl end directly to wet lab
- Scantrol Deep Vision digital screening system



Mesopelagic Trawl



Pelagic trawl with a vacuum system that delivers samples straight from the ocean into the wet lab and has an AI vision system that allows scientists to select which specimens are collected



MM-P151

SAFETY NOTICE
DANGER
DO NOT OPEN
DURING
OPERATION

MIMAR
MARINE

SERVICE OF
BACKPRESSURE
COMPRESSOR
RUNNING

MM-P151

MIMAR
MARINE

COMPRESSOR
RUNNING
ACUTE

Helicopter

Twin helicopter decks

Hangar under forward helideck

Airbus H145D3 2+8 seat
helicopter



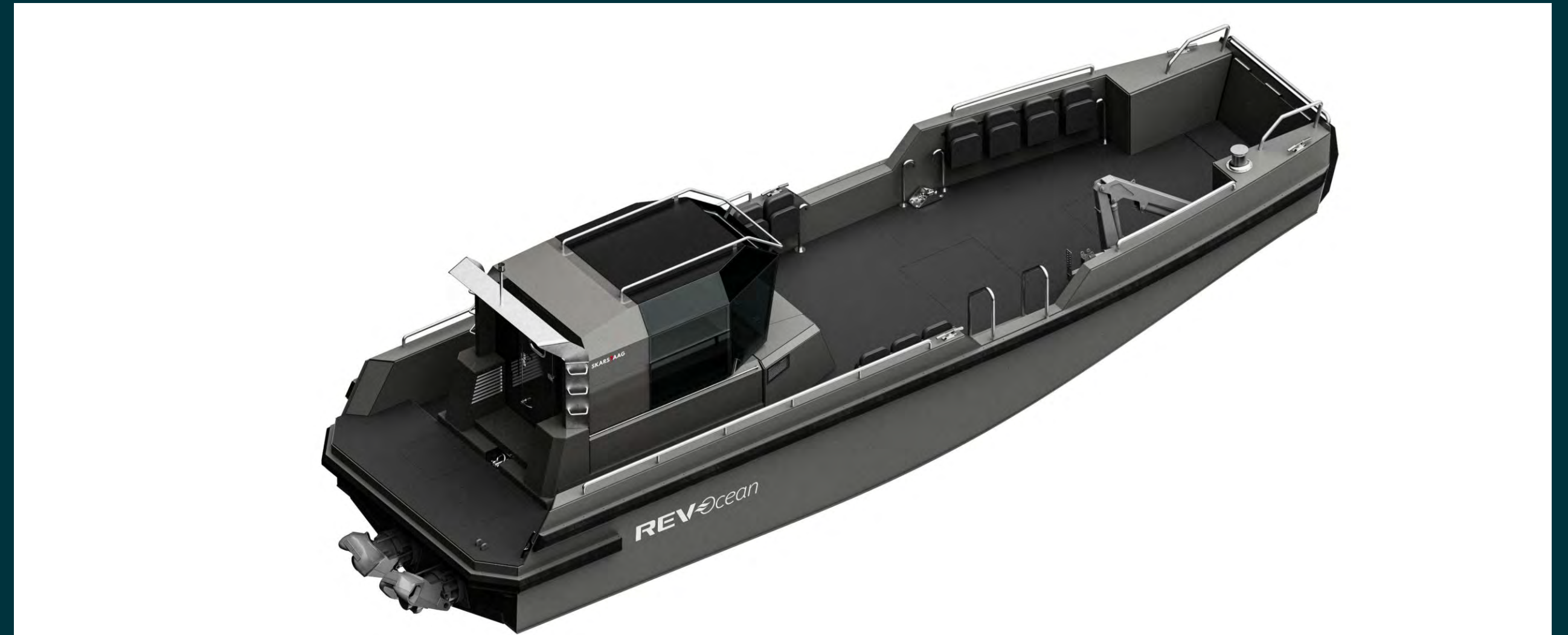
Work Boat

Main features:

- 12 passenger capacity + 2 crew
- Hamilton waterjet with DP light system.
- TIER 3 engines with NOX scrubbers. 2x500hp
- Large deck with seating for passengers
- Beachlander front end
- 2,6tm - 5m long Crane
- Cabin w/toilet

Equipped with sonar systems, sampling equipment, and other instruments to collect data and perform surveys.

WAASP multibeam will map the seabed down to 350 m depth and send data directly to mother ship.



