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NEMOSHIP

NEW MODULAR ELECTRICAL ARCHITECTURE AND DIGITAL PLATFORM TO OPTIMISE LARGE BATTERY SYSTEMS ON SHIPS

GRANT AGREEMENT No. 101096324

D9.2: Project website

March 2023

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Project Summary

The ambition of the NEMOSHIP project is to develop, test and demonstrate new innovative technologies, methodologies and guidelines in order to better optimise large battery electric power within hybrid and fully electric ships. The project will act as a key enabler for the new co-programmed European Partnership Zero Emission Waterborne Transport (ZEWT) roadmap to reach IMO objectives about reduction of GHG emissions from waterborne transport by 2030 and 2050.

To reach this ambition, NEMOSHIP will develop a modular and standardised battery energy storage solution enabling to exploit heterogeneous storage units and a cloud-based digital platform enabling a data-driven optimal and safe exploitation. The project will demonstrate these innovations at TRL 7 maturity for hybrid ships and their adaptability for full-electric ships thanks to a retrofitted hybrid Offshore Service Vessel (diesel/electric propulsion), a newly designed hybrid cruise vessel (LNG/electric propulsion) and a semi-virtual demonstration for two additional full-electric vessels such as ferries and short-sea shipping.

The NEMOSHIP consortium estimates these innovations will contribute by 2030 in the electrification of about 7% of the European fleet and the reduction by 30% of EU maritime GHG emissions compared to business as usual scenario.

The NEMOSHIP consortium is composed of 11 partners (3 RTO, 1 SME, 7 large companies) and covers the whole value chain, from research-oriented partners to software developers, energy system designers, integration partners, naval architects and end-users.

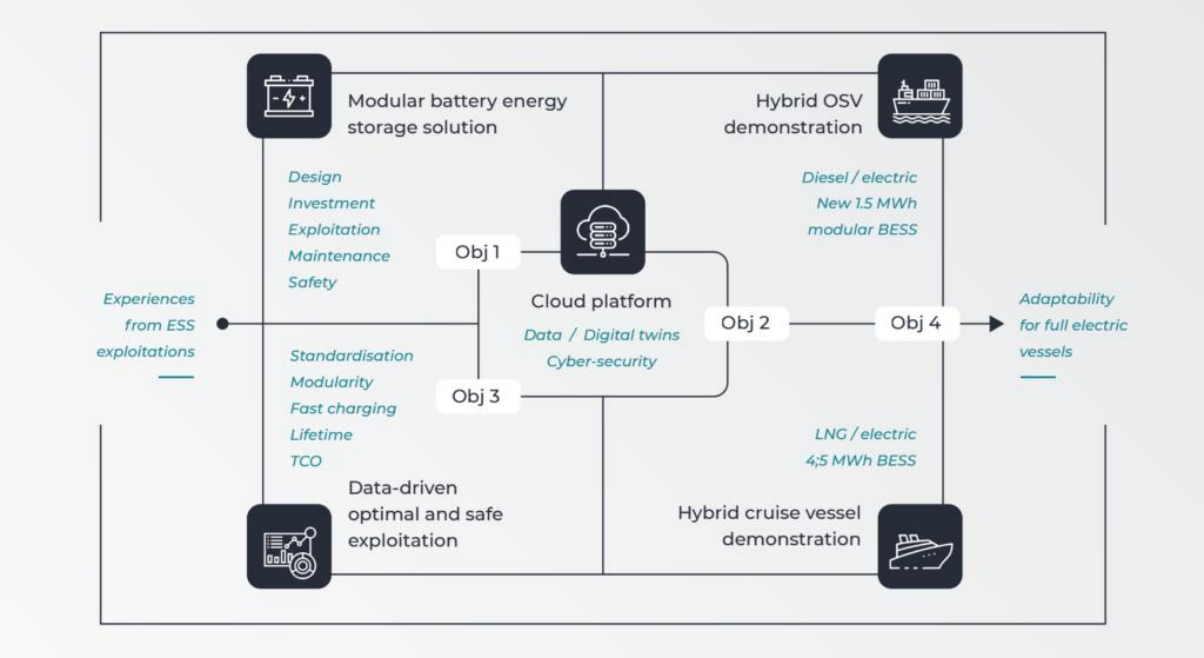


Figure 1 – NEMOSHIP objectives at a glance

Table of content

1 Introduction

This deliverable shortly describes the structure of the NEMOSHIP website: www.nemoship.eu

The content of this deliverable belongs to the "Dissemination, Exploitation and Communication (DEC)" Work Package of the NEMOSHIP project (WP9). More specifically, it is one of the first major dissemination steps towards the industry, researchers and the wider community.

