27th ERVO Annual Meeting
03rd – 04th June 2025
Tórshavn, Faroe Islands

The 27th European Research Vessels Operators (ERVO) Annual Meeting was held from the 3rd to 4th June 2025 in Tórshavn (Faroe Islands) and was kindly hosted by *the Faroe Marine Research Institute, Havstovan*.

Brief Summary:

The meeting brought together European research vessel operators to discuss vessel activities, new builds and modifications, safety protocols, technology advancements, cooperation initiatives, communication upgrades, remote operations, and energy efficiency, with presentations covering fleet updates, strategic plans, and future projects, culminating in plans for the 2026 meeting in Trieste, Italy.

HAVSTOVAN
FAROE MARINE RESEARCH INSTITUTE

Tuesday 03rd June 2025		
08:30	**ERVO Annual Meeting registration - Posters installation**	
08:45	**Practical arrangements for Day 1 [PDF]** Welcome and introduction from the hosts	*L. Smith*
08:50	**Opening 27th ERVO and Round Table [PDF]** As ERVO Executive Committee (ExCom) Chair, Aodhán Fitzgerald welcomed all to the 27th ERVO. Individual introductions	*A. Fitzgerald*
09:10	**HAVSTOVAN presentation [PDF]** An introduction and overview of Havstovan was provided, including their range of activities, assets, and infrastructure.	*M. Rasmussen*
09:15	**Review and approval of ERVO 2024 minutes** James briefly ran through the minutes of the 26th ERVO. No comments were made at the time, and a request was made for any comments to be advised prior to acceptance.	*J. Parker*
Theme 1: Delegates Reports of Activity		
09:20	**RV Odon De Buen Sea trials in Antarctica [PDF]** Apologies were given on behalf of Jordi who could not attend. An overview of the timeline associated with the delivery of RV Odon De Buen and subsequent associated activities was provided (driven by the need to test systems within the 2-year warranty period). Some encountered issues (e.g. refuelling in S. America) were touched upon, and more detail was given on particular activities (e.g. ice breaking, ice navigation, sub-bottom profiling, hydrography and bioacoustics). To finish, a summary of the warranty claims were shown	*M. Ojeda*
09:40	**RV Gaia Blu: current status and future investments [PDF]** An update on RV Gaia Blu was provided, including details of the onboard scientific capabilities and facilities. A summary of the 2024 activities was also given (with details of the number of researchers, days at sea, samples collected, etc.), and the delivered/planned 2025 activities were shown. Future investments were also covered, with aims to become PC7 compliant.	*L. Evangelista*

09:55	**Greenland Research Vessels activity [PDF]** A brief overview of the Greenland Institute of Natural Resources was given, including their research vessel fleet (with details of each vessel available as brochures next to the poster), their survey / research vessel activities, chartered surveys (for Thunen (German) and telecoms). RV Tarajoq's post-delivery trials were touched upon, along with the role of RV Tarajoq in a luxury cruise ship being recovered, and the coring activity undertaken on behalf of a South African mining company.	*K. Trolle Nedergaard*
10:15	**RV Jakup Sverri update on performance and operations [PDF]** An update on the performance and operations was provided, including energy consumption, their anti-roll system issues and development, and ground truthing activities.	*L. Smith*
10:25	**Coffee break & national update posters**	
10.50	**CMRE NATO update [PDF]** A background to Centre for Maritime Research and Experimentation (CMRE) was provided, including their 2 research vessels. Changes since the last CMRE presentation were highlighted, including a new technical management contract, increased team resources, and ship technology. The 2024 geographical distribution of work of the 2 RVs was displayed, along with utilisation statistics. CMRE modernisation was introduced, including equipment and shore-side infrastructure, but no new seagoing capability.	*D. DeBruyn*
11:00	**RV Polarstern. Running an ageing research icebreaker and first PC2 Newbuild [PDF]** Details were provided about RFL and their experience of running / operating the existing and aging 42 year old RV Polarstern, including preventative and exceptional maintenance. Details of the new RV Polarstern II were given, covering the initial stages of development, the project organisation, the tkMS shipyard and associated contractors, and a comparison to the existing RV Polarstern. Some of the key design features (incl. payload capacity, emission free operation, supporting aircraft and uncrewed systems, propulsion, winterisation, sustainability) were also shown.	*C.Freudinger/J.Rogenhagen*
Theme 2: RV builds, Modifications and performance		