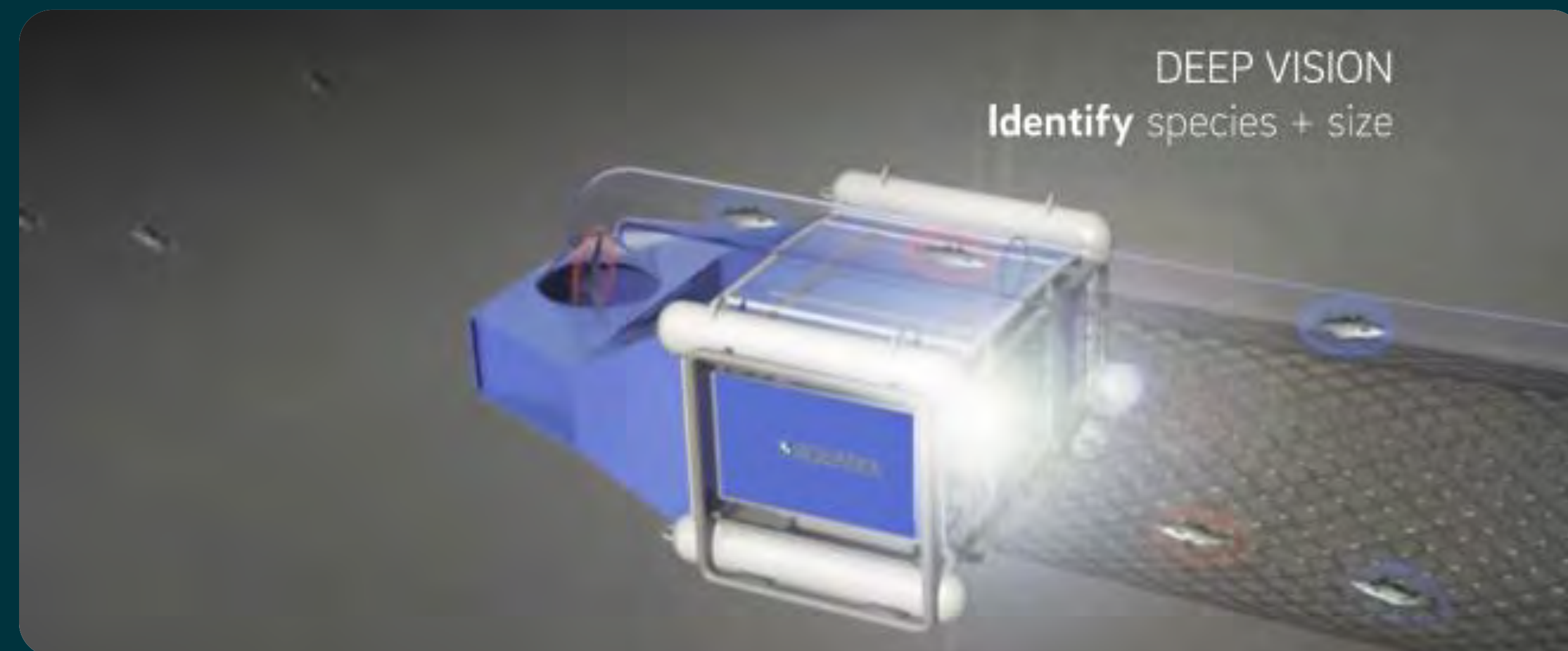
Tenders



On board vehicles

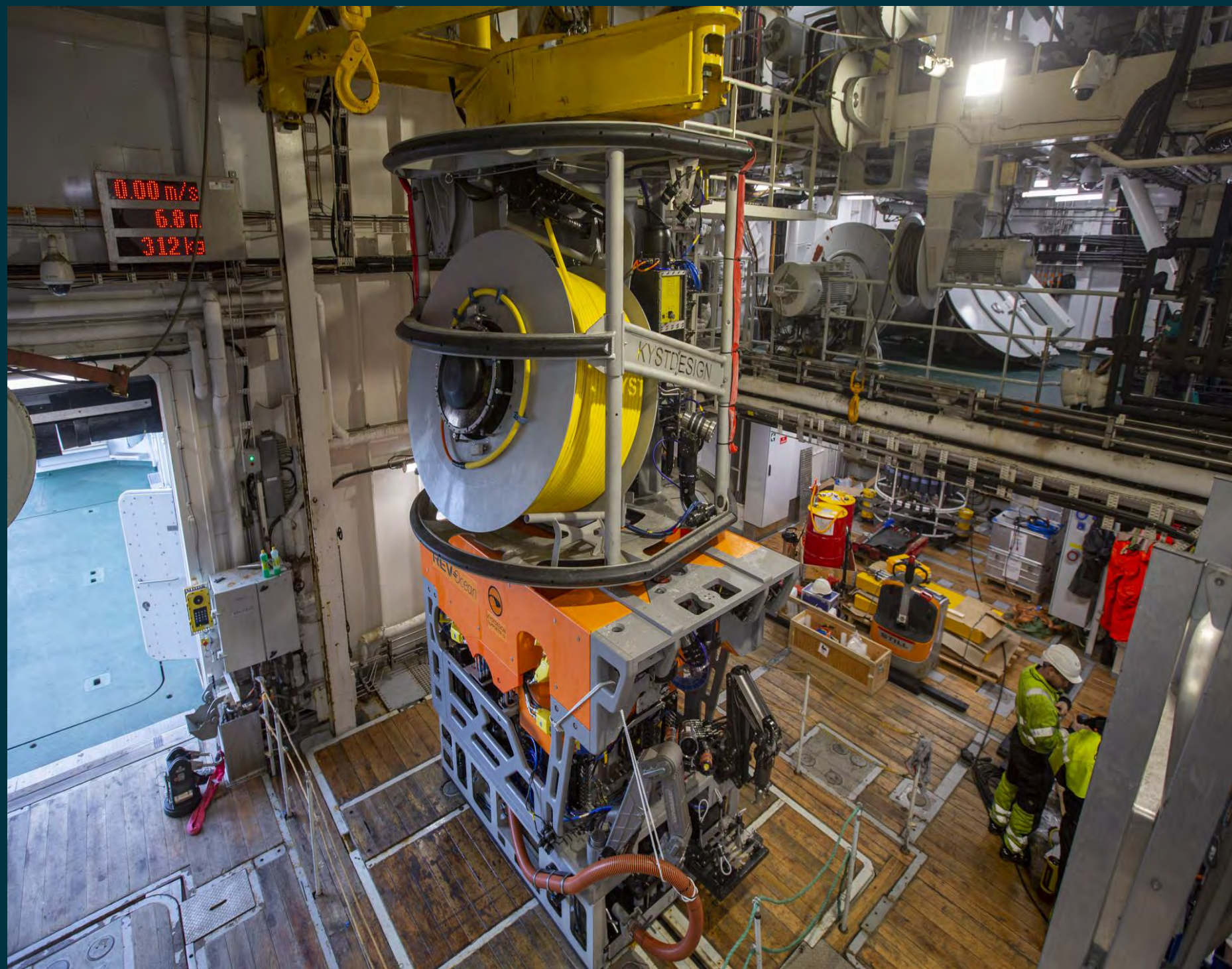


Pelagic trawl



Aurora

Kystdesign Supporter 32



ROV Aurora

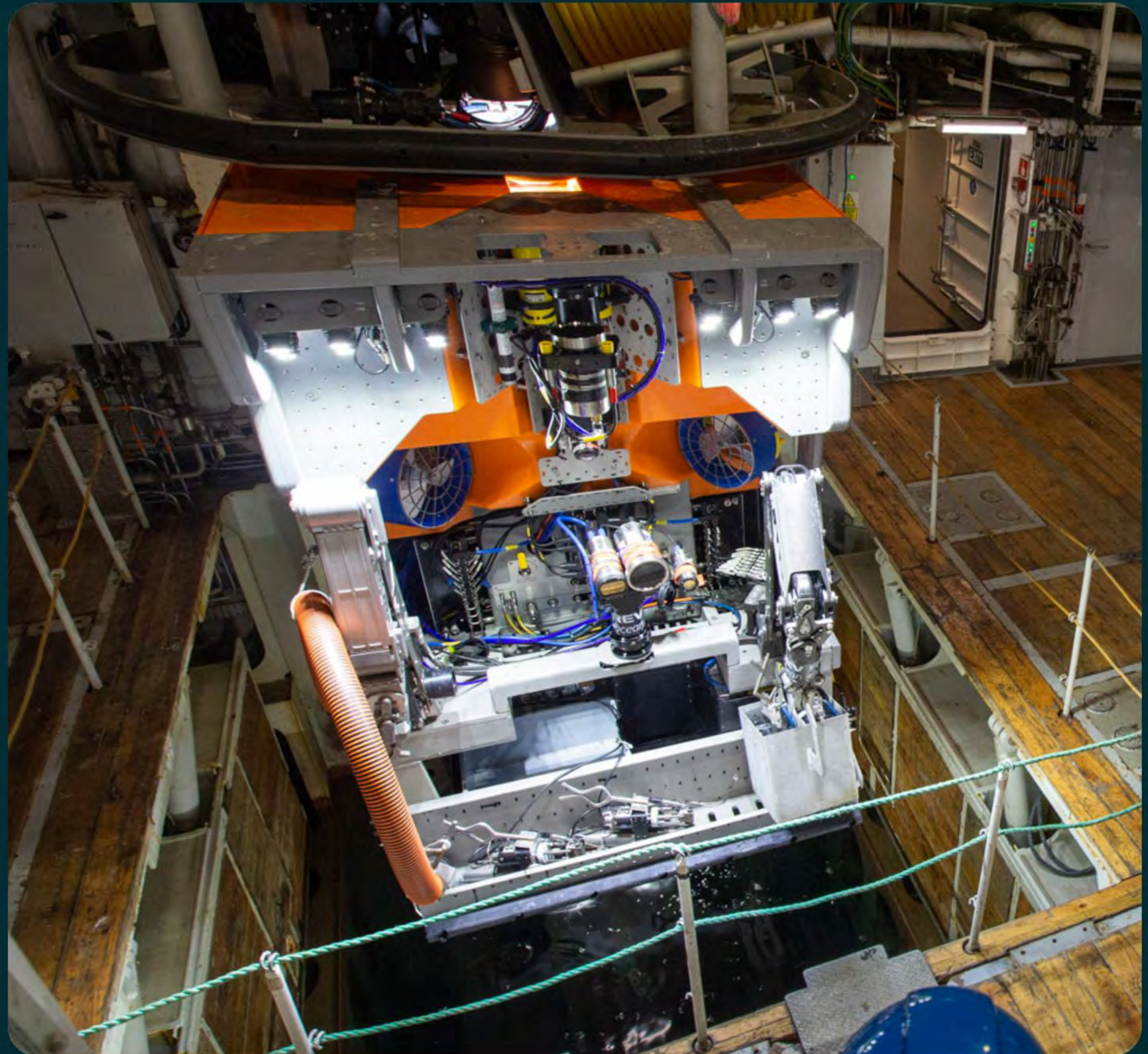
Model: Kystdesign Supporter 32

Depth: 6000 m

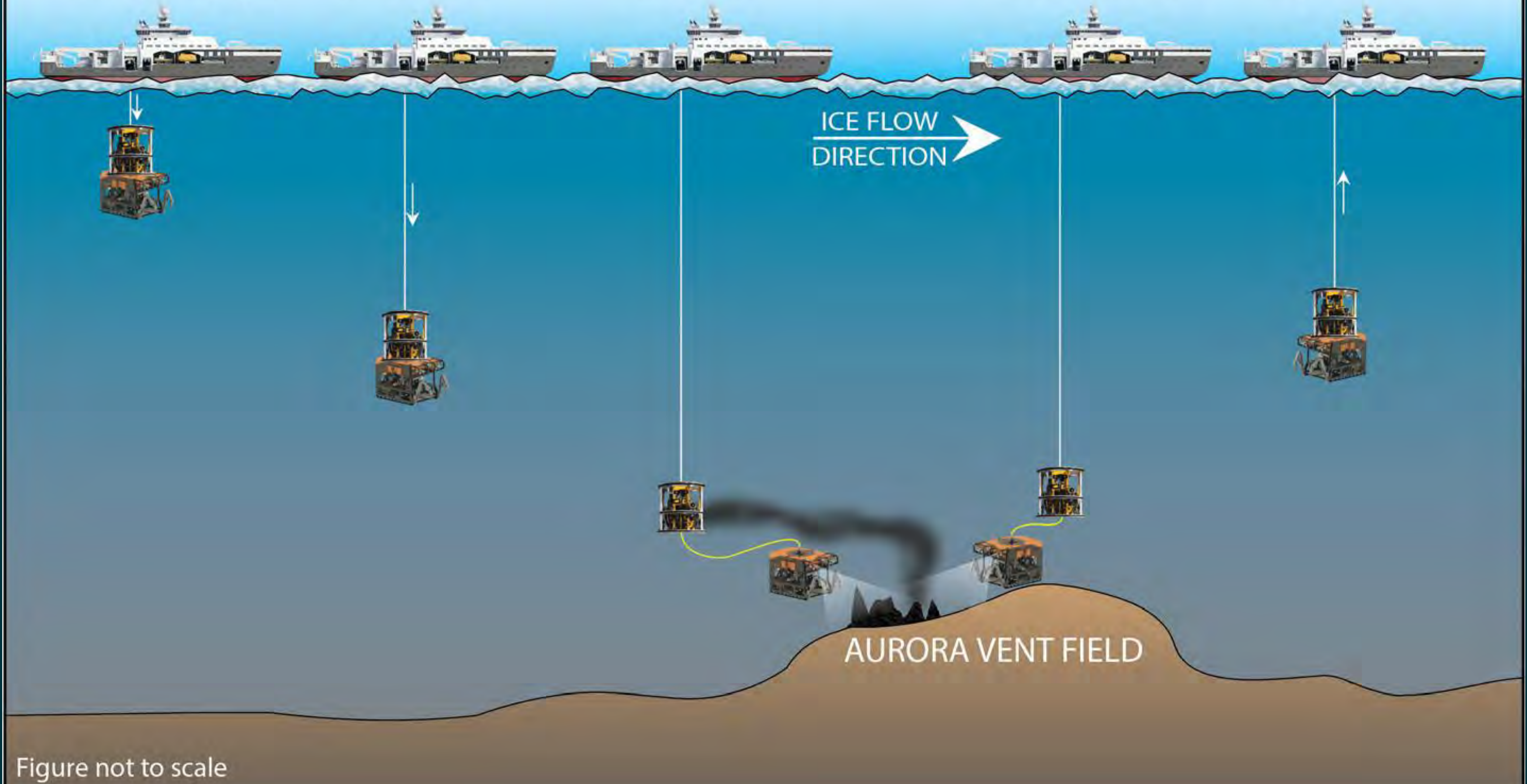
Crew: 12 hr ops (3-4), 24 hr (6-7)