In order to achieve this deliverable, the consortium subcontracted a part of the work to the company Mlcom (agency specialized in communication missions) as stated in the Grant Agreement.

2 NEMOSHIP website

The NEMOSHIP website can be found at the following address: www.nemoship.eu

For the moment, the website includes:

- Objectives of the project
- Description of each participating partner
- An inside view from the Kickoff meeting held in February 2023

The website will evolve throughout the project and will therefore include new content on a periodic basis. Following content has been identified as being of interest for visitors:

- First results of the project
- Major events at which results of the project will be displayed or talked about
- Posts on related topics of interest
- Official press releases and communication material

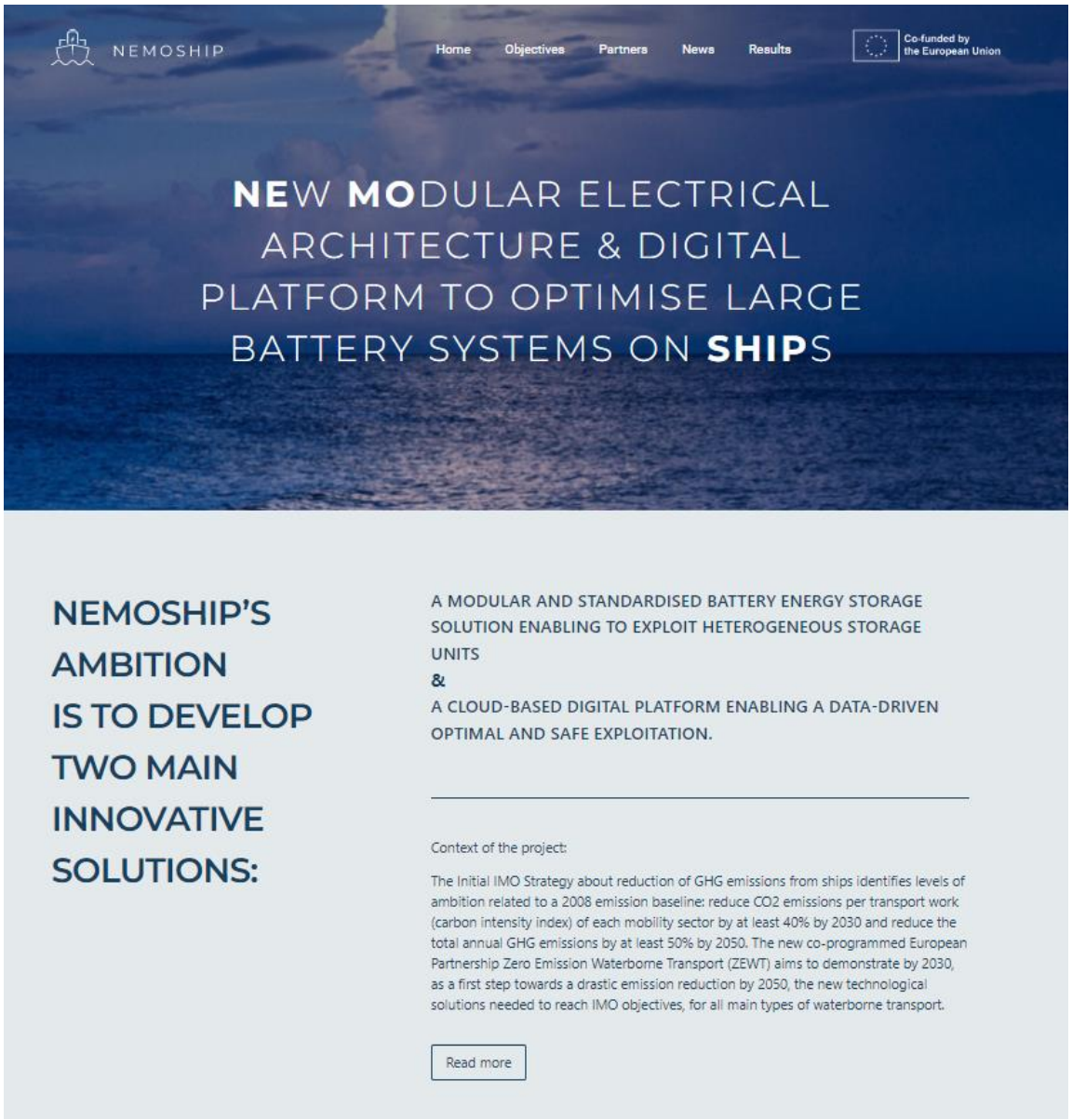


Figure 2: Homepage of NEMOSHIP website

OBJECTIVES

NEMOSHIP ambition is based on four major findings that, according to the consortium, are today an obstacle to address those five challenges for exploiting electrical energy storage systems and better optimising large battery electric power within fully battery electric and hybrid ships:

Objective 1: Flexible electrification solutions to exploit heterogeneous storage units for a wide range of needs - Read more

Objective 2: Standardisation of the battery systems integration process and interfaces within the vessels - Read more

Objective 3: Advanced tools for ship operators and owners to reach an optimal and safe exploitation - Read more

Objective 4: Extending zero emission ability for both hybrid and full-electric ships - Read more

To reach these goals, NEMOSHIP will:

- develop a modular and standardised battery energy storage solution enabling to exploit heterogeneous storage units and (ii) a cloud-based digital platform enabling a data-driven optimal and safe exploitation,
- demonstrate these innovations at TRL 7 maturity for hybrid ships and their adaptability for full-electric ships thanks to: (i) a retrofitted hybrid Offshore Service Vessel (diesel/electric propulsion), a newly designed hybrid cruise vessel (LNG/electric propulsion) and a semi-virtual demonstration for two additional full-electric vessels such as ferries and short-sea shipping.

All results will be built upon a treasure chest of 18 years of ESS operation data. Thanks a very ambitious exploitation plan, accompanied by very large dissemination actions, the NEMOSHIP consortium estimates that these innovations will reach the following impacts by 2030: electrification of about 7% of the EU fleet; generate a potential revenue of €300M thanks to the sales of the NEMOSHIP products and services; reduce EU maritime GHG emissions by 30% compared to business as usual (BAU) scenario; and create at least 260 direct jobs (over 1000 indirect).