11:30	**METEOR IV New Building Project [PDF]** A brief introduction to Briese Research was given, followed by the replacement of RV Meteor III and RV Poseidon based on RV Sonne. Details of the scientific facilities were given, along with the lifting infrastructure (incl. cranes, winches, and A-frame, booms, and core handler), scientific echosounders, the bridge / wheelhouse, main engines. Details of the propulsion were also given, including Silent-R compliant Electric Voith Schneider propellers and thrusters, and the stabilisation systems (eVSP active roll damping and anti-roll tanks. The presentation concluded with the current status of the build.	*L. Meinders*
11:40	**Mid-life refit of French RV Pourquoi pas? [PDF]** The presentation started with an overview of the campaigns undertaken by the French oceanographic fleet since 1920, and the fleet maintenance undertaken to date. The presentation moved on to the mid-life refit of RV Porquoi pas?, with a timeline and key milestones given. The upgrade activities were also provided, including for deck machinery, scientific equipment and accommodation. The presentation concluded with the current status of the works, some conclusions of the activities, and timings for the outstanding items.	*V. Mazauric*
11:55	**Planning for a refit for RV Simon Stevin in 2027 [PDF]** A summary of the operations of RV Simon Stevin was provided, with details given of the issues which need addressing, including the lack of space (which will be addressed through extending the ship via a new mid-section), improving scientific operations (e.g. MBES replacement, jet propulsion, SBP, CTD station, etc.), improving vessel operations (e.g. increasing operational endurance, scheduling, budget availability), and greening vessel operations (e.g. methanol, new propeller).	*A. Cattrisse*
12:10	**New RV Þórunn Þórðardóttir - Iceland's new RV [PDF]** Details of the newbuild RV Þórunn Þórðardóttir were provided, including some of the key design decisions (e.g. longer, lower and narrower), design features, key infrastructure (e.g. engines, batteries) and scientific systems.	*S. E. Stefánsson*

12:15	**New AFBI RV Presentation [PDF]** A construction update for the AFBI replacement RV was provided, including videos of the fabrication. It was highlighted that the painting element is being managed closely, the drop keel instrumentation arrangement has been a challenge, and future-proofing is being implemented for an enhanced acoustic system. It was also highlighted that the 'Hybrid +' notation has been switched to 'Hybrid' to reflect user and Class requirements.	*P. Jeffers*
12:30	**NIOZ RV build program update [PDF]** A summary of the new coastal vessels (RV Adriaen Coenen and RV Wim Wolff) was provided, including the issues with environmentally friendly anti-fouling systems. The progress of the build of RV Anna Weber-van Bosse was also given (with photos shown), and some of the key design information were summarised. Details of the supporting new equipment (gliders, AUV and ROV) were also provided, with some information shared about a recent glider mission. The presentation concluded by summarising the activity of RV Palagia, and the scheduled activity for the coming years.	*Z. Erdem*
12:35	**Laura Bassi – The latest Antarctic Expedition, new installations and other contingencies [PDF]** The presentation began with the summary of the progress (and associated encountered issues) of the 'Baltic Room' since last year, with the conclusion of the air conditioning system, the new side door, and the new CTD rosette LARS. The experience of operating in low temperatures (-28C) was also shared, along with information regarding a main engine failure on passage south to New Zealand, and another main engine failure on passage to Antarctica. It was therefore highlighted that the need for back-up plans are important to maintain operational capability / minimise operational downtime. The presentation concluded by summarising the ongoing and planned activity, including bridge works and engine overhauls.	*R. Codiglia*