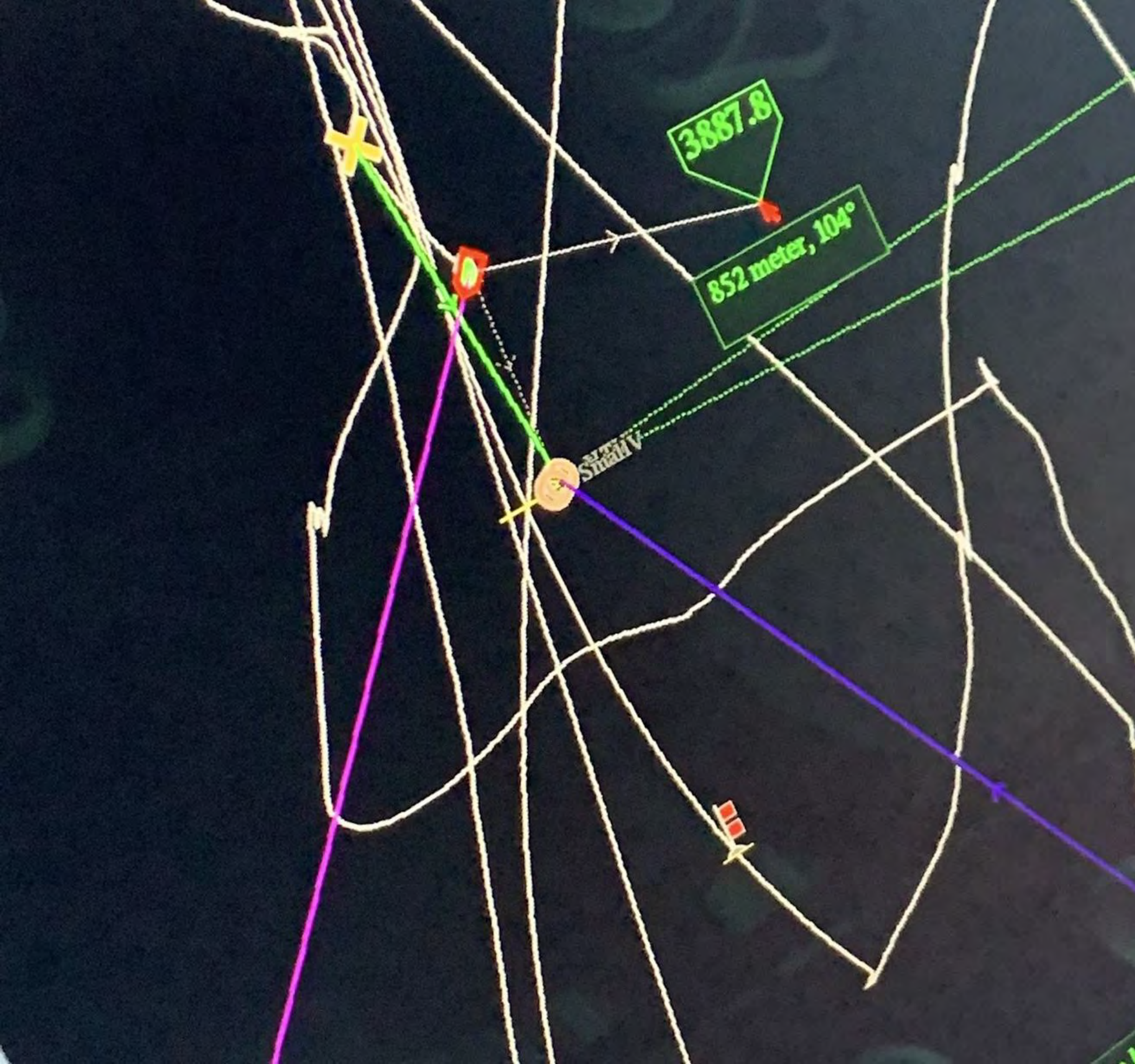
Power Kw/Hp: 115/150

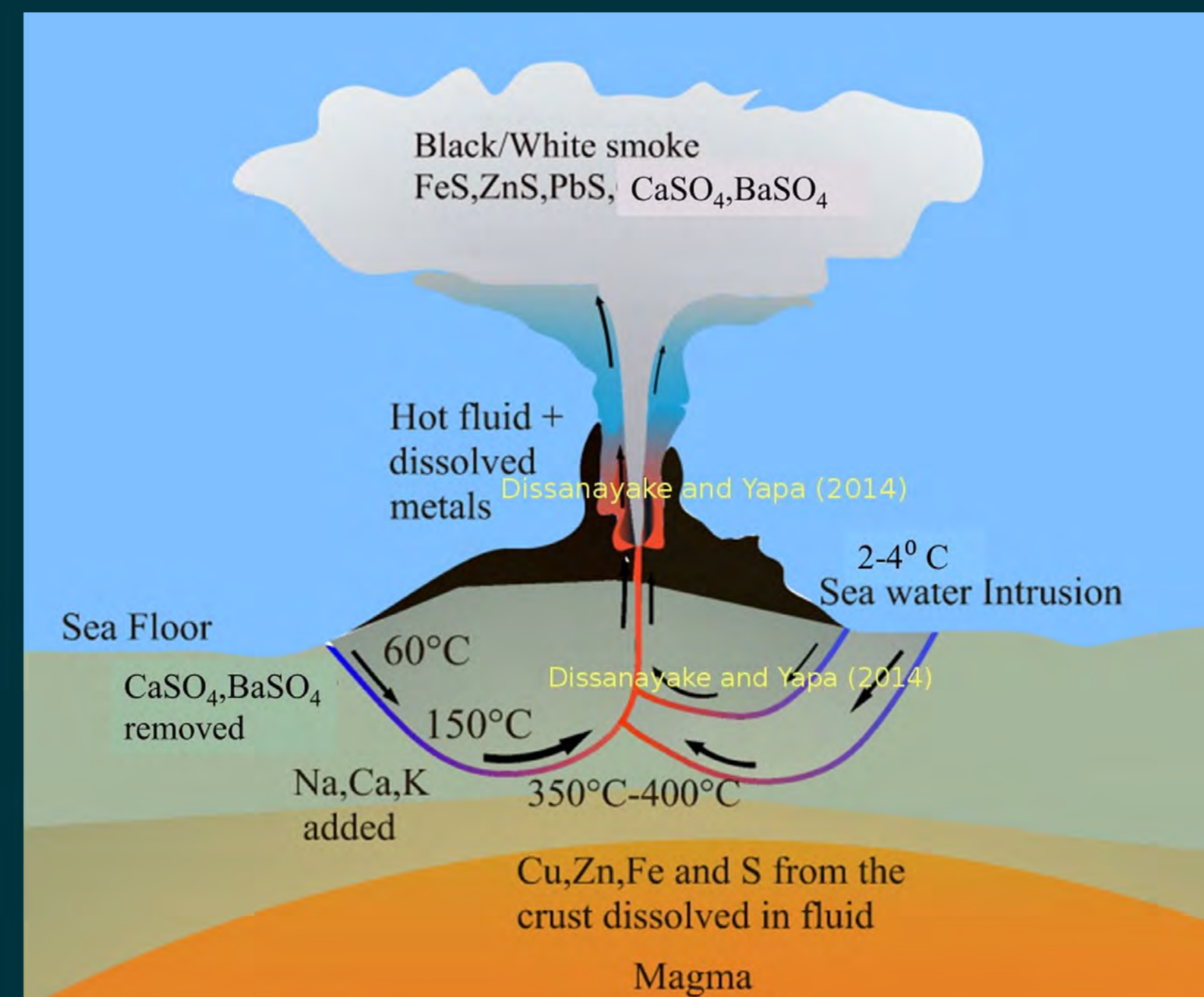
- Schilling T4 Manipulator
- Multibeam: Kongsberg EM2040
- Sample storage: 3x Bio boxes
- 8 X 44mm push core
- 4 x Niskin water sampling bottles
- Suction sampler (8 chamber a 10 L).
- Blade corer



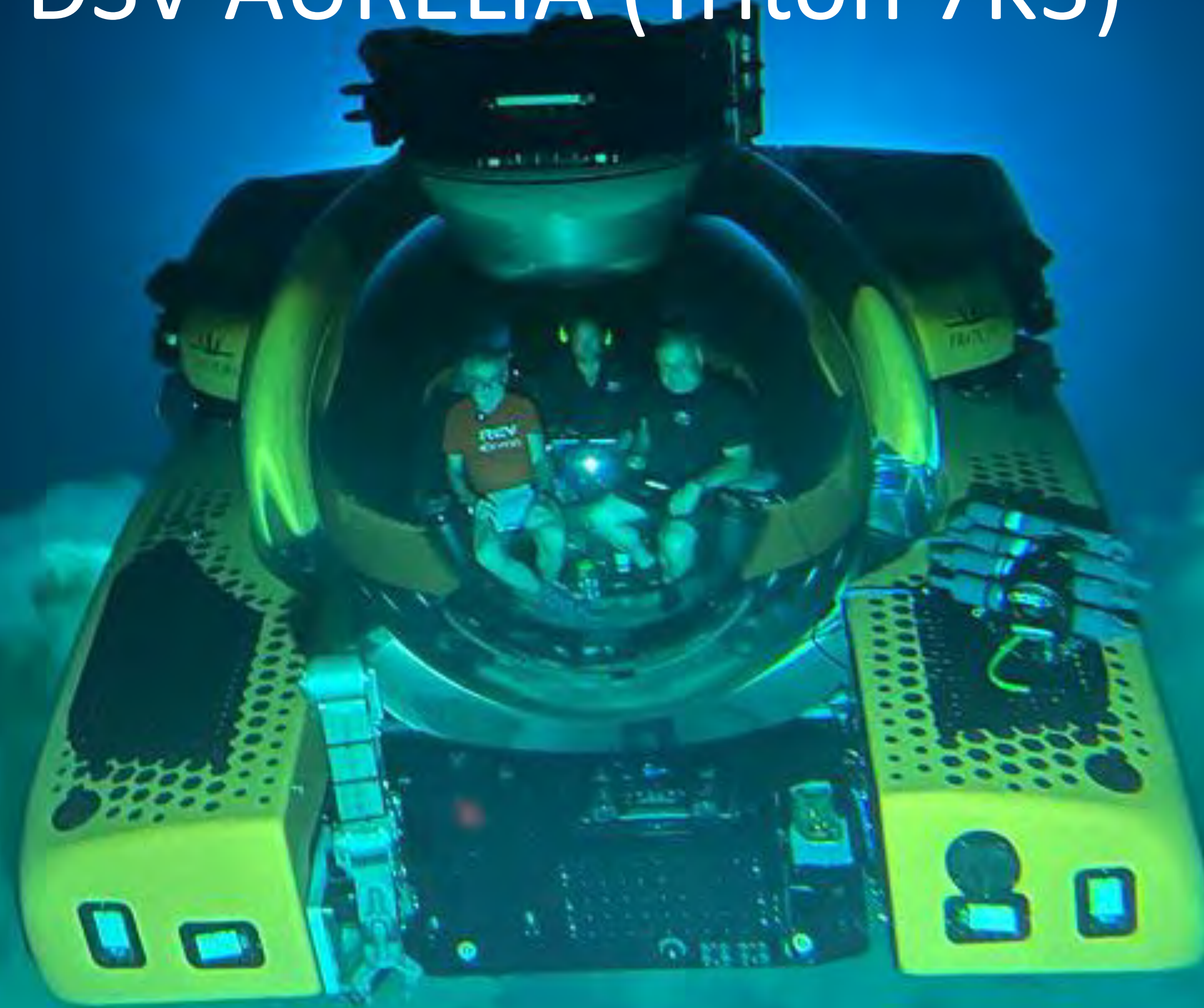
- 1 Ship positioned up ice from vent field and ROV is deployed
- 2 ROV descends to seafloor as ship drifts towards target
- 3 At the seafloor, ROV separates from TMS and flies to target
- 4 ROV remains at vent field while ship and TMS continue to drift
- 5 ROV returns to TMS for recovery back to the ship

