



25th ERVO Annual Meeting – 12th - 14th of June 2023

Stockholm, Sweden.

Hosted by

Swedish University of Agricultural Sciences (SLU)

&

University of Gothenburg (UGOT)

The 25th ERVO (European Research Vessels Operators) Annual Meeting was held from the 12th to the 14th of June September 2023 in Stockholm, Sweden, kindly hosted by Swedish University of Agricultural Sciences (SLU) and University of Gothenburg (UGOT). After a welcome by Bjorn Lindell (SLU), Riccardo Codiglia, ERVO Executive Committee Chair gave a short introduction about the ERVO Group, updates regarding numbers, activities and the near future expectations, and officially opened the meeting. A round table introduction of all present was then held. Apologies were received from Executive Committee Vice Chair, Aodhán Fitzgerald who was unable to attend. Bjorn expressed his special thanks to the KTH Robotics Centre for the use of their facilities to host the meeting

Day 1 - Tuesday 13th of June 2023

Meeting opening and welcome from ERVO Excomm Chairperson (R. Codiglia).

[For more details, please see the presentation on the ERVO website.](#)

Theme 1: Delegates Reports of Activity

- ❖ 9:20-9:40 Report on working group for EurOcean RID update (P. Nieuwejaar)

Per provided a progress report on the update of the EurOcean Research Infrastructure Database (RID) part containing the ERVO certified research vessels. The WG was established following a proposal at ERVO Excomm on 27 January 2023. The four criteria of a ERVO certified research vessels were outlined and findings of the working group were presented. Key findings include that the current list of ERVO certified vessel in service is 94, at least 5 of the vessels listed were out of service and some new RV's were not listed. The presentation concluded with an overview of the RV pipeline and the planned activity for the working group.

[For more details, please see the presentation on the ERVO website.](#)

Theme 2: RV builds, Modifications and performance

- ❖ 10:00 10:20 The new Research vessel "Uthörn" driven by green Methanol (M. Klages M. Hirsekorn)

Michael Klages presented The new RV "Uthörn" which will be driven by green methanol. The vessel, with final acceptance and handover expected at the end of July 2023 will have space for 5 crew, 4 scientists (for > 1 day trips) and up to 25 students for day trips.

[For more details, please see the presentation on the ERVO website.](#)

The attendees broke for coffee and for a review of poster updates at 10:40.

- ❖ 11:00-11:20 RV Tom Crean "Knowledge Gained – 12 months of Operation" (F. Armstrong)

Frank gave an insight into the first 11 months of operation for the RV Tom Crean and the work undertaken, including operational challenges and the achievements to date. The presentation concluded with a look to future planned works regarding additional sensors, communications improvements and end of warranty works.

[For more details, please see the presentation on the ERVO website.](#)

- ❖ 11:20-11:40 RV DANA V Project J. Sandager

Jesper gave a presentation on the new DTU vessel DANA V with an expected delivery date of 2026. The vessel will be classed to Polar Code B, PC 6 as well as comply with high standards for low level underwater noise during scientific operations.

[For more details, please see the presentation on the ERVO website.](#)

- ❖ 11:40 Update on the new installations on board the NR Laura Bassi, report on the latest scientific activities (R. Codiglia)

Ricardo provided an overview of the work done on the NR Laura Bassi from first refitting in summer 2021 followed by the first Polar expeditions later that year. During expeditions three critical area for improvement were identified; scientific activities, improvements in the Polar Code and Communications with plans to address these issues outlined. The presentation concluded with an overview of additional improvements on board facilities and future planned work.

[For more details, please see the presentation on the ERVO website.](#)

- ❖ 12:00-12:20 RV “Gaia Blu”: the new CNR ocean vessel (L. Evangelista)

Lorenza gave an insight of the new CNR RV Gaia Blu, the plans for the next 12 months while the vessel is prepared for commissioning.

For more details, please see the presentation on the ERVO website.

- ❖ 12:20-12:40 Experience from testing and operation our new coastal vessel “Princesse Ingrid Alexandra” (J. Ytreland)

Johnny provided an overview of the IMR new coastal vessel outlining the experience from the first months of testing and operation. The vessel has experienced some challenges around crew capacity with the vessel requiring higher capacity than exploit with the existing crew.

[For more details, please see the presentation on the ERVO website.](#)

- ❖ 12:40-13:00 Polar POD construction (M. Nokin)

Marc first provided an update on the New IFREMER Regional Vessel, NSH due to come into operation in Q3/4 2025. The 41M vessel will have the capacity for 12 crew and 10 scientists, with an autonomy of 19 days. The vessel aims to have a reduced CO₂ impact of 30% in transit and 50 % in station.

