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AENEAS

innovActive ENERgy storage systems onboArd vessels

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Report with defined use cases for the demonstration of
3 ESS at TRL 5



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Public Summary

This document is part of Work Package 1, Operational scenario Specification and Requirements, whose main objective is to draw and define the main vessels characteristics that are currently electrified by using batteries and those one that will be electrified in the near future and that are suitable for the application of new ESS systems.

The scope of this document is to define the three AENEAS use cases for the HIL simulation to be conducted within the WP5. To set a specific use cases it is important to have 360° view regarding the overall operational environment and to define the Key Performance Indicators (KPIs) that can impact the development of the ESS based on the different ships investigated within T1.1.

A detailed description of the KPIs and their assessment is provided in order to select the optimal vessels profile for the investigation of the three AENEAS ESS (i.e., SSB, SC and hybrid system).

In particular, three use cases are detailed providing for each of them information about general arrangement, technical specification and their electrical equipment. The most relevant information is about the development of the use case. The use cases foresees the SSB for the port stay phase, the SC for the manoeuvring phase and the hybrid system for the tug boat operations.