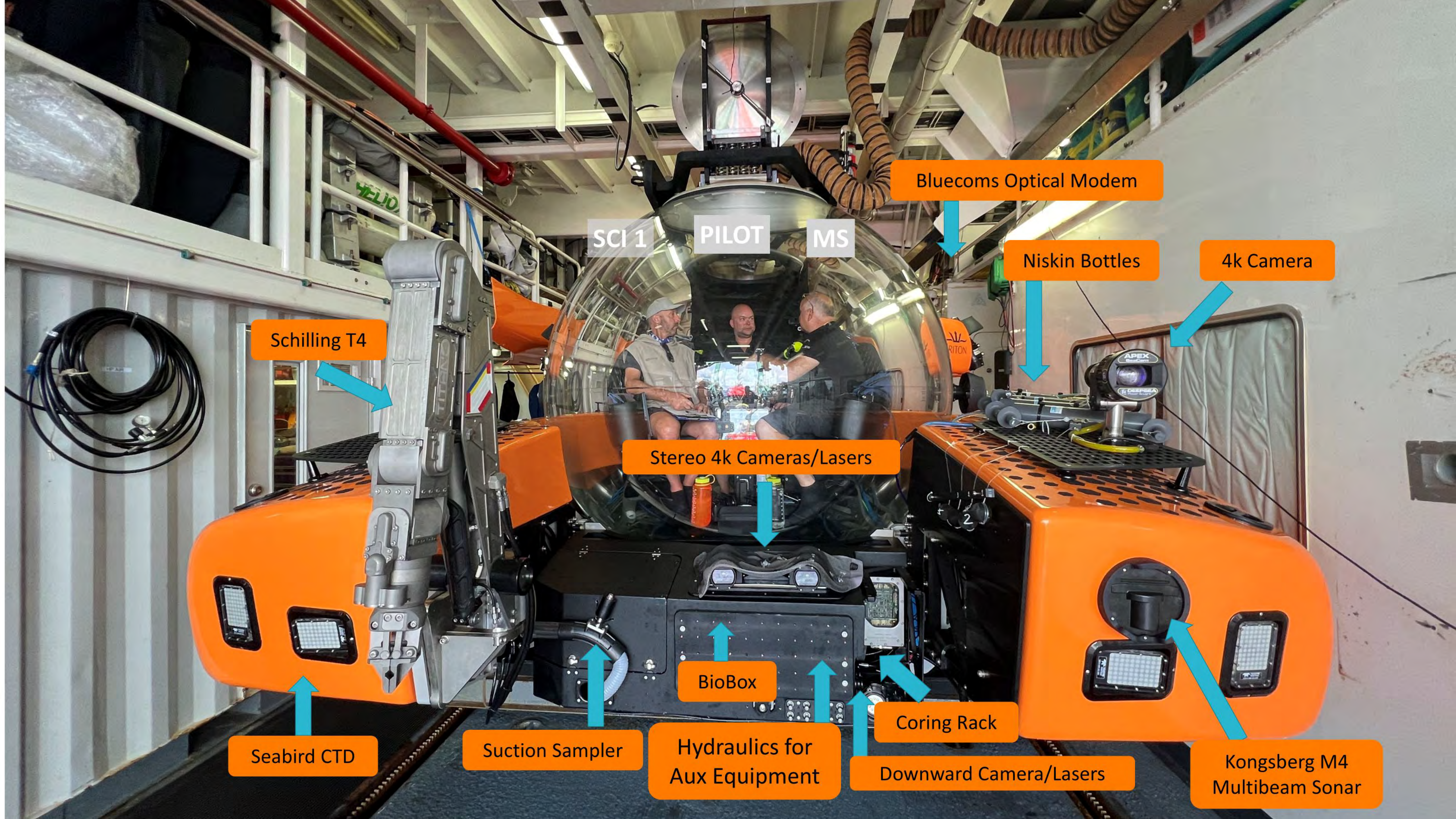






DSV AURELIA (Triton 7K3)





SCI 1 PILOT MS

Bluecoms Optical Modem

Niskin Bottles

4k Camera

Schilling T4

Stereo 4k Cameras/Lasers

Seabird CTD

Suction Sampler

Hydraulics for Aux Equipment

Coring Rack

Downward Camera/Lasers

Kongsberg M4 Multibeam Sonar

BioBox



FRITZ



www.heinz-fritz.de



REV Ocean has purchased 2 Eelume
S300 AUVs with delivery in 2027.



Under ice operations



Coral mapping



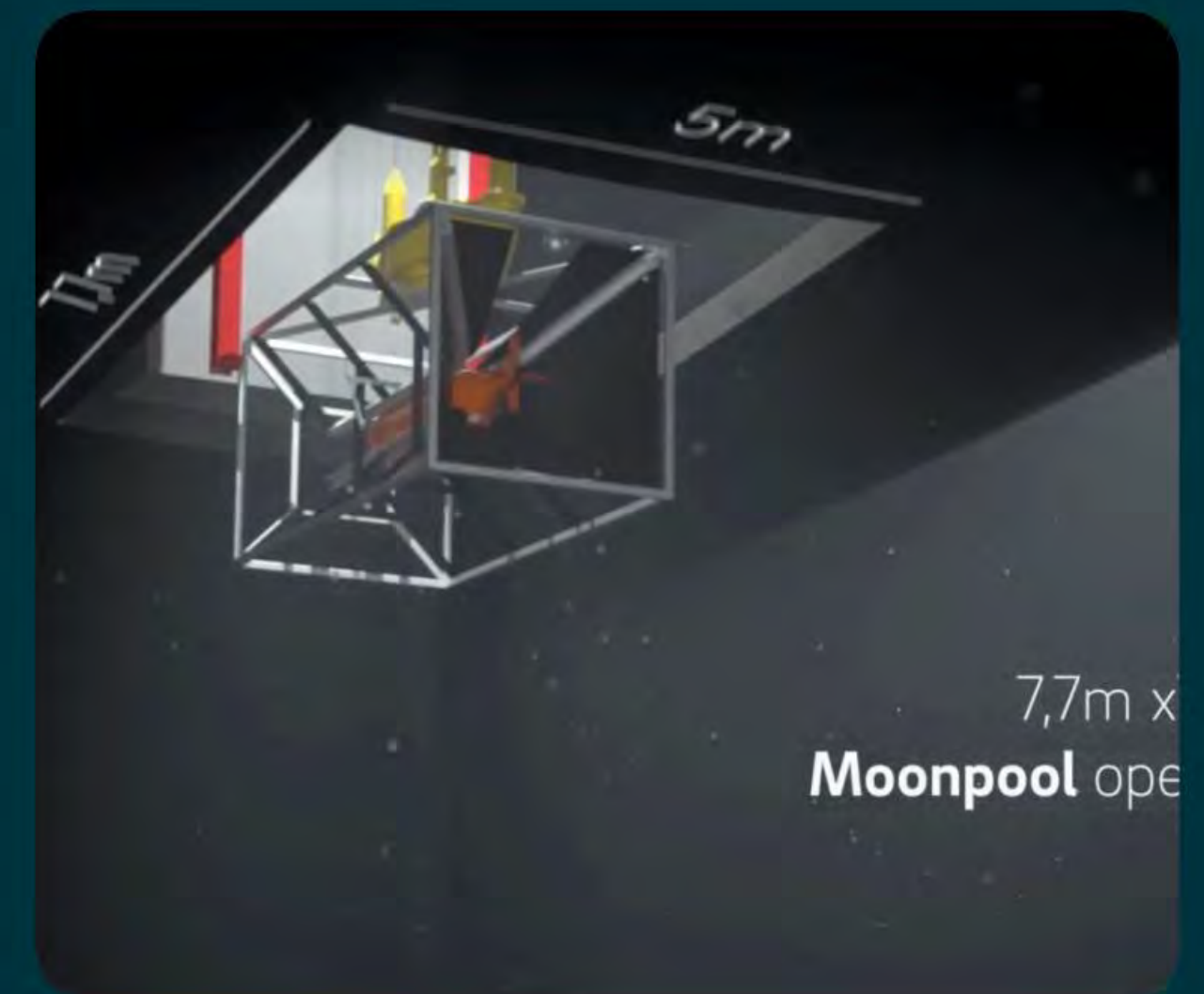
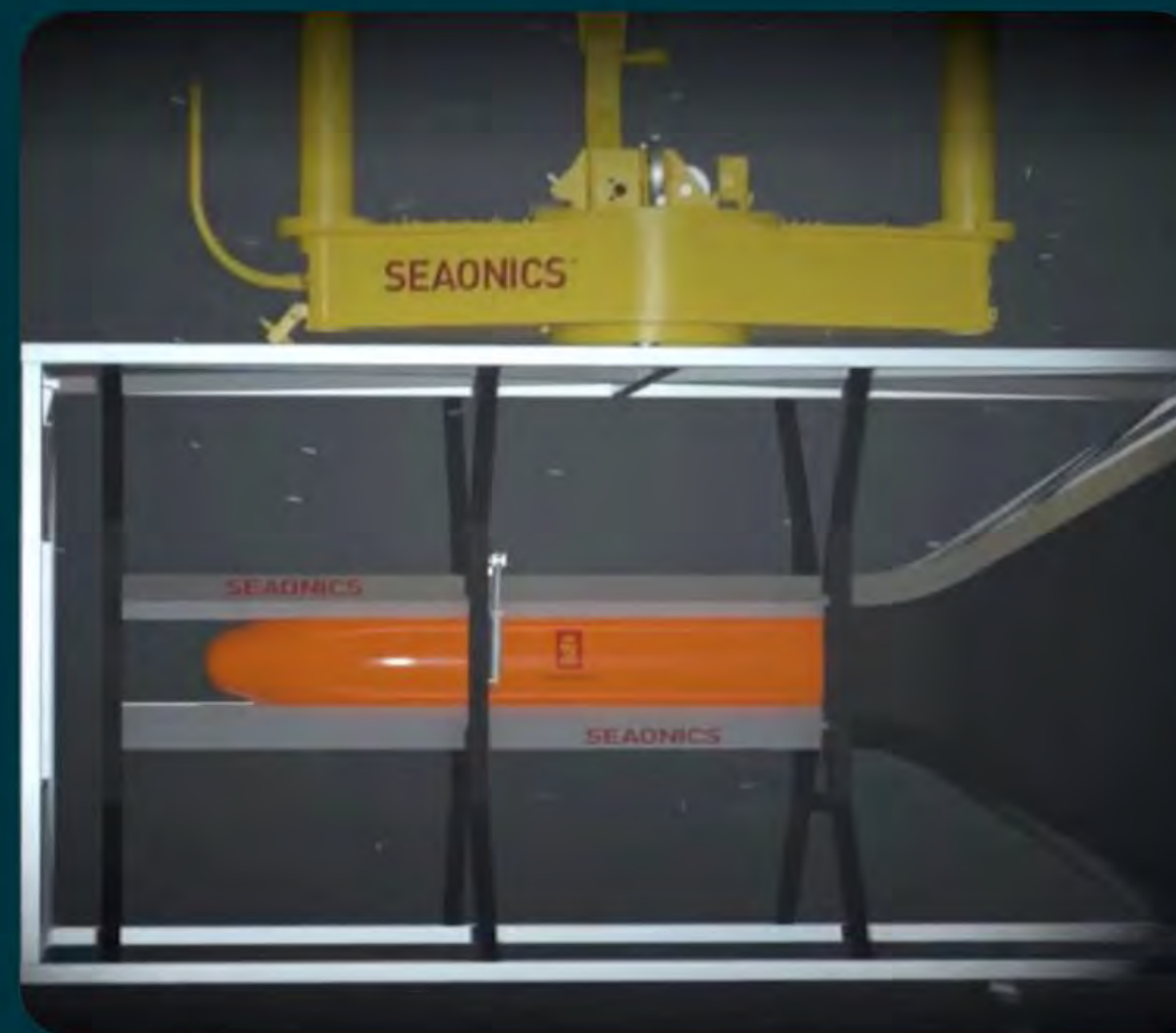
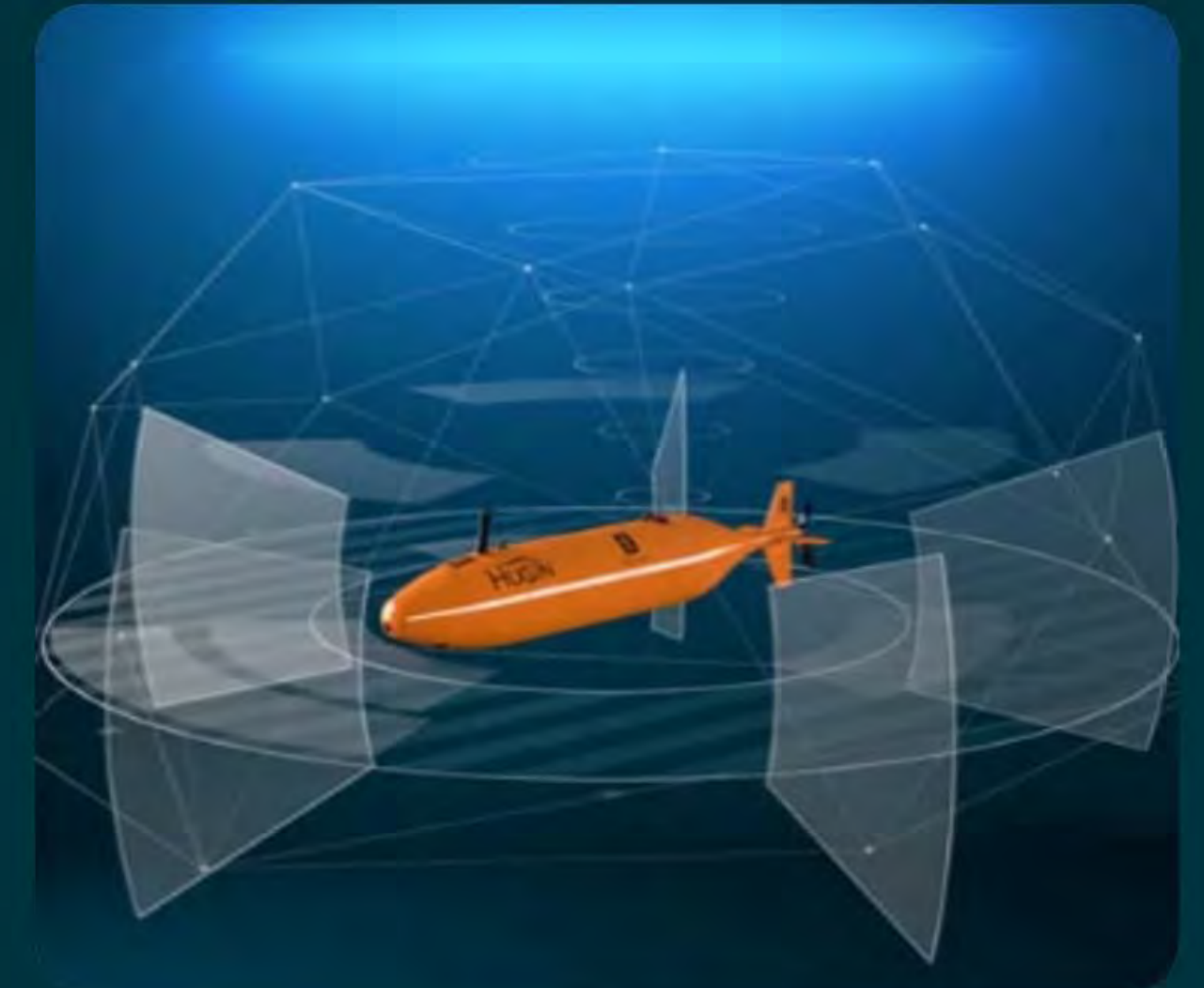
Kongsberg Hugin Superior Autonomous Underwater Vehicle (AUV)