NEMOSHIP OBJECTIVES AT A GLANCE

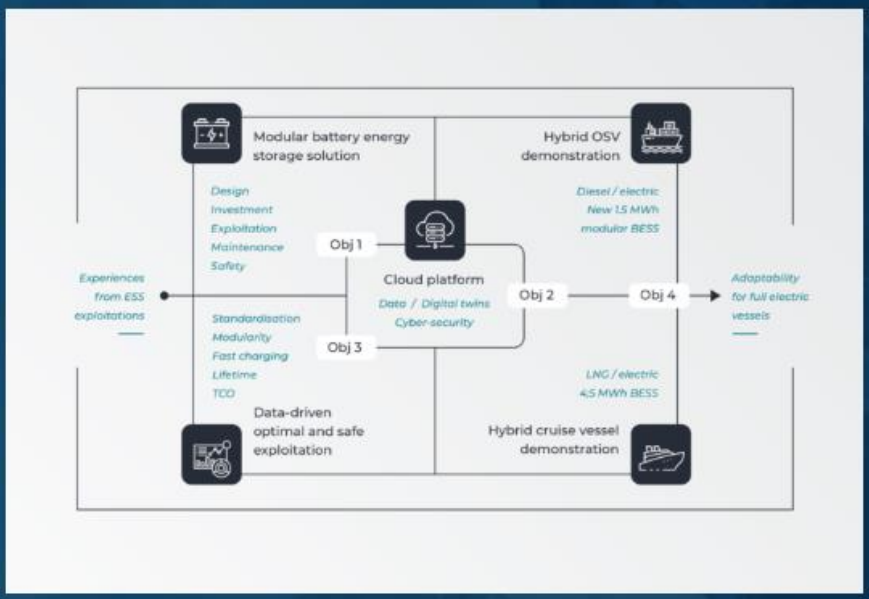


Figure 3: Objectives section