

Session - Design and Control II

Title: How to Increase the Safety and Efficiency of Anchor Handling Operations

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Abstract

Kongsberg Maritime has developed a new, innovative Anchor Handling Concept representing a shift of focus from stand-alone equipment, boxes and systems over to developing functionality especially for the Anchor Handling (AH) operation itself. The concept is characterized by a much higher degree of integration of the different components and equipment supporting an AH operation than existing solutions. Human-Centered-Design principles have been used extensively during the development phase of the new concept.

One of the new components is a system and method for real-time calculation and visualization of the stability of the vessel based on determining external loads/forces. In addition, new DP functionality has been developed especially tailored for the Anchor Handling operation.

The 'king-pins' and the centers for control, monitoring and presentation of information are two K-Master operator stations on aft bridge comprising a common and intuitive user interface and control for all AH equipment operated from aft bridge.

In short, the concept comprises:

- Improved DP and maneuver control capabilities during the different phases of an AH operation.
- Real-time estimation of external forces and calculation and visualization of the vessel's stability margin.
- A common and intuitive presentation of the current operational situation for increased local and shared Situation Awareness (SA) for both vessels and the rig.
- Interfaced with KM's SIMOPS, the system offers use of datalinks in addition to voice communication for information exchange between all participating vessels.

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