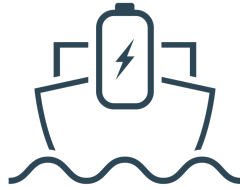


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NEMOSHIP

Nemoship EU Project newsletter #4

NEMOSHIP update: progress and insights

Dear readers,

In recent months, the NEMOSHIP project has continued to make steady progress. This new edition of our newsletter highlights the latest steps forward: technological advances, collaborative efforts, and strategic achievements. Each milestone brings us closer to our ambition of pioneering zero-emission maritime solutions. We are delighted to share with you these updates and to keep building this journey together. Thank you for your ongoing support and interest in NEMOSHIP!

The NEMOSHIP team

Technical progress

A key step in the project was achieved: the 1MWh heterogeneous BESS was successfully installed on vessel Normand Drott from Solstad. More info below!

NEMOSHIP BESS

WP 1 has laid the foundation for NEMOSHIP solutions. This WP involved analyzing insights from past commercial and R&I projects, studying data on existing battery energy storage systems, and defining requirements for the digital platform and use cases. This work is now complete, and all deliverables have been submitted.

Normand Drott

Normand Drott is an anchor handling tug supply vessel built in 2010. The vessel has 23 760kW power from the engines. It has a LOA of 95m and is equipped with powerful

handling operations, which are critical in the offshore oil, gas and renewable sector. The vessel is outfitted with state-of-the-art equipment and technology to support various offshore operations. Key features include:

- Dynamic Positioning System (DPS): Ensures precise positioning and stability during complex operations
- Large deck area: Provides ample space for transporting supplies and equipment
- Advanced Navigation and Communication Systems: Enhance operational efficiency and safety



The battery system

The BESS is composed of 2 battery types provided by Corvus Energy: Orca Energy (high power, up to 3C) and Dolphin Next Gen (high energy, 0.5C). The total capacity is 1.1MWh with 745kWh of Orca and 361kWh of Dolphin Next Gen. Batteries are fitted into a container for an easier installation onto the vessel. The container contains:

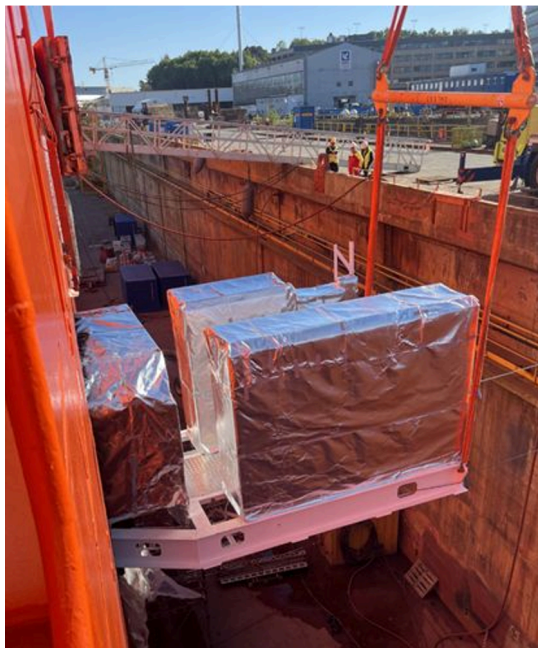
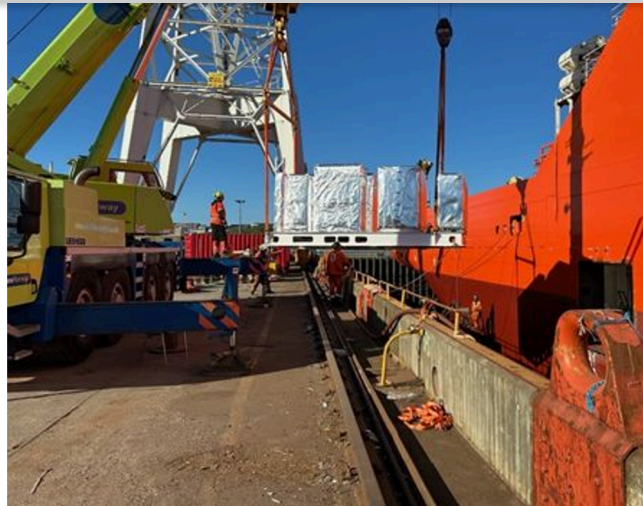
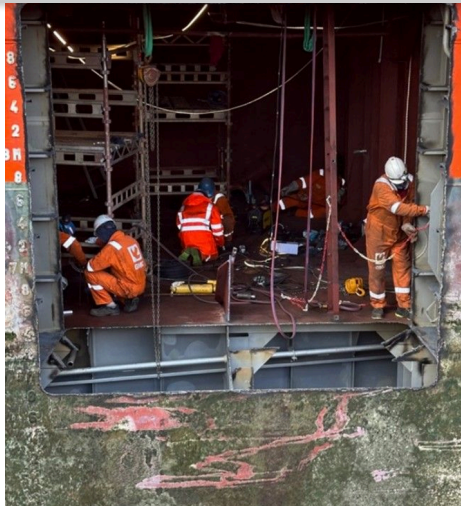
- Corvus battery energy storage system
- Battery Management System (BMS)
- HVAC
- Thermal runaway exhaust
- Firefighting and fire detection systems