of NEMOSHIP website

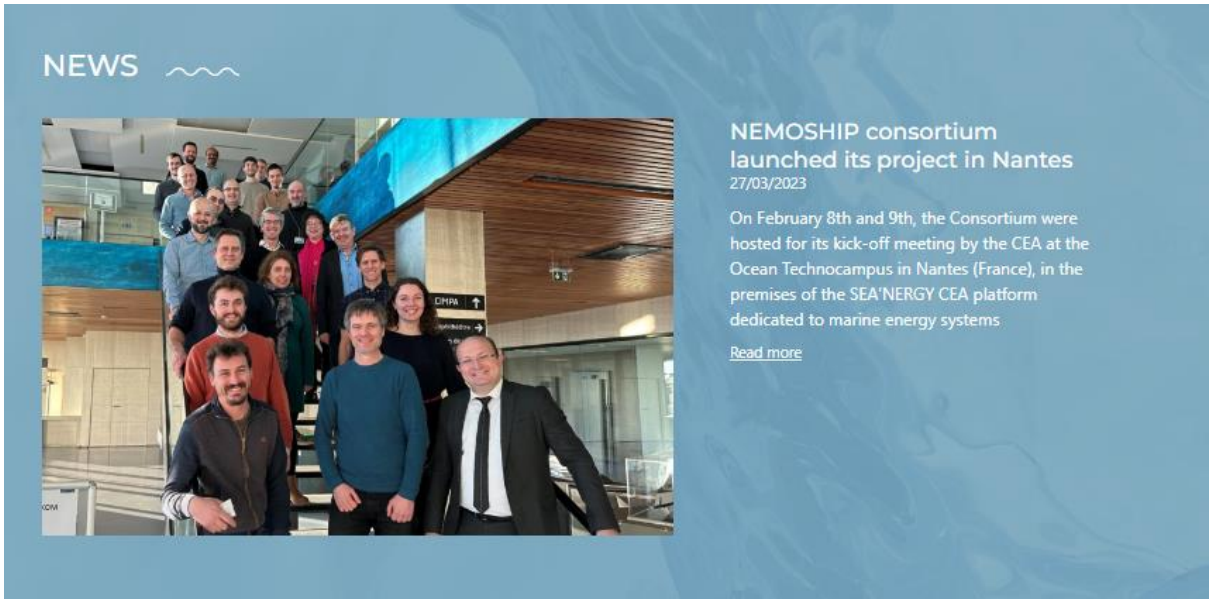
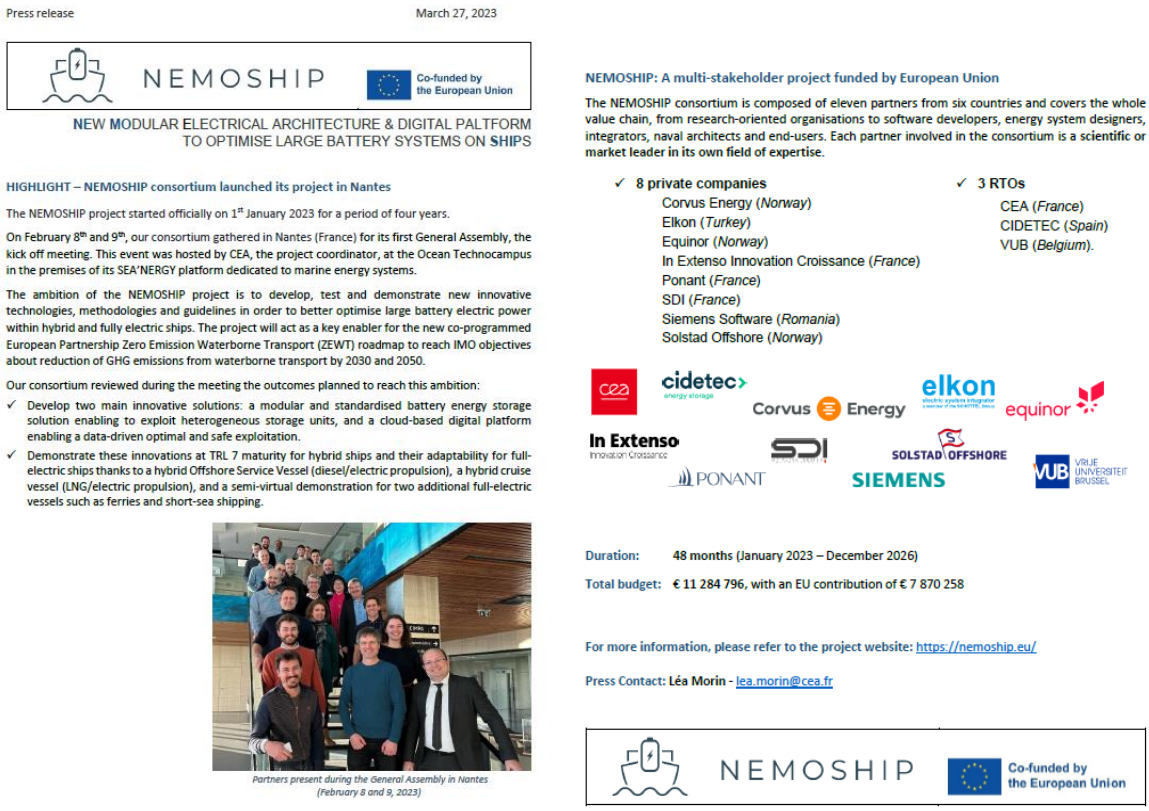


