

**MI Research Vessels Activity Overview**

**RV Celtic Explorer**

The R.V. *Celtic Explorer* is a multi-purpose research vessel, designed for fisheries acoustic research, oceanographic, hydrographic and geological investigations as well as buoy/deep water mooring and ROV Operations. At 65.5 m in length, the vessel can accommodate 35 personnel, including 20-22 scientists.



Arrival into Navalrocha, Lisbon, for dry dock period, 2024.

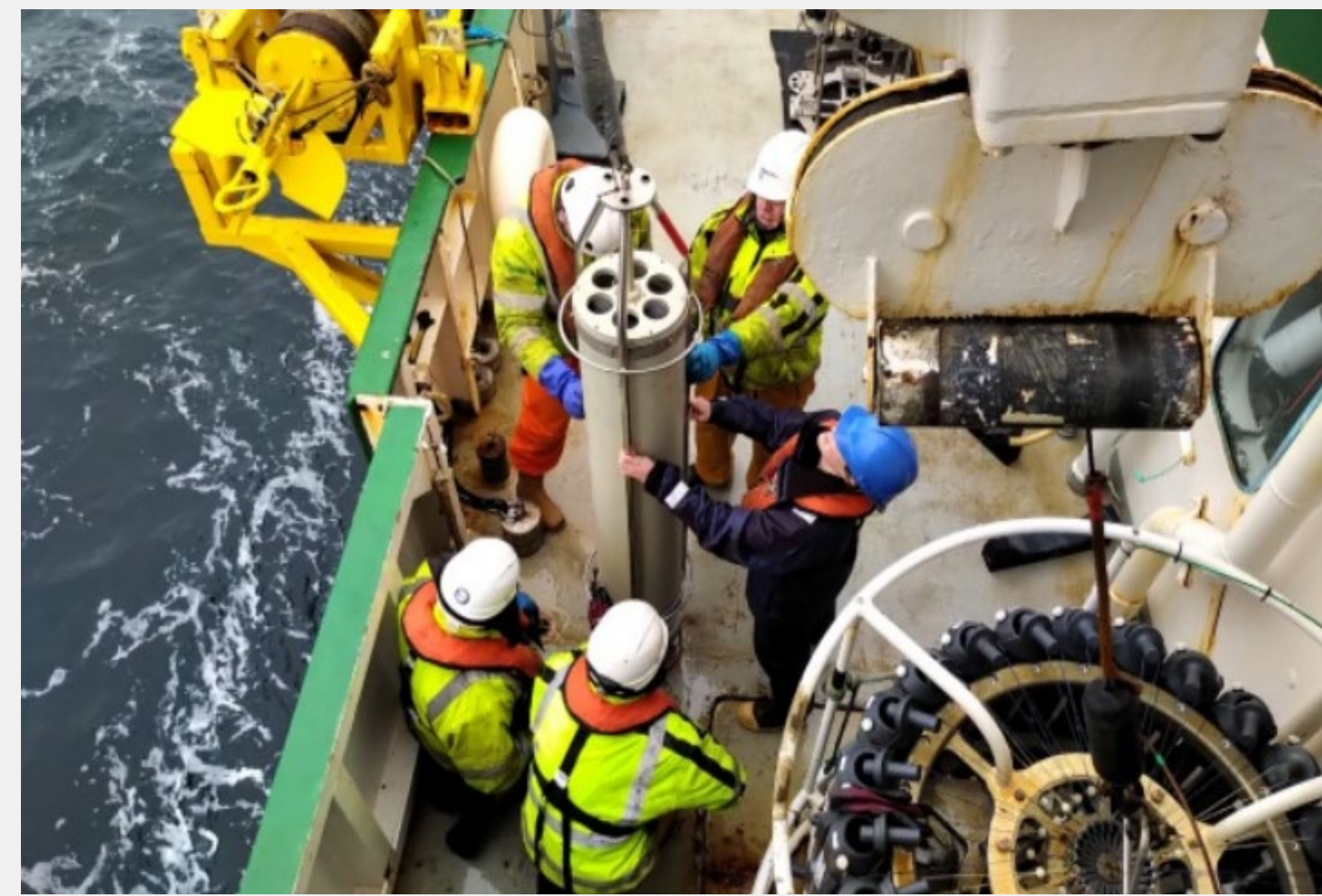
Key Works Carried out:

- The installation of a Knudsen sub bottom profiler;
- installation of a KVM system.
- Hull cleaned and vessel painted.

