WP10 - Project and data management

D10.2: Data Management Plan - Public Summary:

This report was developed as part of the Project and Data Management Work Package (WP) of the NEMOSHIP project. It corresponds to deliverable D10.2 and provides a first version of the Data Management Plan (DMP) for the project.

A DMP is a formal document outlining how to obtain, document, analyse, and use data both during the project and after the project is complete. It describes in detail the methods and processes for creating, providing, maintaining, storing and protecting data.

The present report addresses each question from the Horizon Europe Data Management Template (version 1.0 – 05/05/2021) - this template follows the FAIR principles, which aim to make the data Findable, Accessible, Interoperable and Reusable.

More specifically, the present DMP addresses the following elements:

- Description of the data re-used or generated by the project (Section 2);

- Application of FAIR principles (Section 3);

- Other research outputs (Section 4);

- Exploitation topics: resources, security, preservation (Section 5).

Research data management aspects of the NEMOSHIP project are managed by the Project Coordinator, CEA, with the support of the consortium.

A key output of the project will be the development of a digital platform as well as algorithms for design and management strategies to ensure an optimal and safe exploitation of battery energy storage systems (BESS); these will be built in WP2 and WP4. This platform and the algorithms will take advantage of the large amount of data coming from previously installed BESS and above all from both Ponant and Solstad demonstration vessels (WP5 and WP6).

In terms of data flow and interoperability, this digital platform cloud repository is composed of multiple adapter modules that collect data exported by onboard, onshore, and other third-party applications into a cloud repository. Digital platform input user interface is also available to collect key input parameters and configure the digital twin simulation. The input user interface will also be used to import onboard data that is not available in the cloud and transmit it to the digital platform cloud repository. All this data is then processed and filtered by AI algorithms to be passed to a digital twin simulation.

The results of the simulations are then transmitted back to the vessel through an output user interface. The digital platform will enable improved efficiency, better decision-making, and provide a visual output to ensure the results are easily communicated.

In terms of re-used data, project partners Solstad, Corvus and Ponant plan to provide several years of data relating to installation and operation of battery systems on ships. Such data will allow the consortium to identify typical risks and lessons learnt to be taken into consideration for the remainder of the project. The NEMOSHIP project will generate a significant amount of new data and research outputs, through the two demonstration work packages among others. These outputs/data are expected to consist mainly of experimental test results, numerical calculations and text and figures interpreting the results. Total size of data generated is anticipated to be in the TB range.

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