



University
of Gdańsk



BALTIC
RESEARCH
CRUISE

sea·EU
EUROPEAN UNIVERSITY OF THE SEAS

Baltic Research Cruise

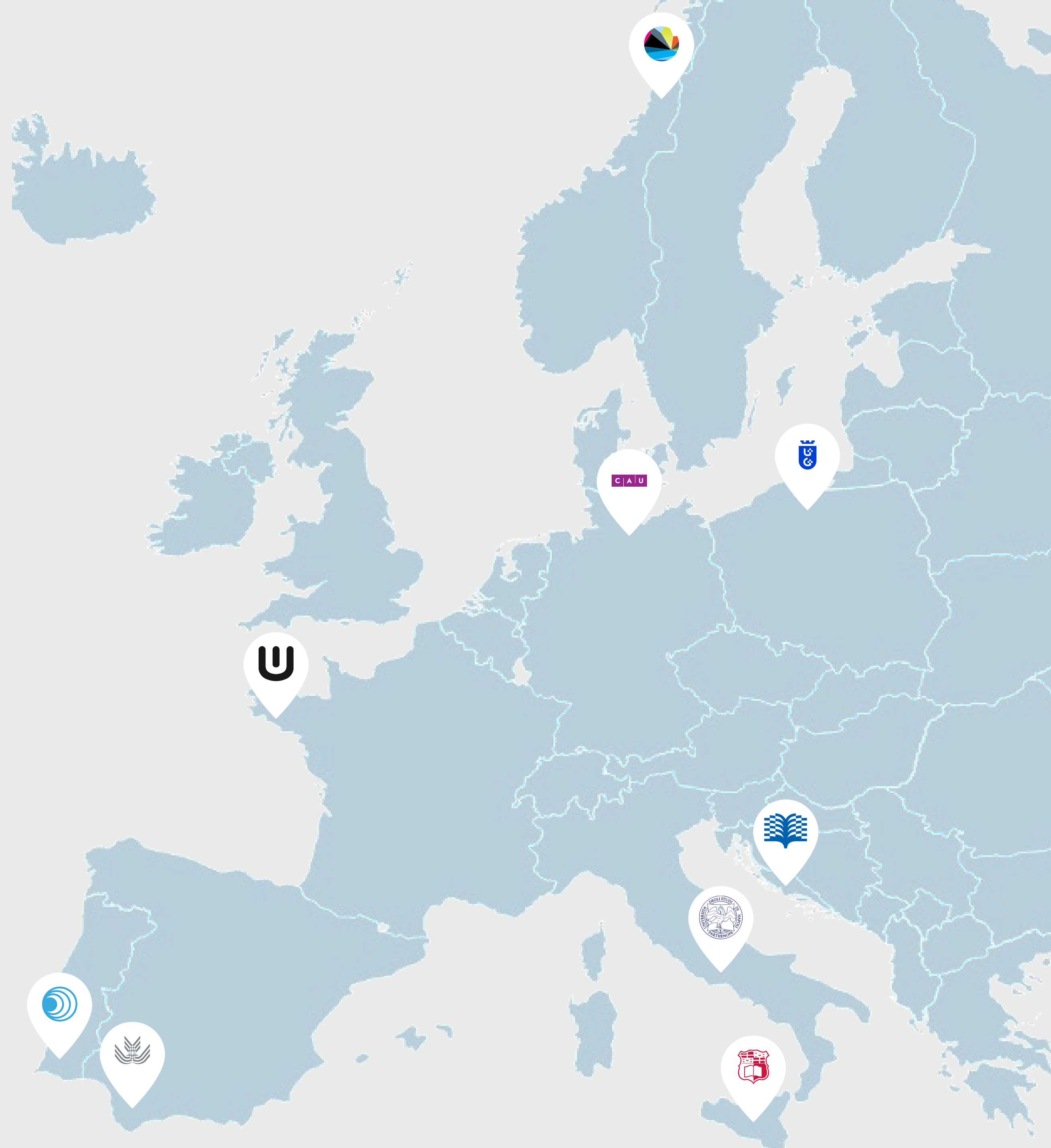
Gdańsk – Bodø – Gdańsk

03 Jun. – 04 Jul. 2024





- Alliance of 9 coastal universities
- Consortium of European universities with the greatest potential for marine and maritime research
- 150 000 students
- 18 000 scientists
- Connecting Baltic, North and Mediterranean Seas with Atlantic Ocean