**2024 Celtic Explorer Survey Highlights:**

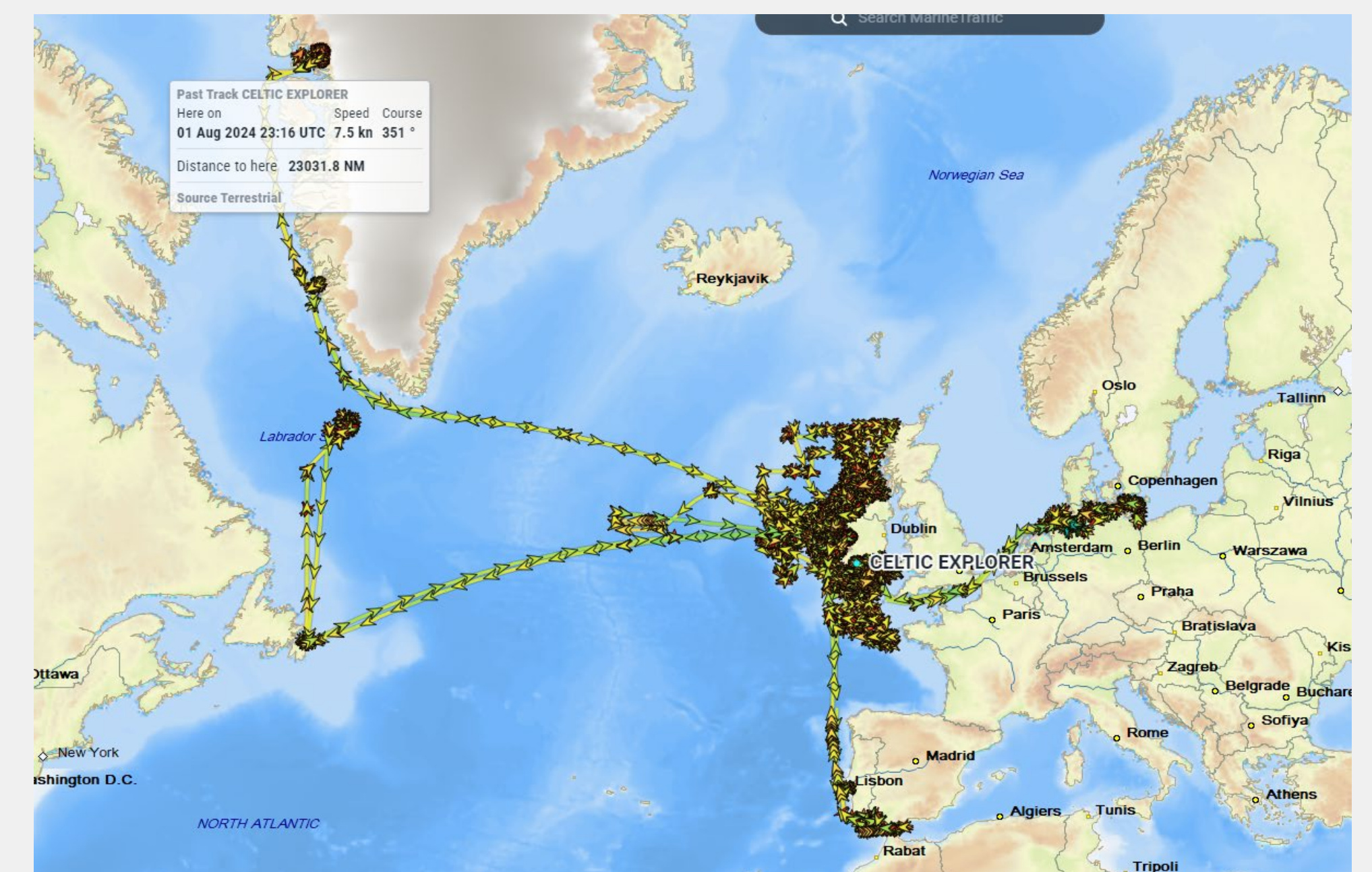
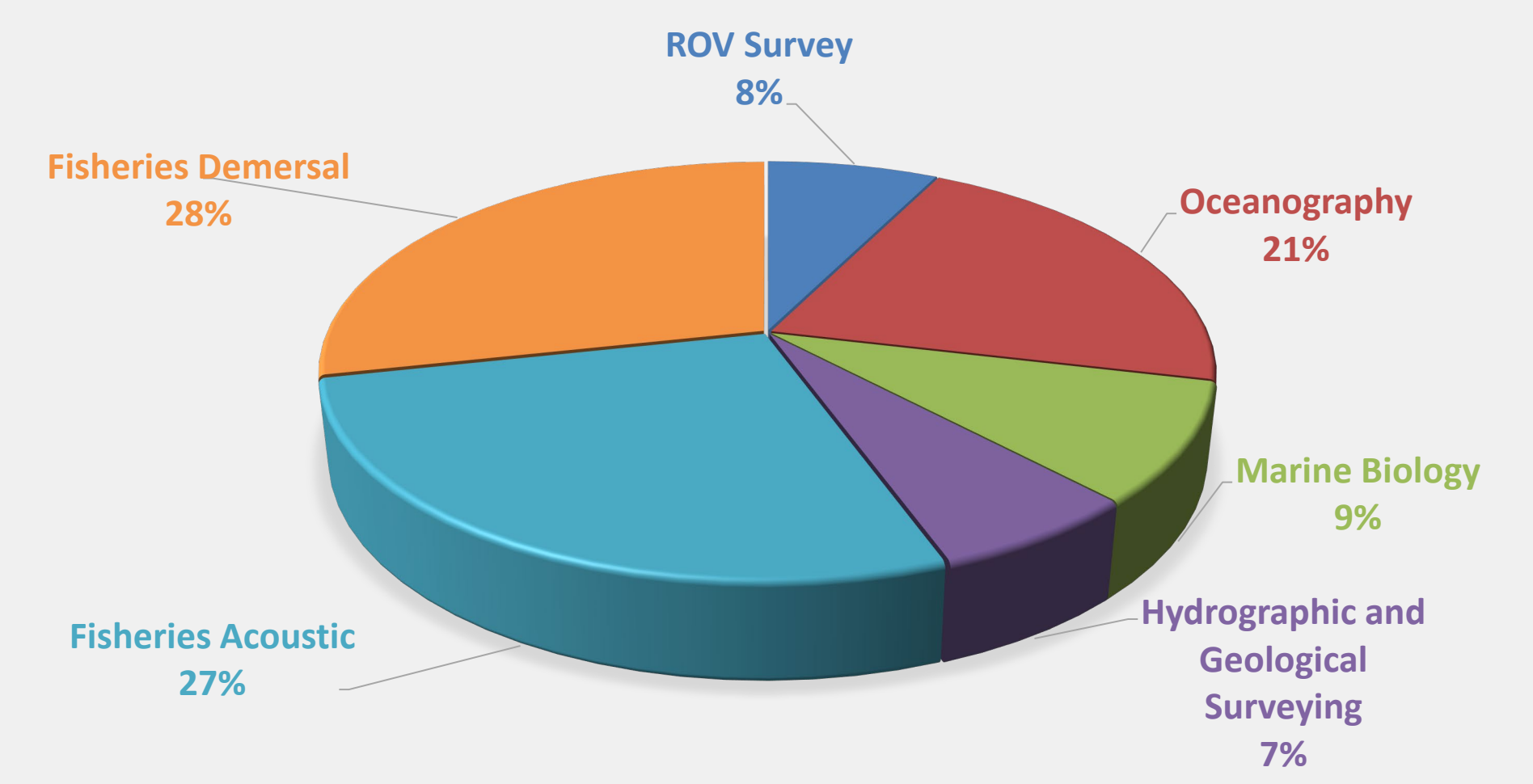
Completed the successful 'Biological Carbon Export in the Labrador Sea' (BELAS) expedition. A team led by University of Galway, deployed an Air-Sea Interaction Profiler (ASIP) to gather water & atmospheric measurements. The team are researching the role of phytoplankton blooms in the carbon cycle, the 'Biological Carbon Pump'.