Marc continued with an overview of the Polar POD, an innovative zero emission ship to explore the Austral ocean. The project initiated in 2010, with Ifremer in charge of the construction, plan its first nonstop scientific expedition in 2025-2028 around Austral Ocean involving two continuous round the world trips. Marc outlined the technical aspects of the vessel which is expected for delivery in Q3/4 2025 (delayed by 1 year) highlighting that the basic design took longer than anticipated.

[For more details, please see the presentation on the ERVO website.](#)

The attendees broke for lunch and for a review of poster updates at 13:00.

Theme 3: Manning, Safety and training

- ❖ 14:00-14:20 Leadership training for cruise leaders and basic expedition training F. Lauber M. Thurmann

Felix provided an insight into Expedition Training by fighting the causes that lead to emergencies on research vessels focusing on awareness and knowledge to prevent incidents and preparedness to respond to incidents. The presentation outlined what is included in “Basic Training” which takes place directly prior to departure and advanced leadership training for scientific management and concluded by outlining the benefits of expedition training.

[For more details, please see the presentation on the ERVO website.](#)

- ❖ 14:20-14:40 Two new research/survey vessels built to support VOTO's to support VOTO's marine operations and autonomous glider fleet J. Hoog VOTO

Joachim provided an overview presentation on Voice of the Oceans two new vessels to support its marine operations and autonomous glider fleet services. Insights into the motivation for the commissioning of two vessels, the build process, instrumentation and lessons learned were provided.

[For more details, please see the presentation on the ERVO website.](#)

- ❖ 14:40-15:00 ERVO cruise leader training proposal P. Nieuwejaar

Per provided a presentation on the ERVO Cruise leader training which was developed based on a proposal to the ERVO Excomm on 27 January 2023. The aim was to develop a framework for an ERVO

Cruise leader training “basic package” to be tailored for each RV fleet in order to harmonize the cruise leader training between fleets and to be used as a starting point for those who are in the process of developing such instructions/training courses. The presentation outlined the suite of tools which have been developed to support cruise leader training including; “*Cruise Leader Course Polar Operations*”, “*ERVO Cruise Leader Instructions*” template and the “*Cruise Leader Course*”. A copy of all presentations are available on the ERVO Website at the links below:

[ERVO Cruise leader training](#)

[Cruise leader course](#)

[ERVO Cruise leader course Polar operations](#)

[ERVO Cruise leader instructions template](#)

Theme 4: RV technology

- ❖ 15:00-15:20 Electro-Optical means for marine mammal protection on research ships Natalia Betancourt

Natalia provided an insight into a Polar Warning System developed by HENSOLDT developed using knowhow from the defence industry to reduce interactions with people. The motivation, vision along with use cases in wildlife protection were outlined as well as a detailed overview of how the system works. The presentation also included an overview of SWIR capability, Enhanced Vision on long range and reduced visibility.

[For more details, please see the presentation on the ERVO website.](#)

Theme 6: Cooperation and Outreach

- ❖ 15:20-15:40 Eurofleets RI – “Results of Expression of Interest Survey” N. Flavin

Niamh provided a summary of the results from the Eurofleets RI Expression of Interest survey which was carried out in early 2023 to gauge the potential interest of from ERVO members in joining a legal entity to represent Research Vessels.

For more details, please see the presentation on the ERVO website.

The attendees broke for coffee and for a review of poster updates at 15:40.

- ❖ 16:10-16:30 Management approaches and procedures existing within the European RV community – comparison with info of 2018 A. Cattrijsse

Dre presented the results of the recent survey conducted as part of ERVO Ad-hoc Working Group established in 2021 to review Management processes that are in place for the European research fleet, as well costs, economics and spare capacity. The presentation outlined the results of a simplified survey related to the management approach of 40 ERVO vessels managed by 12 countries.

[For more details, please see the presentation on the ERVO website.](#)

- ❖ 16:30-16:50 Pushing the limits – an AUV below the Antarctic ice A. Wahlin

Anna provided an insight into the work carried out by the UGOT AUV, below the Antarctic ice Jan – March 2022, carrying out 14 missions in Amundsen Sea (West Antarctica), with 1732km covered in total, with 1075km under the ice. The presentation concluded with an overview of plans for upcoming expeditions partnership with Korea, Sweden, US and UK in the Antarctic in 2024-2030.

[For more details, please see the presentation on the ERVO website.](#)

Day 1 of the meeting closed at 17:10 pm and was followed by an official dinner at “Vasa museum”.

Day 2 Wednesday 14th June 2023

- ❖ 9:00-9:05 Opening and practical arrangements of Day 2 R. Codiglia & B. Lindell

Theme 5: Communications

- ❖ 9:05-9:35 USV's integration in the oceanographic fleet M. Nokin
Marc provided an oversight of the current IFREMER RV Fleet and of its Unmanned Vehicles. Following a review of the uses, environmental impact benefits and their optimisation Marc presented the process that IFREMER were considering with regard to USV uses for missions, best operations and economic model. Following the presentation there was some discussion on the licensing requirements for USV's and the risks associated with their operation.