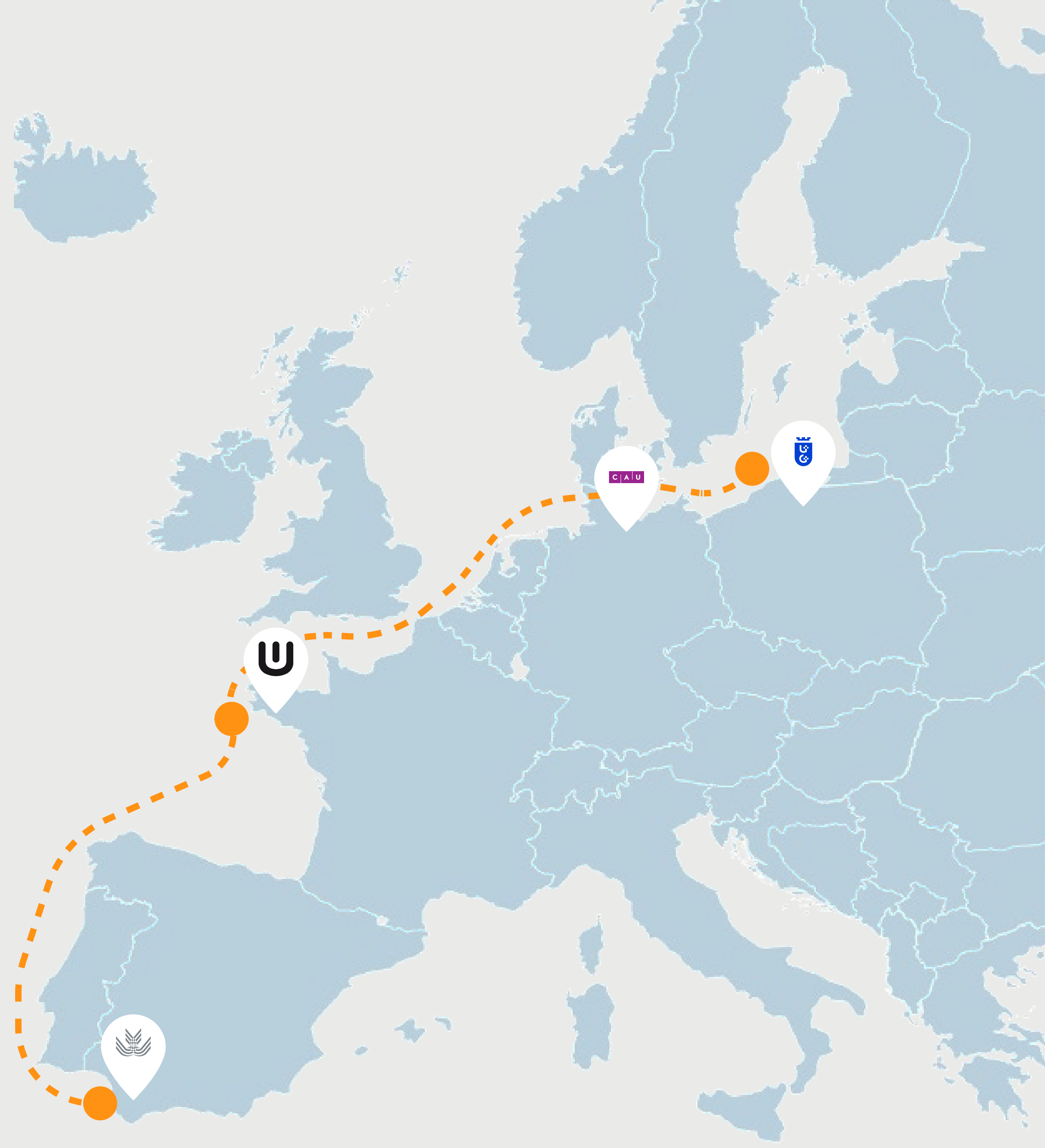


SEA-EU Alliance's first oceanographic campaign

Route: Gdańsk – Kiel – Brest – Cádiz

May 26 – Jul. 3, 2022

- 38-day cruise on r/v Oceanograf
- 3 extensive research projects
- 5 one-day research cruises
- 4 500 nautical miles



European Cooperation

Education

Research



An aerial photograph of a vast sea ice field in the Arctic, featuring numerous ice floes of various sizes and shapes scattered across a dark blue sea. The entire image is overlaid with a semi-transparent blue color. A white circular graphic element, consisting of a thin line forming a partial circle, is positioned in the upper left and right areas of the frame.

**New destination!
The Arctic.**



Our route

- 2 900 nautical miles
- 5 cities
- 15 research stations

- Two Polish research vessels
- International team of experts from SEA-EU universities and the Polish Academy of Sciences
- 3 extensive research projects

Poland – one of the European leaders in polar research

Poland has two national polar stations: Prof. Stanisław Siedlecki Hornsund station in Arctic and Henryk Arctowski station in Antarctica, as well as several seasonal stations located mainly on Spitsbergen – the largest island of the arctic Svalbard Archipelago. Research vessel s/y Oceania, owned by the Institute of Oceanology of PAS in Sopot, has undertaken regular research cruises to Spitsbergen for the past 38 years, conducting hydrological measurements and sampling organisms, water, and sediments from the Nordic Seas and Spitsbergen fjords on its way.

Two national polar stations



Five seasonal research stations on Spitsbergen – the largest island of the arctic Svalbard Archipelago



What will we study?

Phenomena

According to the surface circulation model, Baltic water flows out through the Danish Straits and flows along the coast of Norway with the Norwegian Coastal Current into the Barents Sea.