Sailed to Northwestern Greenland for a 32 day charter expedition to Kangerlussuup glacier. The team of researchers, led by University of Texas, deployed the 'Nereid Under Ice' (NUI) hybrid ROV to gather video footage, bathymetric & oceanographic data & collect sediment samples at the terminus of glaciers.



Deployment of a Marine Snow Catcher

**RV CELTIC EXPLORER - 2024 OPERATIONS**  
293 SURVEY DAYS



2024 RV Celtic Explorer Cruise Track

**RV Tom Crean**

The R.V. *Tom Crean* is a 52.8 m multi-purpose research vessel that was delivered in July 2022. It can undertake fisheries research, oceanographic and environmental research, perform seabed mapping surveys, and has the capacity to support ROV and AUV operations. With an endurance of 21 days, it can accommodate 26 personnel, including 13 scientists.



**2024 Tom Crean Survey Highlights:**

Completed two successful Ultra High Resolution seismic surveys off the south coast of Ireland as part of the governments Offshore Renewable Energy (ORE) requirements.

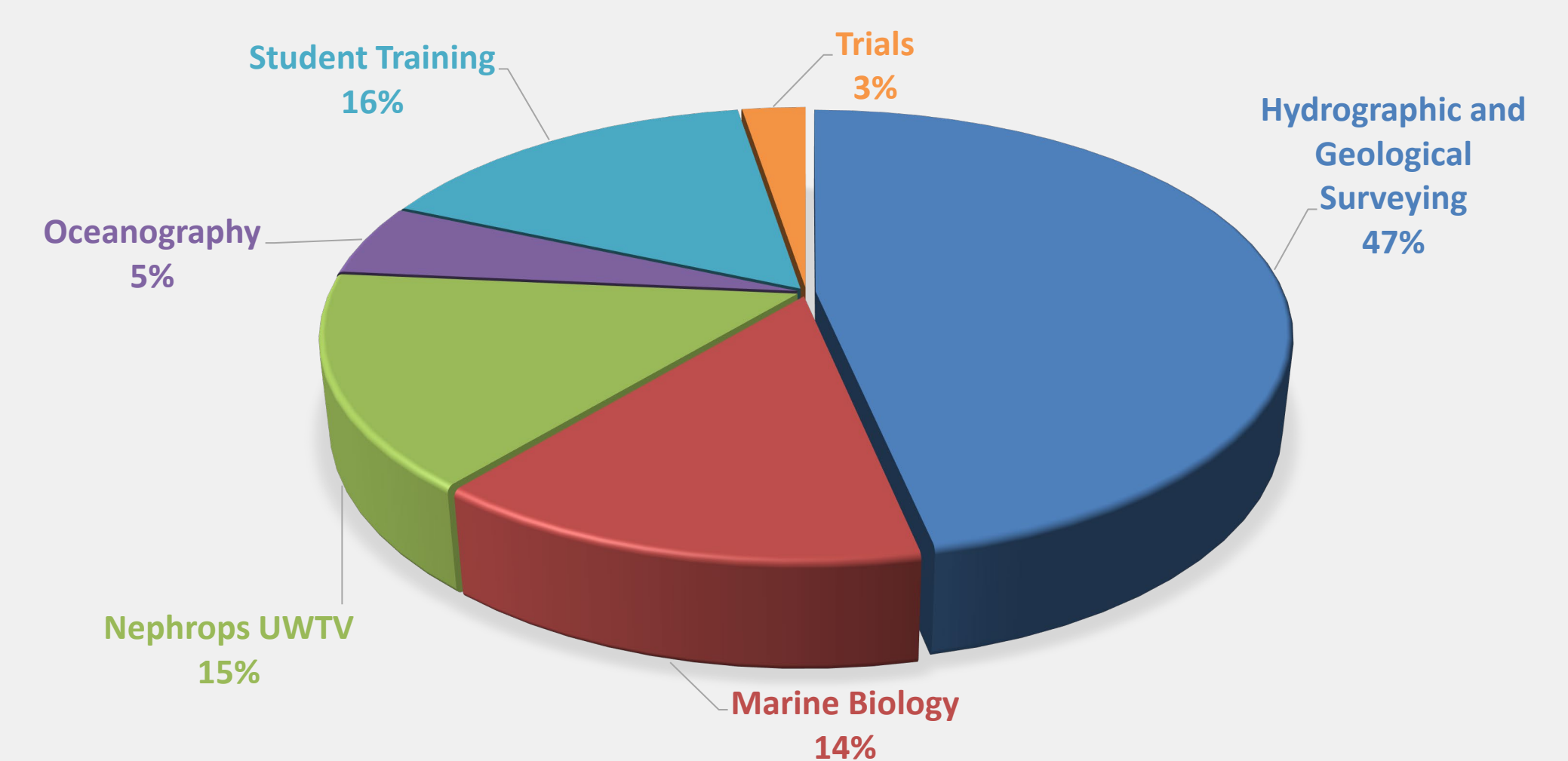
Installation of the Imaging Flow Cytobot (IFCB). With capacity to gather images of up to 10,000 plankton species in each seawater sample.

Four Underwater TV surveys carried out, gathering valuable Nephrops norvegicus stock assessment data at 517 stations across the Porcupine Bank, Aran Grounds, Celtic Sea & Bay of Biscay.



Celtic Explorer & Tom Crean working together in the Irish Sea, December 2024, looking into the effects of bottom trawling on the morphology of the seafloor.