Installation process

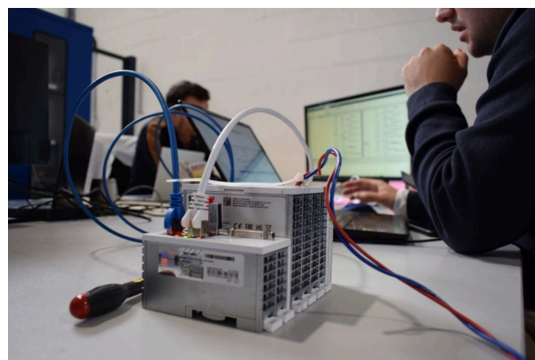
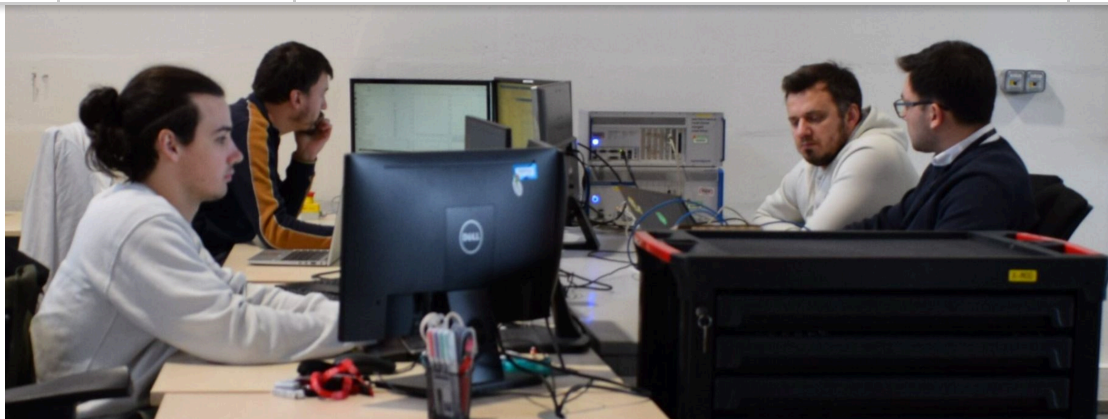
One of the vessel's fuel tanks has been converted into a dedicated battery room - making space for both battery types onboard. The biggest challenge was the complex conversion of the tank itself. This required obtaining all necessary approvals, rerouting large pipes, conducting 3D scanning, and carefully planning the structure. A custom-made container also had to be developed to fit the available space.

Since then, the vessel has been certified and has started again its commercial activities.



System control

The heterogeneous battery system will be controlled by a BPMS (Battery Power Management System) developed within NEMOSHIP. The BPMS computes the power balancing between the HE and HP battery in order to manage the aging and efficiency of the BESS. The algorithms. The algorithms have been tested on CEA XiL bench and have been integrated into a controller and cabinet by Elkon. The BPMS cabinet has successfully passed the factory acceptance test by DNV and is now ready for the Harbor acceptance test and sea trials which is planned for October 2025.

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NEMOSHIP DIGITAL PLATFORM

Another major milestone for the NEMOSHIP project: First deployment of digital platform on Ponant's polar exploration vessel "Le Commandant Charcot".

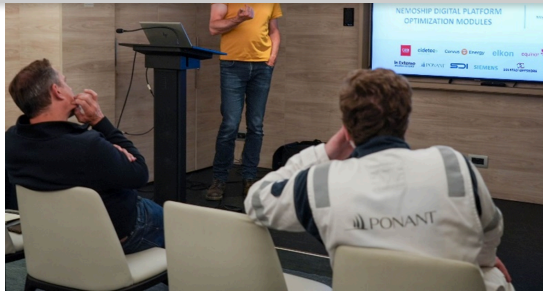


Between May 14 and 24, 2025, the NEMOSHIP consortium successfully completed the first onboard deployment of its advanced digital platform aboard "Le Commandant Charcot", Ponant's LNG-electric hybrid polar exploration vessel.

