

Public Summary

date December 16, 2019
subject Analysis workboat population (D3.2)

Problem definition

The objectives of task 3.2 are to find a population of reference vessels for the future platform based workboat family products and to define their basic functional modules.

Technical approach and work plan

An analysis of the vessels collected in the Clarkson database was firstly carried out. The more than 8,000 vessels present in the database have been filtered and clustered according to the main operation types described in Deliverable (D) 3.1. For each group of vessels several key performances, main dimensions and age have been analyzed with relevant regression methods. Secondly the obtained results from the analysis have been compared to the one of D3.1. Finally a first and generalist functional decomposition of the workboat family, starting from its requirements, has been carried out. The decomposition will establish a link between the customer requirements and a combination of components that work in synergy to collectively perform the requirement itself.

Results

From the comparison of the results obtained from the analysis of Clarkson's database with the results of D3.1 some mismatches have been found.

Some operations obtained from the analysis of the Damen Shipyard Gorinchem designed and delivered vessels (i.e. Bulk and Ro-Ro cargo transportation) were not found in the Clarkson's database and hence not considered to be relevant for the NAVAIS project.

With regards to the key performances and main dimensions comparison it has been found:

- higher bollard pull for the specialized towing vessels in Clarkson's database, i.e. 50 t, compared to the assumed value in D3.1, i.e. 15-30 t;
- lower vessel beam is found from Clarkson's database, i.e. 9 m, compared to the assumed value in D3.1, i.e. 12 m;
- equipollency of speed, deadweight, working deck area between the two databases;
- An average fleet age of 25 years.

In the light of the results, a workboat product family, consisting of 4 different sized vessels, has been introduced. The family covers the entire spectra of performances and operations and each member of the family can be fitted with the dedicated deck equipment to fulfill the desired operation.

As a final step the workboat family requirements identification and functional decomposition has led to a total of 11 ship functions and in due course of Task 3 of WP 3 each function will be linked to a defined range of measure of performance and to a certain number of ship systems able to fulfil the reference function, and hence the requirement, itself.



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