12:55	**Spanish fleet strategic plan: New Building [PDF]** A summary of the future strategic plan for the Spanish research fleet was provided, with sources of funding highlighted, the age profile and operational statistics (e.g. operational days, fuel use, geographical use) of the existing fleet. Their approach to direct consultation with users was presented, with initial interviews followed by a comprehensive survey and focal interviews, and the need to ensure diversity of input (gender, experience, disciplines). The presentation finished by sharing the main conclusions of the consultation, and the anticipated next steps for fleet replacement.	*M. Ojeda*
13:15	**Lunch + Group Picture**	
Theme 3: Manning, Safety and Training		
14:10	**Safety protocols to manage equipment with lithium batteries on board Research Vessels" [PDF]** The presentation introduced lithium batteries characteristics and types, their use in operational oceanography and associated risks (e.g. mechanical damage, thermal overload, electrical overcharge) and practical controls / mitigations. Examples of the information, training, and PPE and fire extinguishing equipment were then provided, followed by some lessons learned from prior incidents, and some conclusions.	*N. Buyreu*
Theme 4: RV Technology		
14:20	**Mission Critical – Handling solutions journey from James Cook to Sir David Attenborough [PDF]** Kongsberg presented about the lessons learned from development of systems to support vessels from RRS James Cook to RV Meteor (via RRS Sir David Attenborough), highlighting the 'modularisation' of their winches with various performance characteristics, and their scientific handling systems.	*B. Brevik*
14:35	**Enhancing CO_2 observations on Research Vessels – JPI oceans [PDF]** The presentation started by highlighting the role of the ocean in CO2 uptake, and the need for greater observations to improve the understanding of the ocean's role. The presentation then highlighted a decline in the number of CO_2 measurements / datasets in recent years, and the role that JPI Ocean Knowledge Hub on Ocean Carbon Capabilities play in enhancing CO_2 observations on research vessels and beyond (Area 2). The outcomes of the recent questionnaire were then presented, followed by the various options for data collection available for RVs, recommendations, and take-home messages.	*T. Gkritzalis*

	pCO_2 challenges from ship operators' technical perspective [PDF] The presentation covered the lessons learned from implementation of systems on RV Celtic Explorer and RV Tom Crean, including installation considerations, technical support and servicing, routine maintenance, parts and consumables, defined roles (science vs. operator), and operational issues.	*G. Furey*
	Discussion A question was raised about whether EEZ implications may affect the ability of RVs to collect CO2 data – a suggestion was to include this in all MSR applications. A question was raised regarding the capacity of the field engineer to support the GO system (noting its increased application is being encouraged), and whether there was work underway to address this. It was highlighted that this is a known concern, and consideration is being given to what may need to be done to address this.	*All*
Theme 5: Cooperation and Outreach		
15:15	**Eurofleets AISBL [PDF]** The presentation highlighted the role of ERVO and OFEG to strengthen European cooperation, and presented the new AISBL to formally coordinate access to and utilisation of RVs (incl. transnational access), coordinate training mechanism, etc. The presentation highlighted the structure, governance, and introduced the possibility to join as members.	*G. Magnifico*
15:30	**Coffee break & national update posters**	
16:00	**Swedish ship operators network: "SON" [PDF]** The presentation started with the summary of the Swedish research vessel fleet, and moved onto the establishment of a Ship Operators Network, and the progress towards achieving this. Details of SWERVE (Swedish Research Vessel Infrastructure for Marine Research) were provided, with its 3 modules, and its associated successes. Information was also provided on the joint procurement of ROVs, in addition to the considerations being applied to management approaches (e.g. operate own management company, procure management), and the steps anticipated for the coming year(s). The topic of Baltic Sea security was then highlighted, with increased tensions leading to more restrictions in Swedish Territorial Waters, which is affecting science and monitoring missions.	*B. Lindell*