For marine research, underwater
mapping, and exploration of the ocean
floor

Depth: 6000 m

Multiple payload options

Moonpool or over the side launch



SAAB Sabertooth



Dette bildet av Ukjent forfatter er lisensiert under CC BY-SA-NC



USV
TBD!



MAIN HANGAR WITH 7.7X5 M MOONPOOL

Moonpool with LARS for AUV, ROV, submarine

- ROV winch 6000 m
- CTD winch 4500 m
- Multi-purpose winch 8000 m
- Traction winch 6000m
- Net sounding winch 4000m

WORKING/CONTAINER DECK

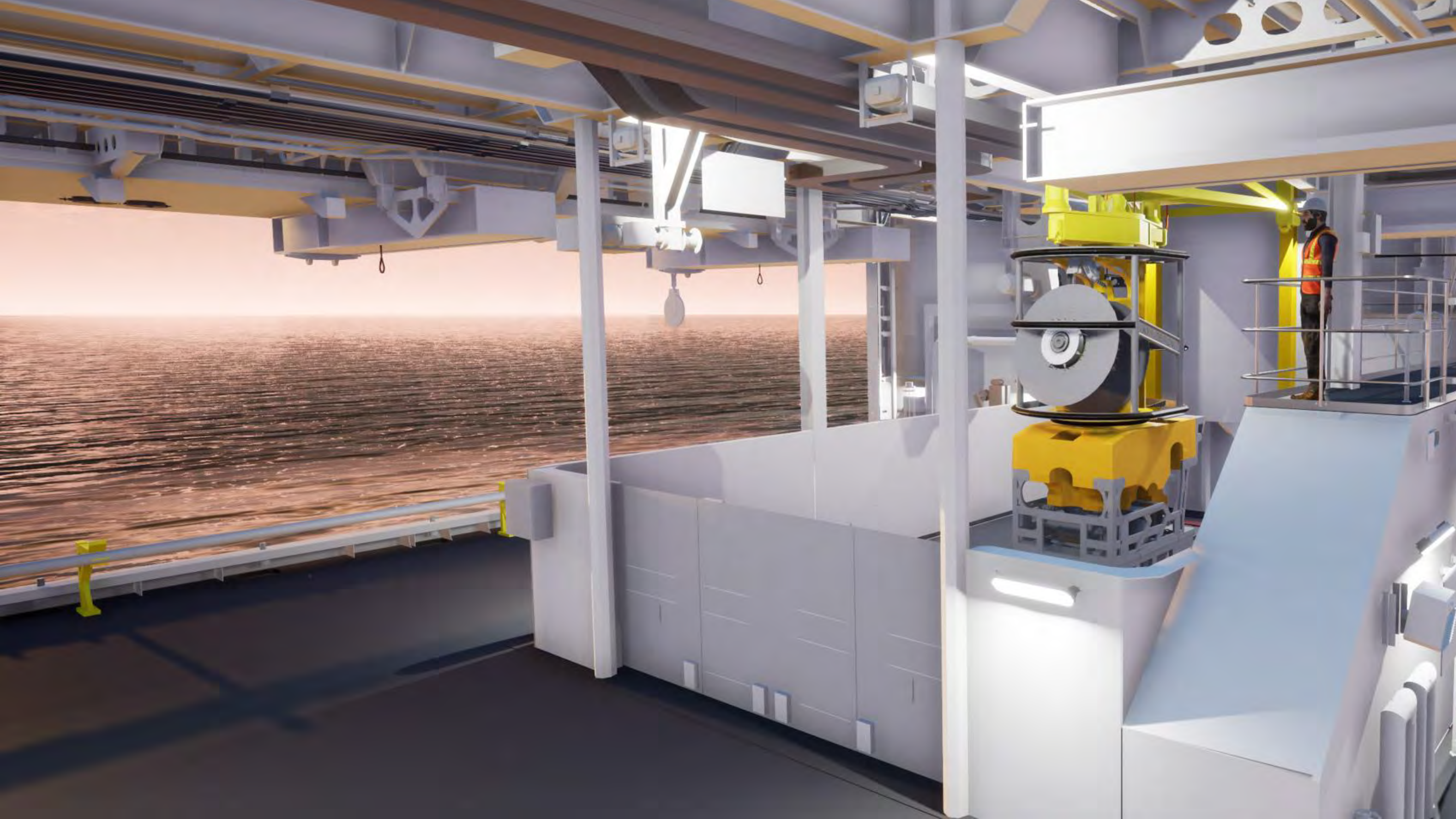
- 15 T @ 22 m/10 T @ 35 m crane
- 12 ISO containers (20')