In summer, this brackish water stays on the surface for a long time, carrying possible pollution, a relatively high load of nutrients, dissolved organic matter delivered by rivers and planktonic organisms from the Baltic Sea, enriching the fully saline Nordic Seas this way.

Our research

The goal of the cruise is to study brackish water masses, along with their physico-chemical properties and associated biota, flowing out from the Baltic Sea towards the Arctic.

Baltic Sea



Nordic Seas

Numerous planktonic plants and animals

Increasing salinity

Simultaneous sampling and measurements will be carried out onboard two research ships.



s/y Oceania – open waters along the continental slope →



r/v Oceanograf – inner, coastal route (fjords) →





r/v Oceanograf – research vessel of the University of Gdańsk

The unit is equipped with specialised equipment for interdisciplinary research on the environment and nature of the seas and oceans. In addition to the laboratories, there are also observatories and a seminar room inside the ship.

Due to the extensive scope of research carried out using the ship, including: biological, seabed, bathymetric, chemical, geological, it is a multi-tasking unit.

The ship uses a double-hull structure– catamaran type, which minimises the angle of heel, which is especially important when conducting research at sea.



12

12A

11

11A

10

10A

9

9A

8

8A

FIGURES IV - IX HANDLE VIA CLEAR CONTROL SYSTEM ONLY

r/v Oceanograf

Vessel's technical specification:

LengthOverall: 49,5 m

BeamOverall: 14,0 m

Draft: 2,0 m

Gross tonnage: 792 tons

Diesel-electric drive: 2 × 420 kW, 2 × 225 kW

Thrusters: 2 × jet thrusters - on the bow,
2 × azimuth thrusters on the stern

Dynamic positioning: DP I

Vessel's Equipment:

Wet laboratory – 7,7 × 4,1 m

Measurement laboratory – 3,7 × 2,9 m

Sterile laboratory – 2,2 × 3,8 m

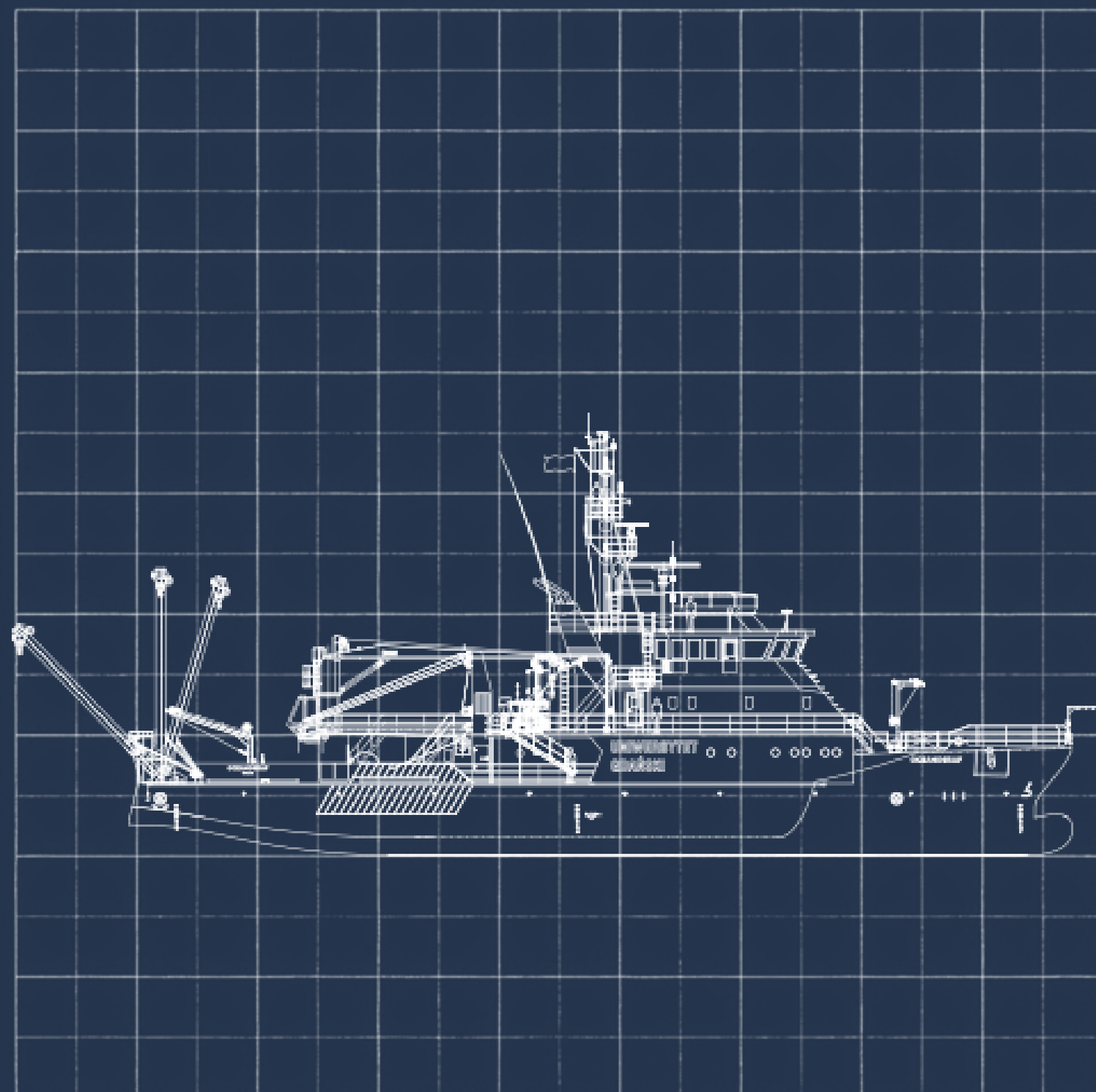
Thermostatic laboratory – 3,6 × 2 m

Aerosol observatory

Compass deck with observation posts

Main working deck – 10 × 9 m

Conference room equipped with audiovisual instruments



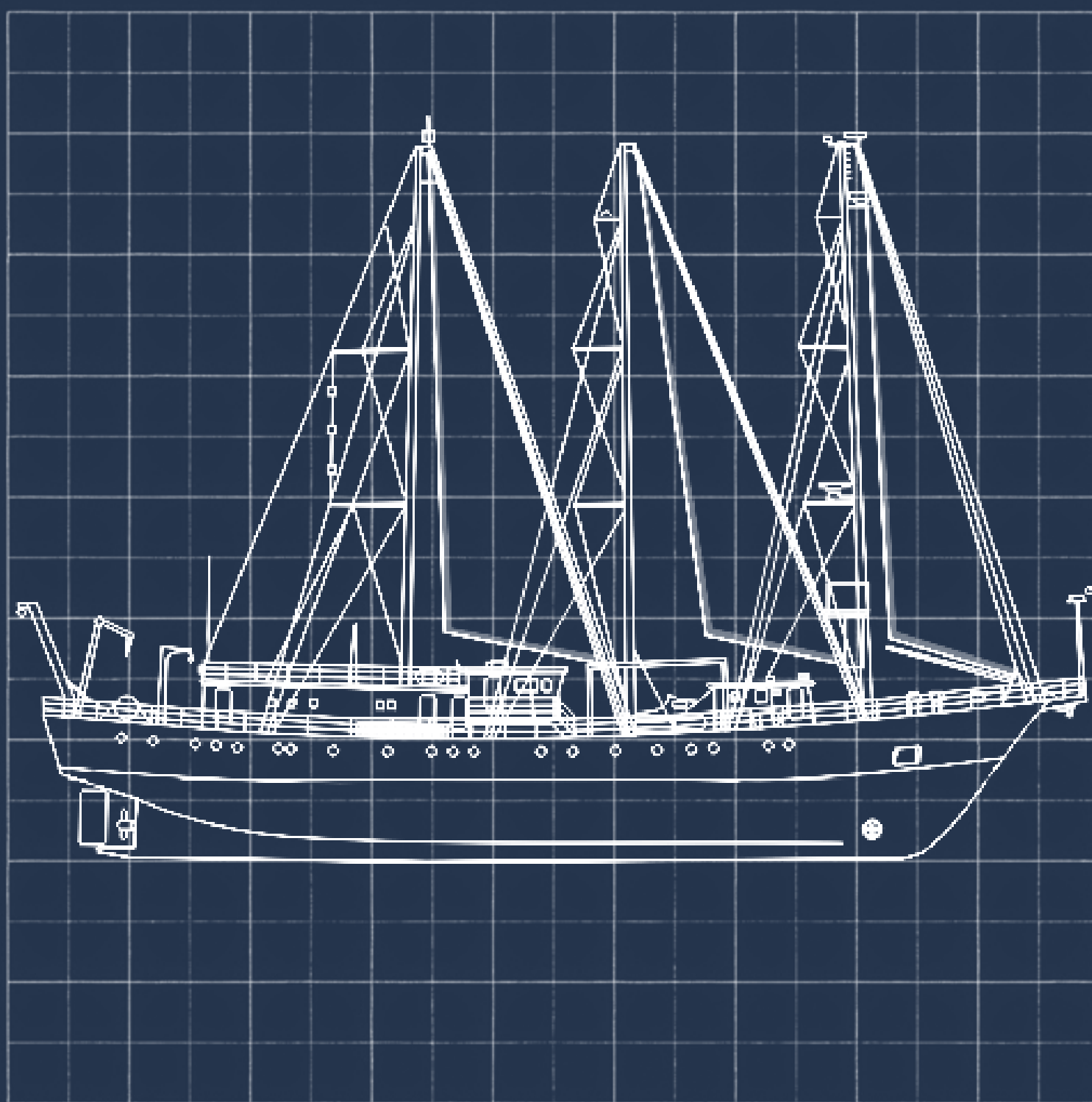
F1 → A.3

s/y Oceania – research vessel of the PAS Institute of Oceanology

S/y Oceania is a three-masted sailing research vessel that has been conducting multidisciplinary cruises since 1985. Due to its autonomy and unlimited range, it also carries out annual scientific expeditions in the region of the Nordic Seas and European Arctic.

