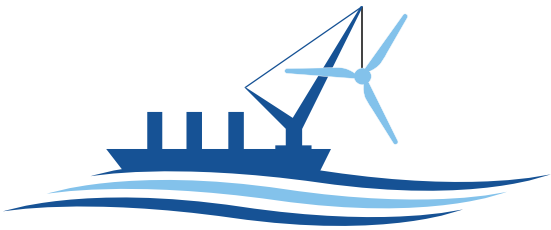

leanwind

Logistic Efficiencies And Naval architecture for Wind Installations with Novel Developments

Project acronym: LEANWIND
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Final novel maintenance vessel, access systems and installation vessels concepts design package. D.3.5

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List of Abbreviations

Acronym	Description
DP	Dynamic Positioning
WP	Work Package
O&M	Operations & Maintenance
SWL	*Safe Working Load*.
Hs	Significant Wave Height
SOV	Service Offshore Vessel
WTIJ	Wind turbine Transport and Installation Jack-up
LR	Lloyd's Register
LNG	Liquified Natural Gas
MCA	Maritime Coastal Agency
UK	United Kingdom of Great Britain
FRC	Fast Rescue Craft
MOB	Man Overboard Boat
LSA	Life Saving Appliance
TP	Transition Piece
OSS	Offshore Sub-Station
CAP 437	Standards for offshore helicopter landing areas
ERN	Environmental Regularity Number

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Executive Summary

This WP focuses on the primary vessel types used for both windfarm installation and O&M operations with the ultimate goal of bringing cost and time savings to the sector through incorporation of technological innovations and tailoring the designs specifically to previously identified challenges of this industry.

The basis on which the initial ship design activities start is the mission profile described in D3.3 and also requirements and paramenters outlined in D3.2 report respectively. The design has been modified and developed as detailed in D3.4 report and this forms the basis to the final design of the installation and O&M vessels as shown in this report.

For the installation vessel design three concepts were reviewed in D3.4 and the Wind Turbine Installation Jack-up (WTIJ) was selected for the detailed final design. For the O&M vessel design, two different hull form concepts, for offshore and inshore range, have been considered. Finally, based on the industry feedback and the outlook which indicates the need for larger vessels operating further from shore lead to the selection of the Offshore supply vessel design/hull form.

D3.5 describes the final details of the selected concepts during the principal design stage as described in D3.4. The report highlights the final specifications of the vessel and its operational envelopes. In addtion it also provides details on the 3D model and the information developed to support the simulation activities carried out within WP7 of the LEANWIND project.

As the vessel designs start to take shape and more parameters are fixed, basic economic estimations are employed to justify the validity of main driving parameters such as cargo transported or transit speed amongst others. This is useful to validate the feasibility of design aspects, and can even create slight changes in the vessel design requirements. The final design has evolved as an end product after following process of the iterative design spiral as shown in section 2.

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