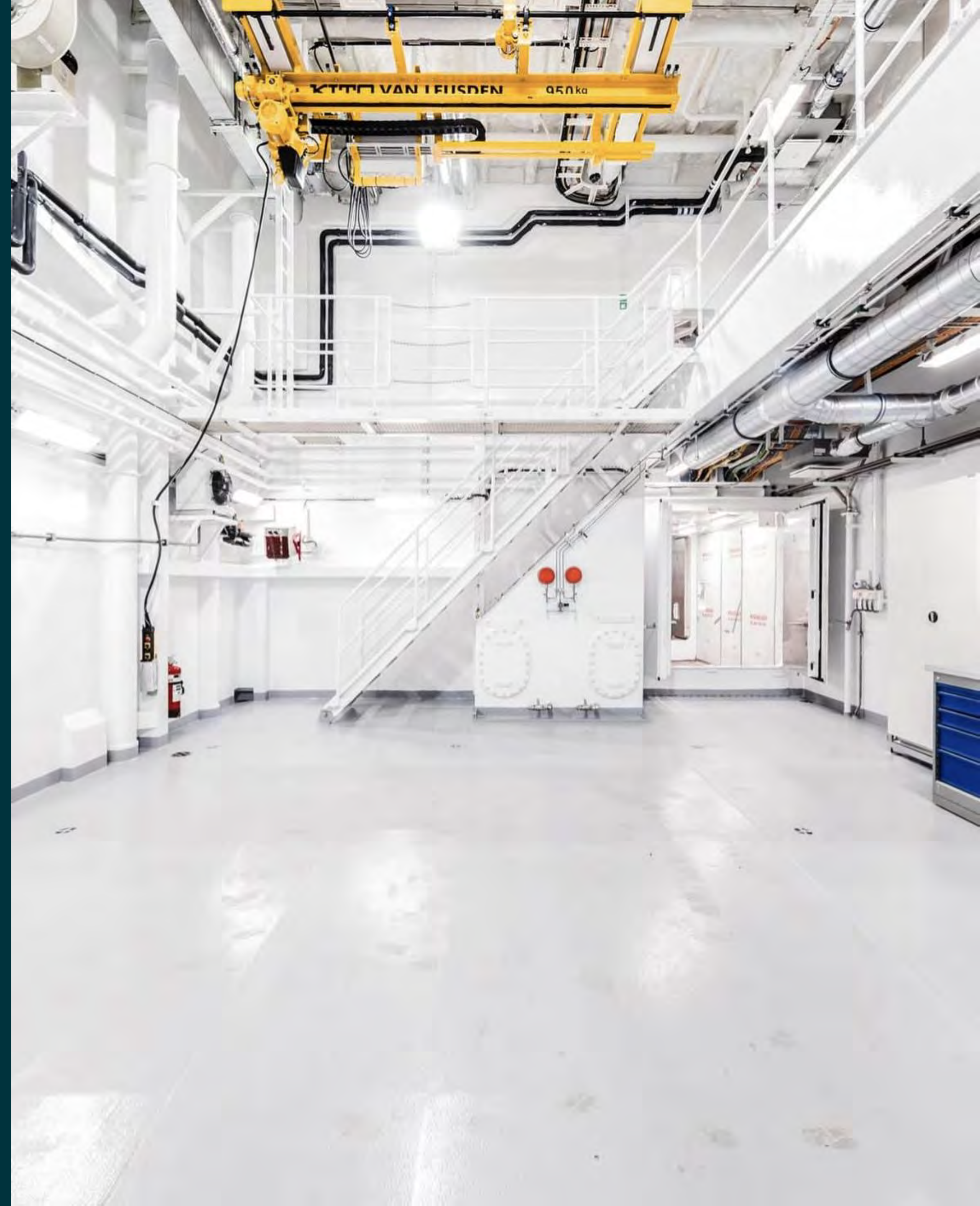


Deck 2:
Hangar and moonpool



Submersible Hangar

- Battery chargers
- Oxygen booster
- HP Air fill panels
- Boarding platform
- CCTV / Ethernet monitoring
- Chain hoist / Gantry crane
- Spares storage
- Dedicated workshop
- Storage tanks for hydraulic oil

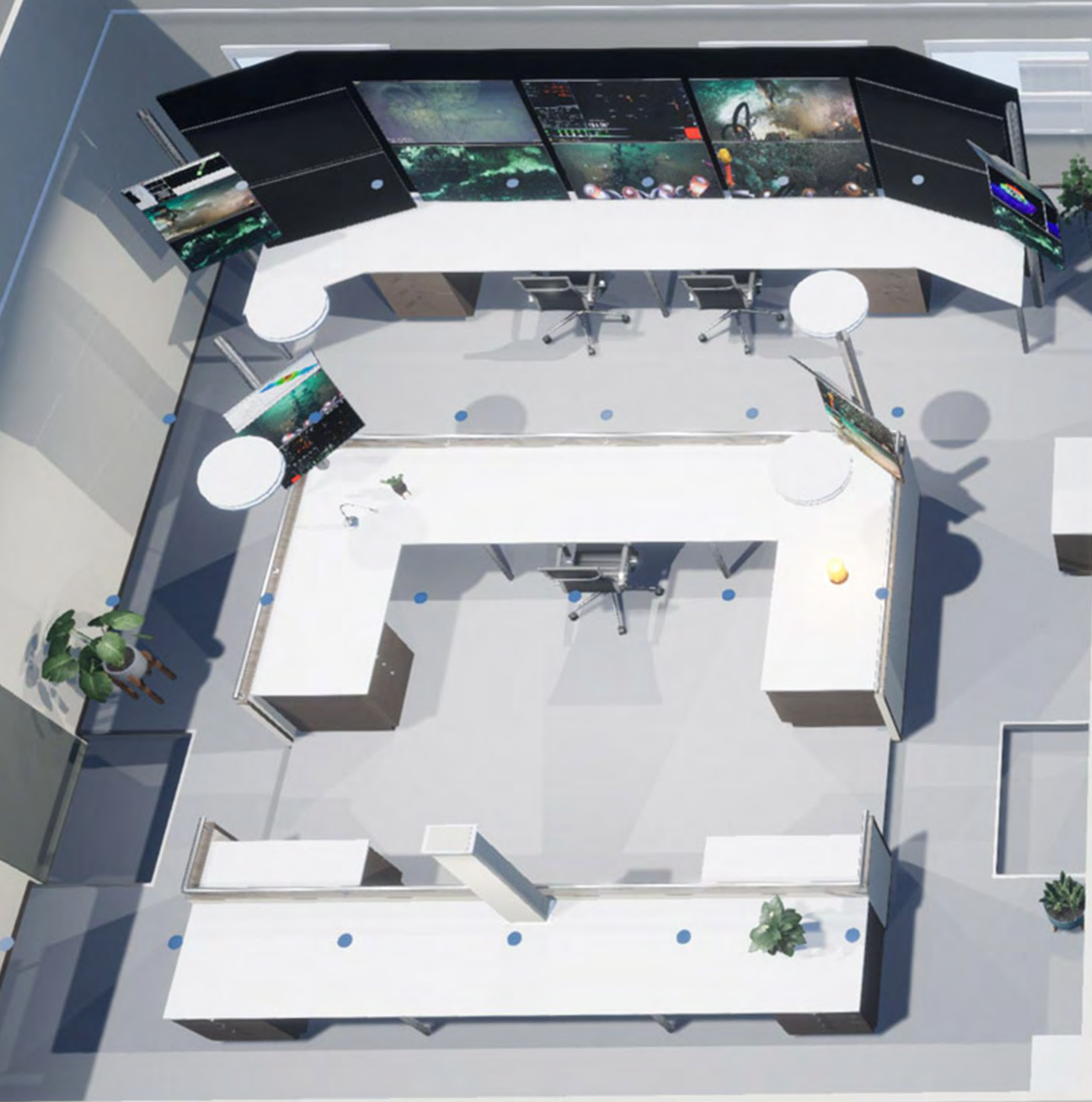




REV Ocean
Aurelia



Mission Control Room



AUV / USV Control Room



Deck 2:

- Mission Control
- Survey Room

Mission Control



ROV & Sub

Survey Room



Acoustics & AUV



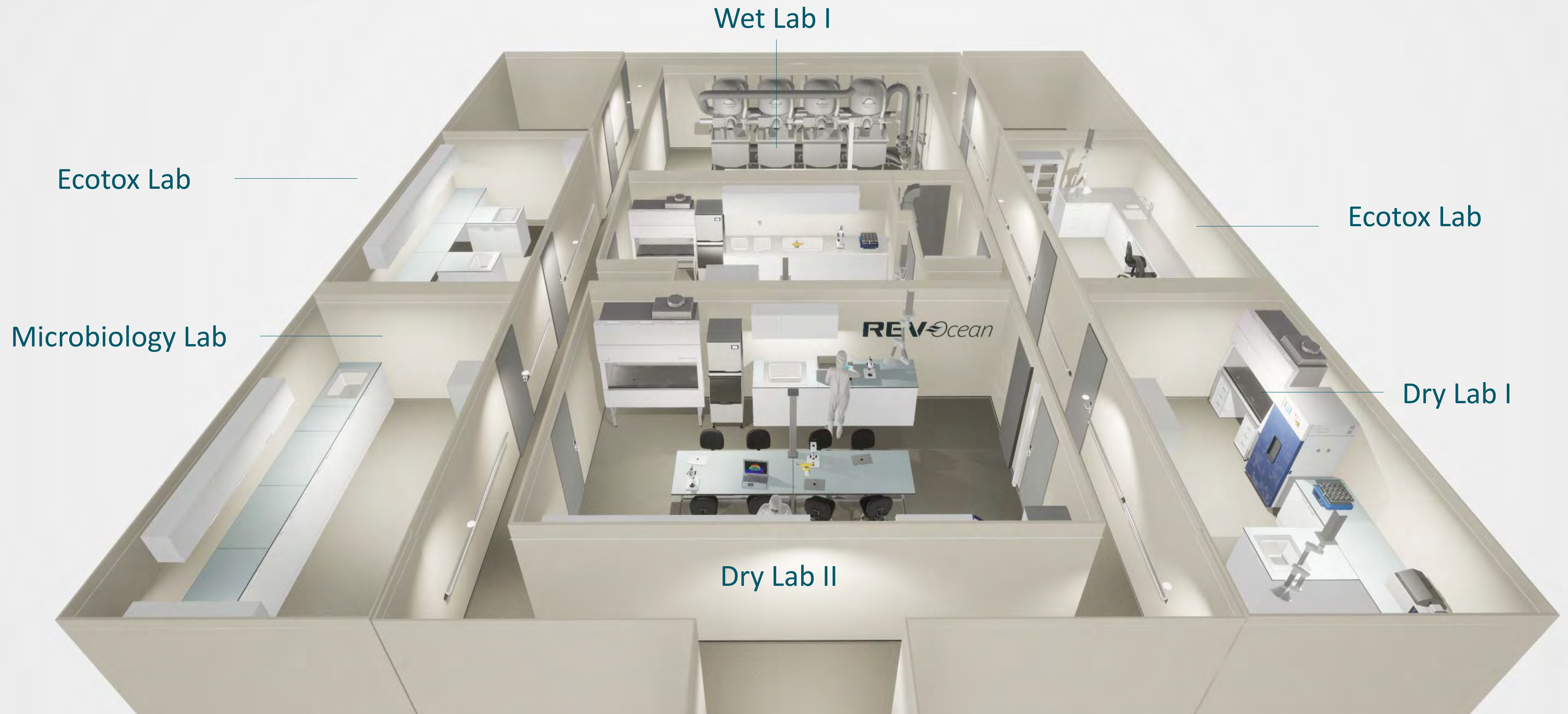
Deck 1: Science Labs

- 1 x dry lab
- 2 x wet labs
- 1 x environmental lab
- 1 x molecular lab
- 1 x microbiology lab
- 1 x chilled lab
- 1 x education lab
- 1 x aerosol lab