The vessel is fully equipped for hydrodynamic, optical, acoustic, chemical, and ecological research in the context of marine environment studies at the sea.





s/y Oceania

Technical specification:

- Dimensions: 48.9 m / 9.0 m / 3.9 m
- Displacement: 370 T
- Main engine: Diesel, 600 kW MTU
- Bow thruster: 70 HP
- Generator: 110 kW
- Masts: 3, each 32 m high
- Sails: 280 m², electric setting

Deck equipment:

- Rotating stern frame 2.5 T 6 m
- 2 side frames
- 3 measuring booms
- 2 deep lifts RAPP- HYDEMA 5000 m and 2000 m ø6
- 2 shallow lifts 300 m ø6 and ø10 x6 wires
- 2 net lifts 500 m ø3, 300 m ø5
- Elevator trawl 2000 m ø10
- Hydraulic crane 1 T

Vessel's Equipment:

- Wet laboratory
- Aerosol observatory
- Main working deck
- Two data acquisition laboratory
- Conference room equipped with audiovisual instruments





Gdańsk



Gdańsk – the Pearl of the North

03 Jun.

The City of Freedom and Solidarity, European Volunteering Capital 2022, the Pearl of the North — Gdańsk is known under many names. Throughout its 1000-year history, this city was home to many great writers, politicians, and, of course, scientists such as Daniel Gabriel Fahrenheit or Arthur Schopenhauer.

Here we will begin our journey.

Gdańsk – Kiel

03 Jun. – 05 Jun.

350 Nm distance

Bergen

Bodo

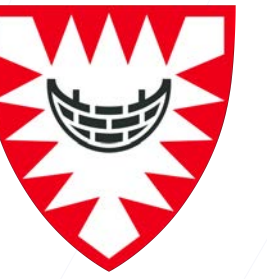
Kiel

Malmö

Gdańsk

An aerial photograph of Kiel, Germany, taken during the golden hour. The city is densely packed with green trees and residential buildings. A prominent, tall, slender tower with a circular observation deck stands out in the center. The sky is filled with soft, golden light, and the overall atmosphere is serene and scenic.

Kiel



Kiel – the Sailing City and Marine Life Protector

05 Jun. – 07 Jun.

Germany's northernmost city stands as the only state capital by the sea. With a rich maritime tradition, it's dedicated to safeguarding marine life. The iconic Kiel Week regatta solidifies its position as the maritime hub of the north, hosting an annual international sailing festival. The city's coastal charm is complemented by shipyard views, highlighting its commitment to ocean and sea preservation.

Our first stop and the meeting with the scientists from the University of Kiel – the SEA-EU Alliance partner.



University of Gdańsk



BALTARCTIC RESEARCH CRUISE



EUROPEAN UNIVERSITY OF THE SEAS

Kiel – Bergen

7 Jun. – 13 Jun.

692 Nm distance

s/y *Oceania* and r/v *Oceanograf* sail together

Bergen

Kiel

Malmö

Gdańsk

Bodø



Bergen





Bergen – the heart of the fjords between the seven mountains.

13 Jun. – 14 Jun.

It offers small-town charm alongside a metropolitan character. Standing on the top of Ulriken – the highest peak, overlooking the sea, islands, mountains and fjords, becomes understandable why Bergen is known as „the capital of the fjords”.

Houses clinging to the hillsides, narrow cobblestone lanes, world-famous attractions with a ride on the Bergen Railway – voted one of the world’s most beautiful train journeys.