[For more details, please see the presentation on the ERVO website.](#)

- ❖ 9:35-9:55 The advantages of secured multi-WAN maritime connectivity OmniAccess
Marwan Chartouny from OmniAccess, who are based in Majorca provided an overview of the communication options available to RV's from CIR to LEO. Guests joined the meeting live from Icebreaker ODEN on its way back from the Arctic following a three-month survey as a demonstration of Starlink. The advantages and limitations of different options were outlined.

[For more details, please visit the OmniACCESS website.](#)

Theme 7: Remote Operations Incl. Operations with Autonomous Vehicles

- ❖ 9:55-10:15 Update testing and operating AUV Munin J. Ytreland
Johnny provide an update on the Kongsberg Maritime Munin+ following 12 months of testing including the different options used for launch and recovery and challenges such as long lead times of spare parts and deployment from some IMR vessels.

[For more details, please see the presentation on the ERVO website.](#)

The attendees broke for coffee and for a review of poster updates at 10:15

- ❖ 10:40-11:00 Managing Autonomy in the MFP Eleanor Darlington
(Presentation Postponed from Day 1 due to timing issues)
Eleanor provided an update on how NOC are managing their fleet of Autonomous vehicles through the Marine Facilities Planning System. Their expanding fleet of autonomous vehicles is complex and currently done manually. Planned integration into MFP to manage asset planning, scheduling and deployments to improve process is underway. The challenges of managing such a complex ecosystem was outlined as well as the key requirements required to get the most of Autonomous vehicles was presented. In addition, Eleanor presented a new feature on trial in MFP, where spare berths can be highlighted, which is currently under review but not live. The presentation concluded with what remote expeditions of the future may require and posited that Virtual reality could be the future way to join RV's from shore.

[For more details, please see the presentation on the ERVO website.](#)

- ❖ 11:00-11:20 The new Dutch Research Fleet Zeynep Erdem
Zeynep presented an update on the ongoing renewal of the Dutch Research fleet, presenting each of the three vessels already retired or due for retirement and the three replacement vessels delivered

or in the pipeline. The RV Stern was replaced by RV Adriaen Coenen in the summer of 2022, RV Wim Wolff will replace the RV Navicula in autumn 2023 and RV Anna Weber van Bosse will replace the RV Pelagia in 2025.

[For more details, please see the presentation on the ERVO website.](#)

Theme 9: Energy Efficiency, alternative energy sources & zero impact

❖ 11:20-11:25 ICES Working group on greening the research vessel fleet (WGGRF) A. Fitzgerald Aodhán provide a brief update on the ICES Working group on greening the research vessel fleet, which is planning a workshop during the IRSO meeting taking place in October. Those interested in attending were invited to forward expression of interest to him directly.

[For more details, please see the WGGRF page on the ICES website.](#)

❖ 11:25-11:45 Synthetic methanol as a maritime fuel for shipping from Bremerhaven – the research project MariSynFuel M. Klages S.Hritz-Hagenah A. Pluder Michael provided an update on the research project MariSynFuel which deals with Synthetic methanol as a maritime fuel for shipping from Bremerhaven. The objective is the Production of hydrogen-based synthetic marine fuels from Bremerhaven, in line with the reduction of CO₂ emissions from fossil fuels and Development of a sustainable value chain in Bremerhaven with companies from the City. An outline of the essential work steps and the existing infrastructure in Bremerhaven were presented, concluding with an outlook on the potential and opportunities from the results of the project.

[For more details, please see the presentation on the ERVO website.](#)

❖ 11:45-11:55 Topics, date & place ERVO 2024 R. Codiglia The ERVO Excomm had suggested that the next meeting would be hosted by OGS in Italy, and Ricardo provided a short overview of OGS. However, a suggestion to hold the meeting in Vigo, Spain was chosen and with CSIC as hosts, with the meeting in 2025 held in Trieste, which was agreed.

Finally, Ricardo suggested that Research Vessel Operators begin to invite younger colleagues into ERVO to promote new ideas and to maintain momentum over the coming years.

[For more details, please see the presentation on the ERVO website.](#)

AOB: Robert Sparrock enquired if anyone was doing any work on Article 2:47 law of the sea. Attendees were invited to get in touch with Robert directly if the topic was of interest.

This concluded all presentations for ERVO 2023. Ricardo, as EXCOMM Chairperson thanked the hosts, presenter and attendees and closed the meeting

List of Poster Presentations (ERVO Excomm to provide)