Figure 4: Space dedicated to news


Press release March 27, 2023

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NEW MODULAR ELECTRICAL ARCHITECTURE & DIGITAL PALTFORM TO OPTIMISE LARGE BATTERY SYSTEMS ON SHIPS

HIGHLIGHT – NEMOSHIP consortium launched its project in Nantes

The NEMOSHIP project started officially on 1st January 2023 for a period of four years.

On February 8th and 9th, our consortium gathered in Nantes (France) for its first General Assembly, the kick off meeting. This event was hosted by CEA, the project coordinator, at the Ocean Technocampus in the premises of its SEA'NERGY platform dedicated to marine energy systems.

The ambition of the NEMOSHIP project is to develop, test and demonstrate new innovative technologies, methodologies and guidelines in order to better optimise large battery electric power within hybrid and fully electric ships. The project will act as a key enabler for the new co-programmed European Partnership Zero Emission Waterborne Transport (ZEWT) roadmap to reach IMO objectives about reduction of GHG emissions from waterborne transport by 2030 and 2050.

Our consortium reviewed during the meeting the outcomes planned to reach this ambition:

- ✓ Develop two main innovative solutions: a modular and standardised battery energy storage solution enabling to exploit heterogeneous storage units, and a cloud-based digital platform enabling a data-driven optimal and safe exploitation.
- ✓ Demonstrate these innovations at TRL 7 maturity for hybrid ships and their adaptability for full-electric ships thanks to a hybrid Offshore Service Vessel (diesel/electric propulsion), a hybrid cruise vessel (LNG/electric propulsion), and a semi-virtual demonstration for two additional full-electric vessels such as ferries and short-sea shipping.

Partners present during the General Assembly in Nantes (February 8 and 9, 2023)

NEMOSHIP: A multi-stakeholder project funded by European Union

The NEMOSHIP consortium is composed of eleven partners from six countries and covers the whole value chain, from research-oriented organisations to software developers, energy system designers, integrators, naval architects and end-users. Each partner involved in the consortium is a scientific or market leader in its own field of expertise.

- ✓ **8 private companies**
  - Corvus Energy (*Norway*)
  - Elkon (*Turkey*)
  - Equinor (*Norway*)
  - In Extenso Innovation Croissance (*France*)
  - Ponant (*France*)
  - SDI (*France*)
  - Siemens Software (*Romania*)
  - Solstad Offshore (*Norway*)
- ✓ **3 RTOs**
  - CEA (*France*)
  - CIDETEC (*Spain*)
  - VUB (*Belgium*).

Duration: 48 months (January 2023 – December 2026)

Total budget: € 11 284 796, with an EU contribution of € 7 870 258

For more information, please refer to the project website: https://nemoship.eu/

Press Contact: **Léa Morin** - lea.morin@cea.fr

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Figure 5: Press release of NEMOSHIP's kick-off meeting (available on the website)

PARTNERS

Nemoship consortium

The NEMOSHIP consortium is composed of 11 partners (3 RTO, 1 SME, 7 large companies) and covers the whole value chain, from research-oriented partners and dissemination and exploitation specialists to software developers, energy system designers, integration partners, naval architects and end-users.

