Maritime Unmanned Navigation through Intelligence in Networks

From 2012-09-01 to 2015-08-31, closed project | MUNIN Website

Objective

"MUNIN aims to develop an autonomous ship concept, which is described according to the Waterborne TP Agenda by combination of automated decision systems with remote control via a shore based station. The vision of MUNIN is to show the update possibilities of today's fleet to autonomous vessel.

The trend in maritime transport towards slow steaming increase the necessary total number of ships, while at the same time the lack of seafarers becomes urgent more and more. Human resources are seen as one of the critical enablers for maritime growth within the EU. MUNIN's concept allows handling this challenge due to more efficient and competitive ship operation. Additionally, the shore based approach offers ""seafaring"" Furthermore the possibility to become further socially sustainable.

MUNIN's results will also provide efficiency, safety and sustainability advantages for existing vessels in short term, without necessitating the use of autonomous ships. This includes e.g. environmental optimization, new maintenance and operational concepts as well as improved bridge applications. Furthermore autonomous ship-models could be an improvement for education purpose in ship simulators.

For an autonomous ship several tasks which are currently done on board have to be redesigned. These are e.g. navigation, manoeuvring, watch keeping, maintenance, repair and engine optimization. Based on as-is-analyses MUNIN will define necessary change demands for manned vessels and develop concepts and applications to enable and optimize navigation and operation of an autonomous ship, which includes an evaluation of the communication architecture. Technical as well as organizational and legal aspects of unmanned shipping will be taken into account.

Feasibility of the proposed concepts will be verified by an integrated simulator setup. Furthermore an assessment in terms of cost-benefit as well as safety and liability aspects will be done. MUNIN will embed itself in IMO’s eNavigation- and EU’s eMaritime-Initiative."

Related information

Report Summaries

[Final Report Summary - MUNIN (Maritime Unmanned Navigation through Intelligence in Networks)]
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