16:20	**INFOMAR - A national seabed mapping success story! [PDF]** The presentation started by highlighting the drivers for a systematic seabed mapping program, along with the associated benefits, along with the pros and cons when compared to random mapping. The presentation then introduced INFOMAR, including its plan, approach, associated technology, and products / outputs. The INFOMAR mapping milestones were then shown (from 1997 to the present day and future scoped activities), followed by some statistics regarding INFOMAR data, some of the products / outputs derived from INFORMAR data, and associated collaborations.	*T. Furey* *(Virtual Presentation)*
16:40	**FAROE Islands Seabed mapping program and strategy [PDF]** An overview of the Faroese Hydrographic Office was provided, along with the role and approach of RV Jakup Sverri in national hydrographic data collection, and some of the products and outputs generated from such activity.	*G. Roberts*
16:55	**Collecting Ocean Science data from vessels and uncrewed platforms [PDF]** Kongsberg Discovery provided an overview of the Kongsberg Group and Kongsberg Discovery specifically. Shipboard scientific data collection system / sensor development was highlighted, along with development of uncrewed systems, and Blue Insight (Geomatics, Analytics, and Remote). A user case (IMR, Norway) of Blue Insight was then provided summarising the revolutionary approach to biomass estimation, and an overview of the Blue Insight software.	*M. Grotterud*
17:10	**Aquarius Update & Polarin Update [PDF]** An update on the Aquarius project was given, including a brief introduction to the project, and an overview of the first call for applications (which has now closed), and details of the second call (which will be published later in 2025), including changes to eligibility criteria. Details were also provided around training opportunities available under Aquarius. An update on the Polarin project was given, including a brief introduction to the project, and an overview of the resources available, and details of the first call outcomes and key impacts in year 1. The next steps were then highlighted, along with the key collaborations and interactions.	*A. Fitzgerald*

17:20	**IRSO 2025 Bergen [PDF]** Information around the International Research Ship Operator (IRSO) Group was provided by the IRSO Chair, including a brief history of the group, typical topics covered, and a summary of the last meeting (in Vancouver, Canada). Details of the upcoming meeting in Bergen (Norway) were provided, including information around registration, presentation and posters.	*G. Magnifico*
17:30	**End Day 1**	

Wednesday 04th June 2025		
08:45	Opening and practical arrangements of Day 2	*A. Fitzgerald*
08:50	**OceanOPS RV coordination activities [PDF]** An introduction to OceanOPS was given, including examples of their standard products, and the role that research vessels play (alongside other vessel types) in metocean data collection in support of OceanOPS. The EU Horizon AMRIT project was also presented, along with a task to connect RV national fleet schedules and management metadata to the Technical Support Centre (WP8 – Task 8.3). It is hoped that there will be an opportunity for a Malizia Explorer presentation for the next ERVO.	*M. Kramp*
Theme 6: Communications / ICT		
09:15	**Comms and Cyber Refresher [PDF]** OmniAccess presented an overview of satellite communications, and introduced the concept of Ultra Low Orbit satellites from New Orbit. The recent changes to the Starlink charging mechanism were also shared, followed by details of the OneWeb LEO Service Plans and global coverage, and updates on the Amazon Kuiper service and O3b mPower. Cyber security was then highlighted, with regulation and compliance drivers (e.g. UR E26), and details of a maritime cyber security incident shared, along with information around NIS2 Directive. Marlink Cyber was then introduced, in addition to OmniAccess cyber security products.	*M. Chartouny*

09:35	**ICT upgrade for RV Laura Bassi [PDF]** The presentation began by introducing the upgrades to the backbone and the benefits of implementing fibre-optic cabling onboard. The presentation moved on to the network optimisation, Wi-Fi improvements, CCTV enhancements, the weather station and radiometer. The RVs connectivity was then shared, along with the challenges of LEO use in Antarctic latitudes, and the work undertaken to share and disseminate data related to the RVs activities. The presentation concluded by highlighting the planned future improvements to be implemented onboard,	*M. Iurcev*
09:55	**MFP latest developments [PDF]** An overview of the Marine Facilities Planning (MFP) software was provided, with details provided regarding the various integrated modules, and the different applications implemented by example users, and screen shots of the various applications (e.g. scheduling). The presentation concluded by highlighting the roadmap for the coming year(s). Whilst a live demonstration was not possible, it is hoped that this might be possible at the next ERVO meeting.	*B. Mass*
10:20	**Coffee break & national update posters**	
Theme 7: Remote Operations incl. Operations with Autonomous Vehicles		
10:45	**RV Operations in Polar code regions & challenges etc. [PDF]** The presentation introduced a survey off West Greenland, including the mission, and the operational considerations and challenges (e.g. polar code, navigation, ice risk, tsunami risk, communication, fresh water, logistics and agents, crewing, and overside operations) and associated solutions.	*M. Wemyss*