**RV TOM CREAN - 2024 OPERATIONS**  
317 SURVEY DAYS



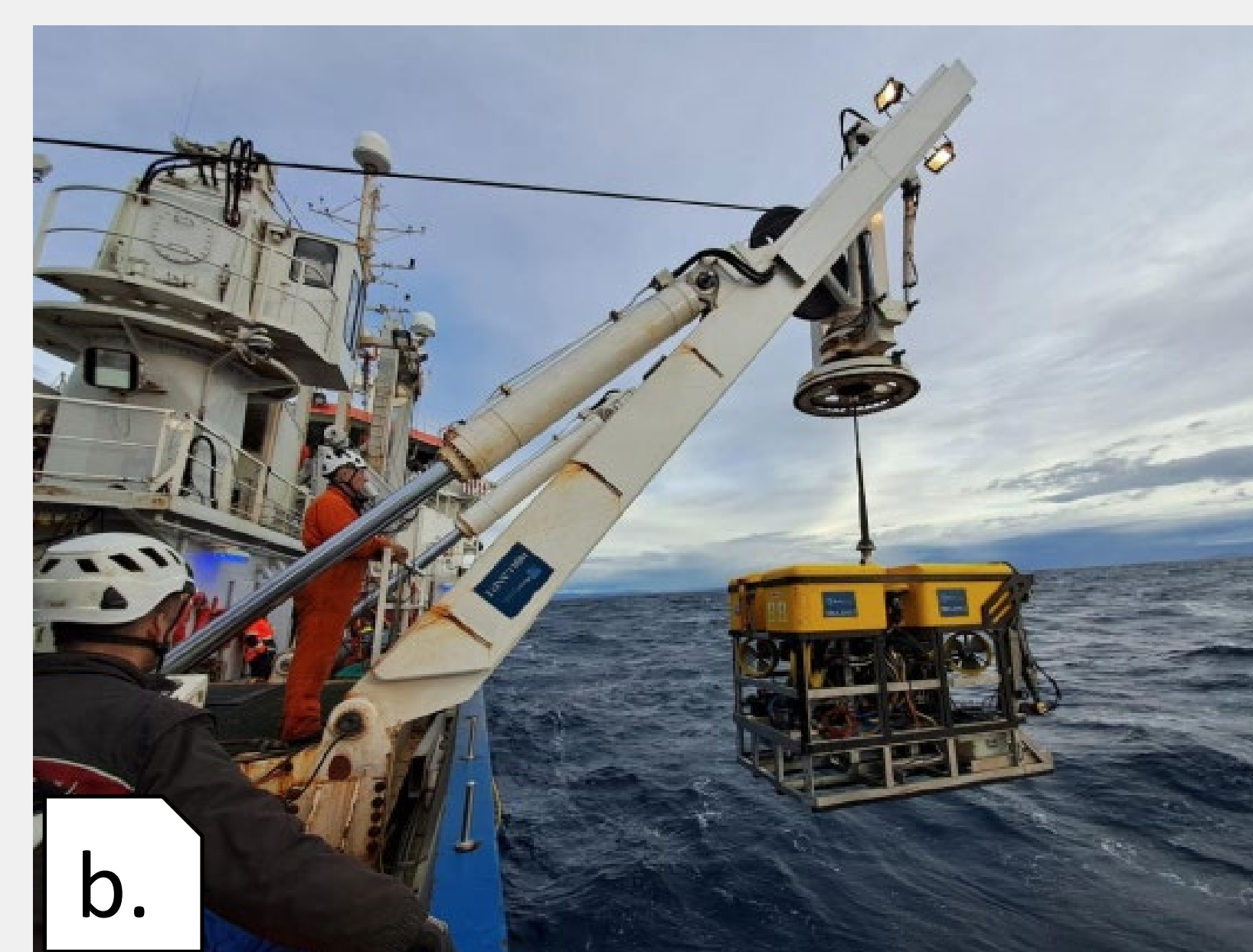
2024 RV Tom Crean Cruise Track

**ROV Holland I on RV Pelagia!**

In October 2020, NIOZ deployed a half cubic hectometre large mooring array '3D-T' in the Western Mediterranean, at a depth of 2500 m.

In February 2024, MI's ROV Holland I recovered the entire array when mobilised on RV Pelagia.

This array had a network of crossing wires, where at intersections there were 45 smaller 2.5 m rings. Each mooring a vertical line of 65 sensors. Total of 2925 sensors.



- ROV *Holland I* in action cutting wire to release individual ring, Feb 2024
- ROV *Holland I* being deployed from RV Pelagia, Feb 2024.
- 3D-T Large Mooring Array developed by NIOZ, prior to deployment in 2020.