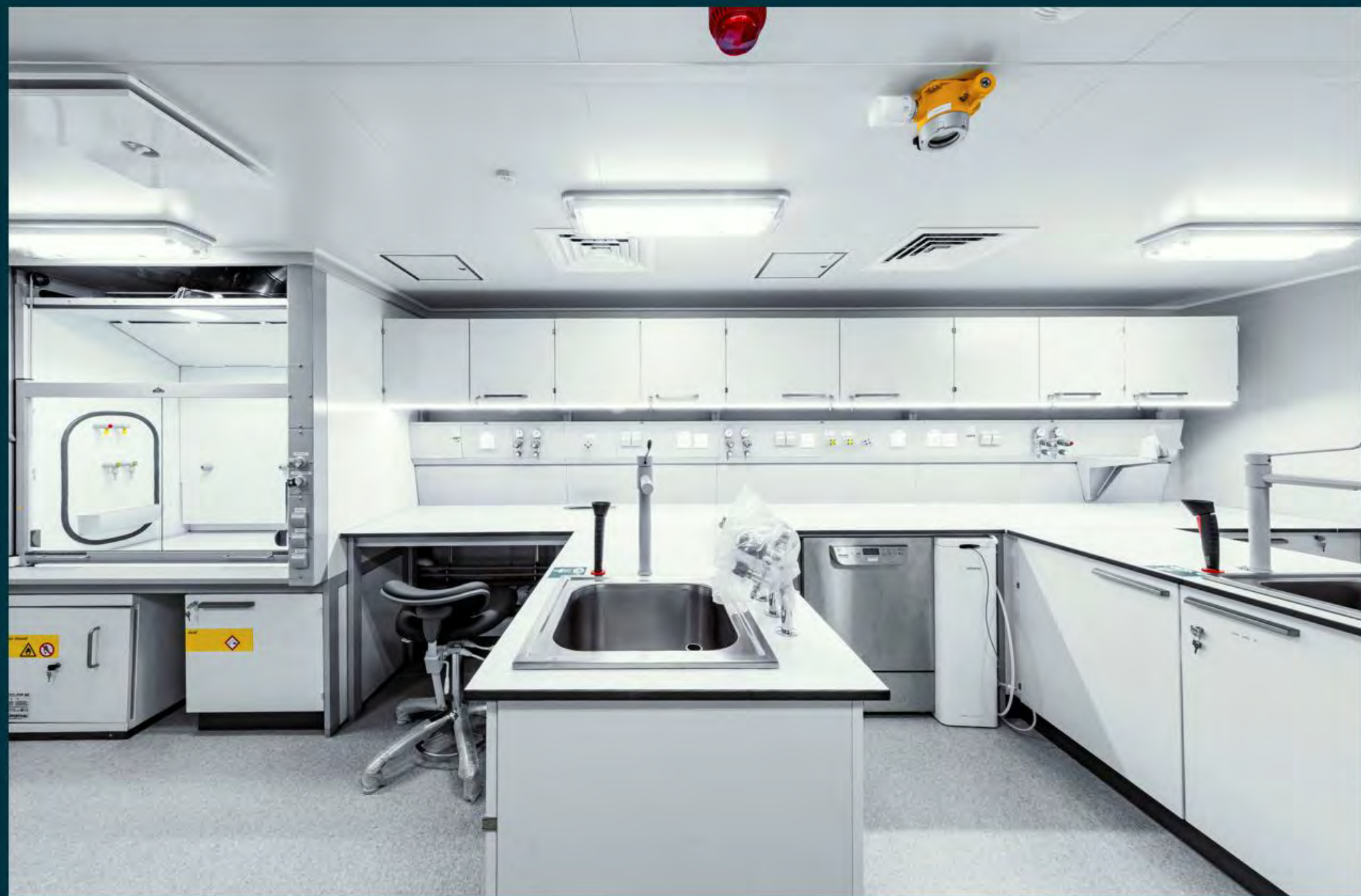
Space for 12 containers
on container deck