10:55	**New Swedish Polar Icebreaker [PDF]** The presentation provided an introduction of the project to review the Swedish role in the Arctic and associated vessel replacement, including a high-level project timeline and procurement approach, and details of the key technical requirements. The presentation then moved to fuel selection (dual fuel methanol / MGO engines + battery energy storage system), the anticipated dimensions, and design features (e.g. moon pool). The presentation concluded by introducing a key project which the new icebreaker will support, the North Pole Fibre Project.	*A. Lindgren* *(Virtual Presentation)*
Theme 6 revisited		
11:15	**Vessel Data transfer protocols – challenges faced & automation as the solution? [PDF]** A high-level summary of the Marine Institute RVs, their 2024 activities, and connectivity provisions. The presentation then moved to an overview of the vessel data transfer protocols for survey specific datasets, and the ambition to automate data transfer processes. Vessel instrumentation and continuous data logging was then covered, followed by the steps being taken to improve the vessel data transfer processes, and the associated products to automate the vessel data transfer process.	*R. Butler*
Theme 8: Energy Efficiency, alternative energy sources & zero impact		
11:35	**Acoustic impact of scientific cruises, and the consideration by authorities for foreign vessels [PDF]** The presentation began by providing a summary of sources of scientific equipment derived noise in the marine environment, the sound risk assessment of scientific surveys, and examples of sound risk assessment methodology for SBES and fisheries acoustics. Campaigns with low likelihood of risk were then shared. Details of a Marine Mammal Management Plan were then presented to limit acoustic impact risks to marine mammals, along with how different nations (e.g. Spain, Italy, French overseas waters) approach this matter, and the impacts to some planned surveys/cruises.	*G. Peltier*

12:05	**Smart subsea Cables [PDF]** The global array for climate, oceans, sea level, earthquakes, and tsunamis was presented, with example projects then covered. Firstly, information regarding the Atlantic CAM was shared, followed by the integration of the SMART cables into GOOS, and the types of sensors being incorporated into the SMART cables, and the separation required between scientific and telecoms cables. Future systems were then presented, including the Polar Connector Far North Fibre and neighbouring Atlantic projects, and Mediterranean Redundant Subsea Cables (Medusa). The possible role of RVs in supporting the calibration of the SMART cable sensors was then shared, and the scientific benefits associated with enhanced scientific monitoring from SMART cables.	*J. Danobeitia*
12:25	**Mest shipyard presentation [PDF]** A brief overview of Mest shipyard was given, including in-house departments and their subsidiary company (PAM Offshore Service), and their locations and associated capabilities and facilities. Details were also shared about their other services, including their Tug service and good logistics, followed by some examples of activities / services delivered to customers. Finally, details of a new dry dock facility were provided which will accommodate larger vessels.	*M. Mohr*

Closing Session		
	Topics, date & place ERVO 2026 [PDF] The next host for ERVO will be OGS (Italy) in Trieste, with the date to be confirmed (25-27 May or 08-10 June). A brief overview of OGS was provided, with a short video played to show the host city.	*A. Fitzgerald. / R Codiglia*
	Closing of ERVO 2025 Details of the tours were shared with attendees, and thanks were given to presenters, sponsors, and hosts.	*A. Fitzgerald*
12:50	**Lunch sponsored by MEST (Kongshøll)**	
14:00	**Visit to RV Jakup Sverri at MEST Shipyard (walking)**