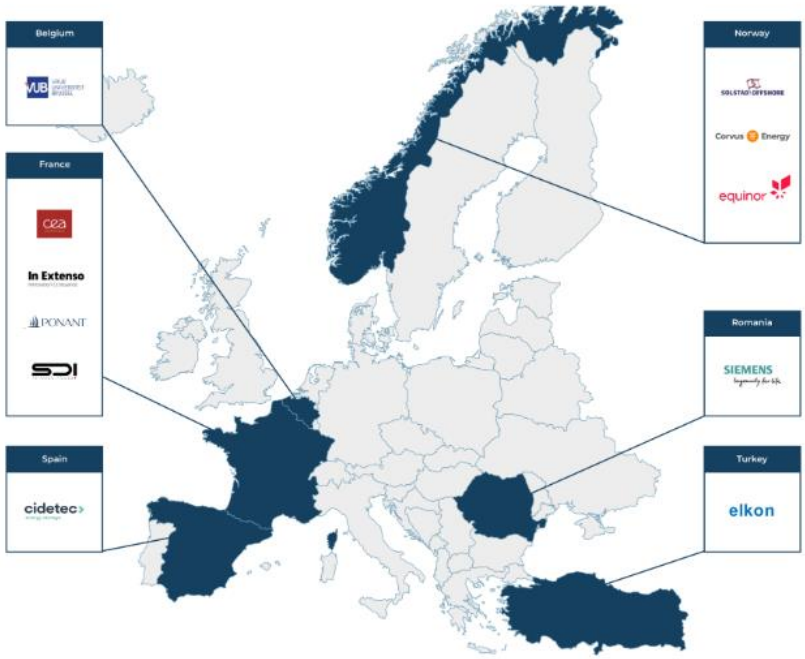

Figure 6: Map of NEMOSHIP's partners

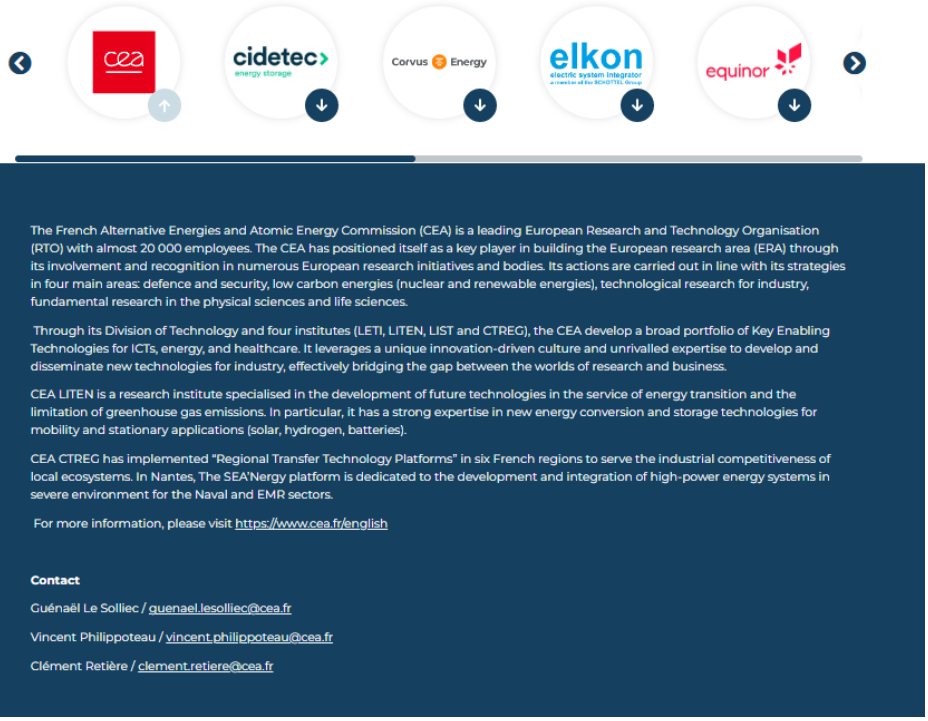

Figure 7: Space dedicated to the description of the partners

3 Conclusion

The website will serve as a platform to communicate the goals, objectives and activities of the NEMOSHIP project to a wider audience. This includes potential partners, stakeholders and the general public. It will also facilitate collaboration among project partners by providing a centralized location for sharing information, resources, and updates. This includes publishing reports, articles, and other project results.

Finally, this website will engage stakeholders and the general public by providing opportunities for feedback, discussion and participation in the project and will increase the visibility and recognition of the NEMOSHIP project by showcasing its achievements and impact. It may also help to attract potential partners for future projects.