This mission marked a major step in validating the platform's real-time energy management and predictive maintenance capabilities. Designed to optimize the vessel's 4,5 MWh battery system, the platform monitored key performance indicators such as %SoC, %SoH, energy efficiency, and environmental impact during Arctic navigation, including icebreaking operations and zero-emission segments.

The deployment also included collaborative workshops with crew officers including the captain, chief engineer, and the project developers, enabling refinement of PMS configurations, route integration, and statistical analysis features. Initial tests confirmed meaningful fuel and GHG savings, as well as improved operational resilience.

The platform's beta release is now being enhanced with trip and leg optimization tools. "Le Commandant Charcot" continues to serve as a real-world testbed accelerating the path to sustainable maritime operations.

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Events in which NEMOSHIP participated

Internal events

NEMOSHIP General Assembly #4, Bucharest, January 21, 22, 2025

In January 2025, over two days, we engaged in productive discussions on the project's technical and strategic progress, including advancements in BESS battery systems and onboard digital platforms. These exchanges strengthened our collective efforts to address the challenges of energy transition in the maritime sector.

A special thank you to **Siemens Digital Industries Software** for their warm hospitality and excellent organization, which greatly contributed to the success of this event.

We also thank all the partners for their dedication and valuable contributions. At that time, we left with a clear vision of the next steps for 2025 and concrete actions to implement.



NEMOSHIP General Assembly #5, Norway June 10-12, 2025

The 5th General Assembly of the NEMOSHIP project was held in Norway, hosted by **Equinor**, **Corvus Energy**, and **Solstad**.

Over three days, project partners gathered across Bergen, Haugesund, and Skudeneshavn to:

- Visit key industrial sites and project demonstrators: Corvus factory, Normand Drott Ship, Equinor and Solstad offices.
- Review progress on technical implementation and upcoming milestones

work packages, and prepare for the next key phases, including the first public NEMOSHIP event in early 2026.

A warm thank you to our Norwegian hosts and all consortium members for their continued commitment to driving forward innovation in low-emission maritime operations.



External Events

NEMOSHIP participated in several external events in the past months:

NEMOSHIP at Watts Up 2025

Equinor participated in Watts Up 2025, a key event dedicated to maritime electrification and energy storage innovations. Held on March 5-6 in Helsingborg, Sweden, this conference brings together industry leaders to discuss advancements and challenges in the sector.

Equinor had the opportunity to present key insights and lessons learned from the NEMOSHIP project. Highlights from the presentation:

- A review of 1,000+ installed BESS units across different vessel types, demonstrating OPEX, fuel, CO₂, and NO_x emission reductions.
- The go/no-go decision matrix, helping shipowners assess the feasibility of BESS installations.
- Case studies on retrofits and new installations, including successes and challenges—such as the cruise ship *Le Commandant Charcot* and the ongoing offshore vessel *Normand Drott* project.
- Next steps to enhance the safety and efficiency of BESS operations in the maritime industry.
- With NEMOSHIP, we are working towards a greener maritime sector by combining technological innovation and energy transition.

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In June: NEMOSHIP at the Electric & Hybrid Marine Expo 2025 trade show



On June 25 in Amsterdam, **Stirling Design International** and **Corvus Energy** presented the EU-cofunded NEMOSHIP project, which aims to extend the range of electric and hybrid vessels through cutting-edge innovation.

Their session highlighted how modular battery systems, hydrogen fuel cells, and digital twin simulations are being combined to support the shift towards zero-emission maritime transport. Two operational ferry case studies (one 100% electric and the other hybrid-hydrogen) demonstrated the project's real-world relevance and impact.

Looking ahead

Looking ahead, NEMOSHIP will continue to share its progress with the wider community. The project will be present at Euromaritime, a key meeting point for maritime stakeholders, where partners will showcase the latest innovations developed within the consortium.

In addition, a series of webinars will be organized to present the project's advancements and foster exchanges with industry and research communities. Other opportunities for dissemination may also arise, ensuring that NEMOSHIP remains actively engaged in the European dialogue on sustainable shipping.

Thank you for your ongoing support and interest in NEMOSHIP!

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Stay tuned for more updates!



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