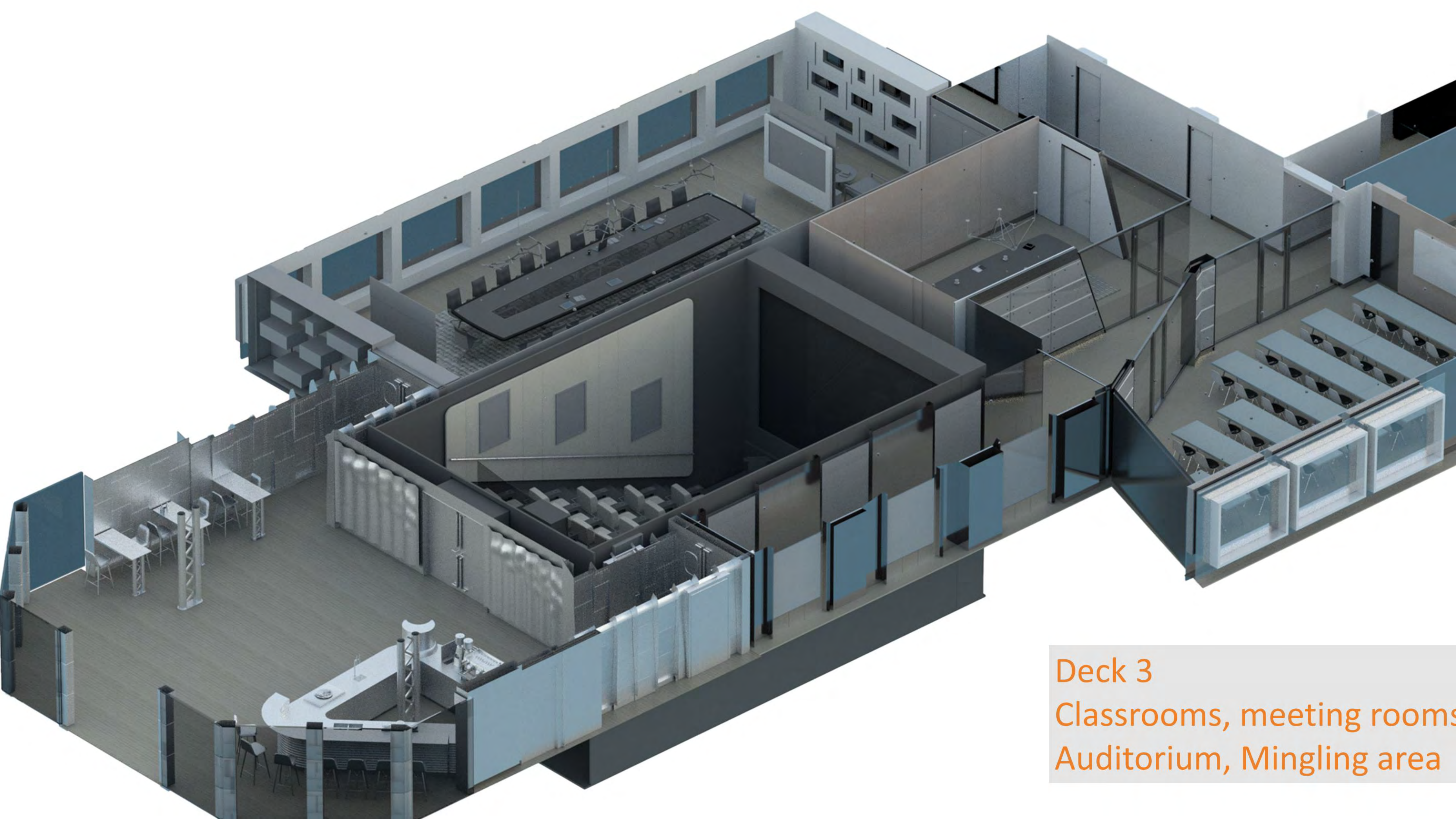


REV Ocean Science Labs









Deck 3
Classrooms, meeting rooms
Auditorium, Mingling area

The auditorium





DEEP OCEAN
Narrated by DAVID ATTENBOROUGH

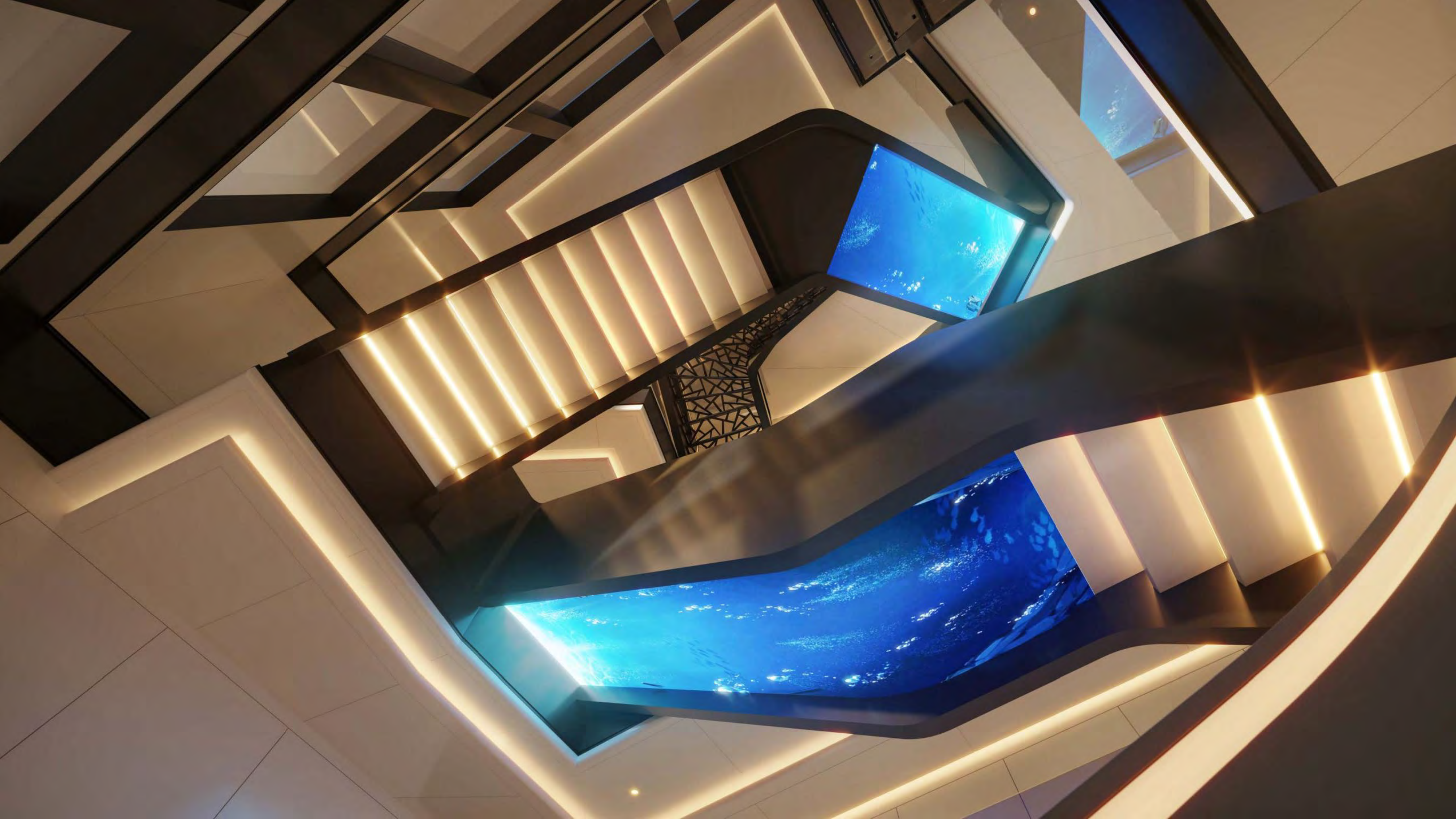






































Gaming room



PIT-LANE



Gin Bar













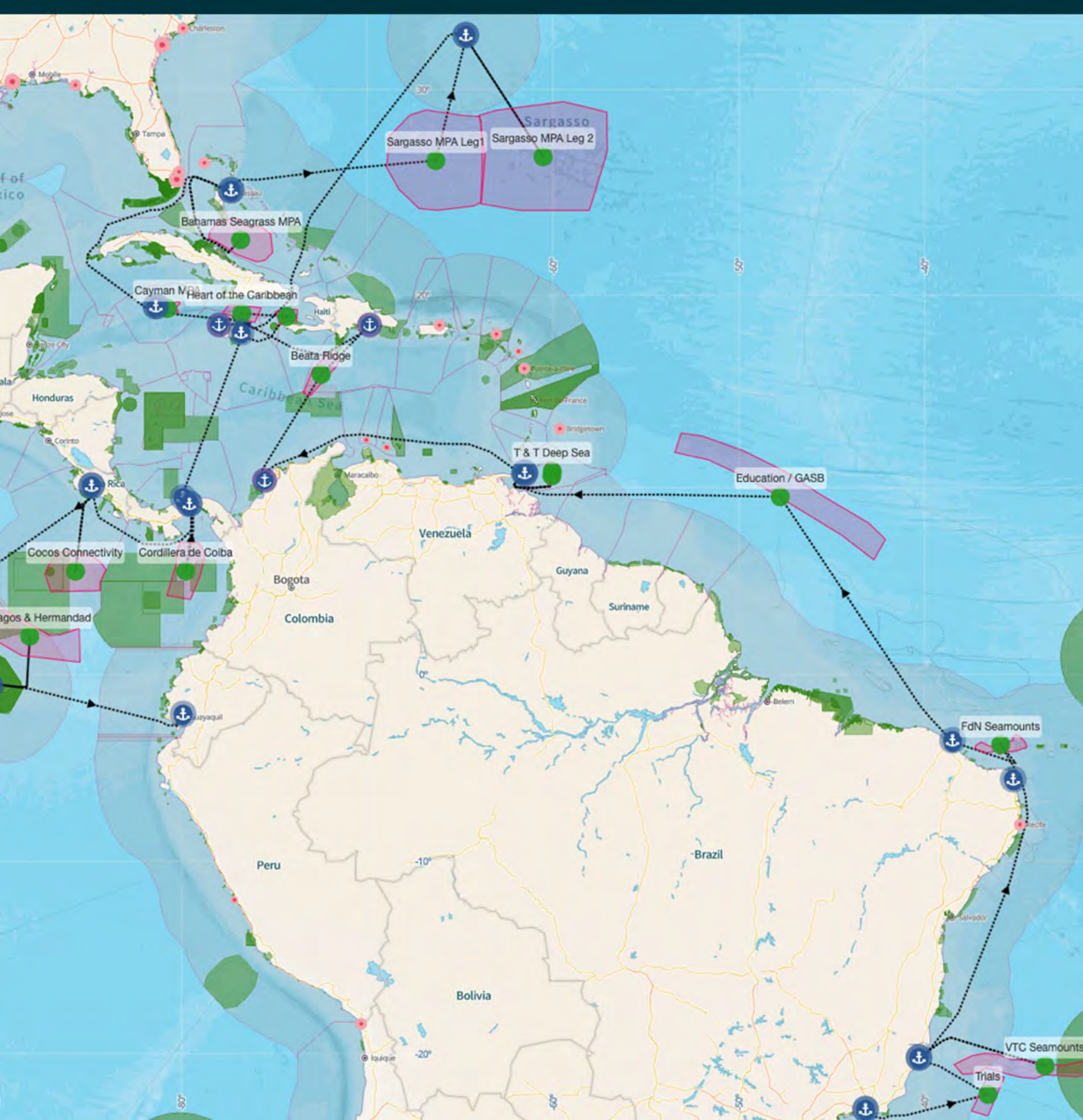






2027

The maiden voyage begins.



Maiden Voyage missions

Shiptime for each mission includes:

- Mobilisation/demobilization
- Transits
- Work at sea (3-5 weeks)
- Port convenings (1 week)

Missions' summary

- **UNOD:** Rio, 4-9 Apr. 2027; 11 days
- **Subsea Trials:** international waters off Brazil, Apr-May 2027; 34 days
- **Vitoria Trindade Chain:** VTC Brazil and international waters, May-June 2027; 43 days
- **Fernando de Noronha seamounts:** Brazil, July 2027; 40 days
- **Educational mission** – Brazil-Trinidad & Tobago, Aug-Sept 2027; 35 days
- **Trinidad & Tobago deep ecosystems:** T&T and international waters, Oct. 2027; 28 days
- **Beata Ridge:** Colombia-Dominican Republic, Nov. 2027; 39 days
- **Cayman corals and deep sea:** Cayman, Jan. 2028; 29 days
- **Bahamas seagrass meadows:** Bahamas, Feb. 2028; 30 days
- **Sargasso Sea MPA:** Sargasso Sea, March-April 2028; 54 legs
- **Heart of the Caribbean:** Jamaica-Cuba-Haiti, May-June 2028; 49 days
- **Eastern Tropical Pacific:** Panamá-Colombia-Costa Rica-Ecuador, June-Sept. 2028. Leg 1 Coiba Ridge: 35 days; Leg 2 Cocos Ridge: 32 days; Leg 3 Galapagos: 34 days. Total 101 days

Ten Missions. One Ocean.



Partners include: The Pink Flamingo Society, HUB Ocean, UNESCO, Pristine Seas, National Geographic, BBNJ Secretariat



05

Where we stand.

And what comes next.



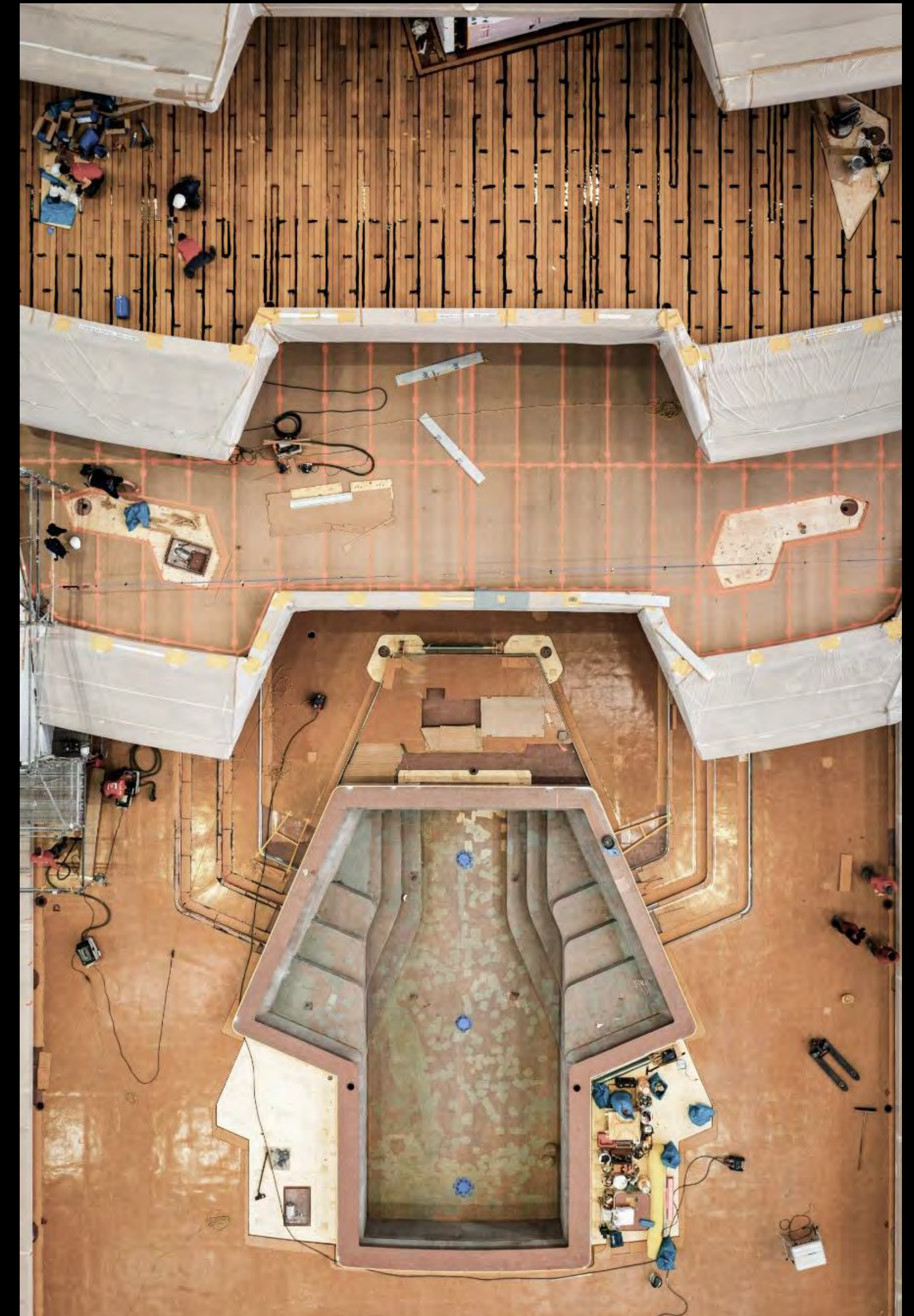
Origin

Vessel

Organisation

Science

Now





Eight years ago, we
cut the first piece of
steel.



Soon we are filling
the dock with water
and going into
operations.



The Ocean Doesn't Wait.

Neither do we.

revocean.org



Questions?

