

Title: **Approach for Advanced Testing of DP Control System**

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Abstract

Modern DP control system is a complex HW/SW product interfaced with number of other systems through different types of interfaces. In most cases such systems are made by different manufacturers.

Because of fact that whole DP system and its integral parts can be tested only on-board the vessel its operational stability potentially reduced. Moreover, depth of such on-board testing is not deep enough to provide required systems functional and operational stability.

Using of a complex Ship motion and Data simulators for factory testing of DP Control System is one of approaches to improve situation. Wide ability for simulation of dataflow, interfaces, faults, errors and malfunctions provide this approach huge potential for advanced testing of DP control system.

Such testing includes not only hardware (interface signals type and protocols) but also functional tests of built-in software, performance and failure handling ability.

Navis Engineering OY is a developer and manufacturer of Dynamic Control systems since early 2000. This paper represents experience and approach of the company in design of Ship motion and Data simulator for factory acceptance and internal testing of own developed DP control systems.

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