This is Bergen.

Bergen

Bodø

Bergen – Bodø

14 Jun. – 19 Jun.

560 Nm distance

s/y *Oceania* and r/v *Oceanograf* sail together

Kiel

Malmö

Gdańsk

Bodø





Bodø – European Capital of Culture 2024

19 Jun. – 23 Jun.

Over the years, Bodø transformed from a small coastal town to a vibrant Arctic cultural hub. This year, thanks to the European Capital of Culture celebration, the whole region will be buzzing with events throughout the year, and the arrival of the r/v Oceanograf will certainly be one of them.

Here the first, main part of our journey comes to an end!

Both ships will be welcomed by the NORD University, one of the SEA-EU partner universities.



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Bodø – Malmö

23 Jun. – 01 Jul.

1020 Nm distance

Bergen

Bodø

Kiel

Malmö

Gdańsk

An aerial photograph of Malmö, Sweden, showing a dense residential area with multi-story apartment buildings. The buildings have a mix of white and reddish-brown facades. In the background, a large body of water (the sea) is visible, with a long pier extending into it. To the right, there is a large green field, likely a golf course. The foreground is dominated by lush green trees. The sky is overcast and grey. The word "Malmö" is overlaid in the center in a large, white, sans-serif font, with a yellow horizontal bar behind it.

Malmö



Malmö – natural hub for all cultures worldwide

01 Jul. - 02 Jul.

One of Sweden's fastest-growing metropolitan centres.

In the space of a few decades, a once-successful industrial city has reinvented itself as a modern, young and one of the world's top cities for sustainable city development.

Member of several European networks and organisations, including Euro cities, Baltic Metropolises and the Union of the Baltic Cities (UBC).

Our last stop. Malmö is also a home to World Maritime University Associated Partner of the SEA-EU Alliance.

Bergen

Bodø

Malmö – Gdańsk

02 Jul. – 04 Jul.

268 Nm distance

Kiel

Malmö

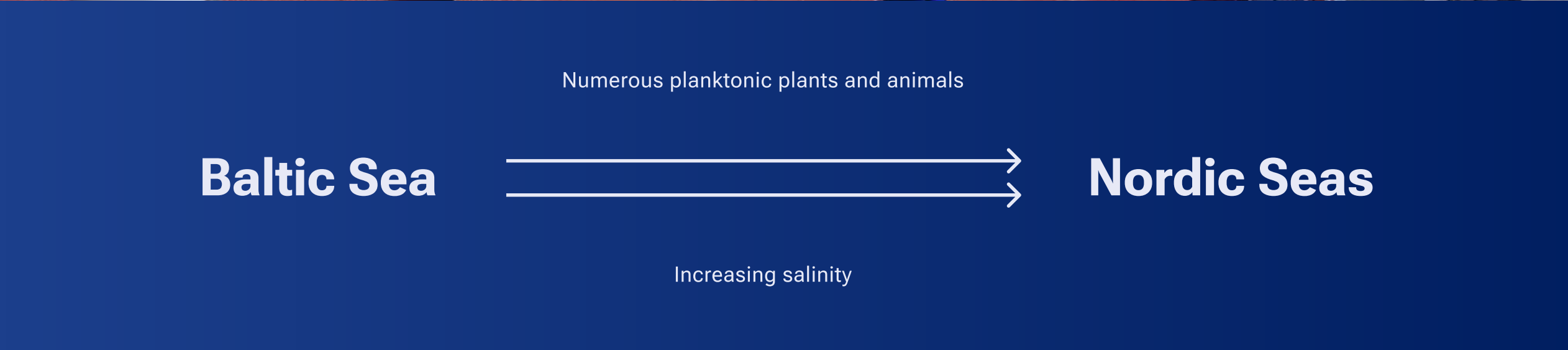
Gdańsk



State-of-the-art equipment



International team of experts



Important research questions



Polish potential of polar research



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