

# Sea Trials and Model Tests for Validation of Shiphandling Simulation Models

**SimVal**  
**NEWSLETTER**

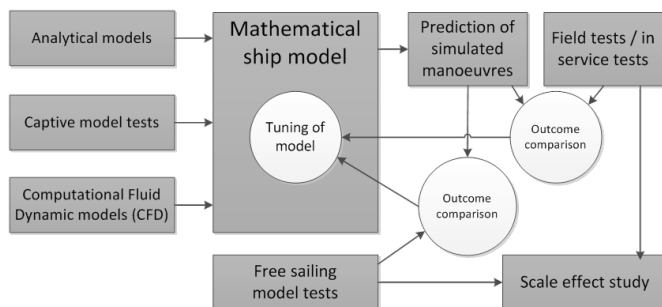
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*This is the first newsletter of "Sea Trials and Model Tests for Validation of Shiphandling Simulation Models", which is a knowledge building industrial project, supported by the Research Council of Norway. This project aims to improve current validation methodology for shiphandling simulation models. It includes captive and free-sailing model tests, as well as sea trials with selected case vessels. The first newsletter gives a brief introduction to the project, activities started and, plans for activities in August and September, 2013.*

## Brief project description

The project started in April 2013 and will end in December 2016. The total budget is approximately 18 million NOK (equivalent to 3 million Euro). The content of the project is illustrated by the block diagram below.



The project partners have agreed on a set of case vessels including participating universities research vessels, ferry, offshore vessel, container ship and shuttle tankers. Since the start of the project, MARINTEK and its Norwegian partners have discussed scheduling and content for the first sea trials, which will take place in August on the research vessel "Gunnerus", owned by Norwegian University of Science and Technology (NTNU), and in September on the gas ferry "Landegode", owned by Torghatten-Nord AS. In addition to standard IMO manoeuvring trials, the research partners will discuss ship specific low-speed test manoeuvres with masters and pilots on case vessels.

As part of the project, the research partners will arrange a number of workshops on topics such as documentation of low speed manoeuvring performance, uncertainties in manoeuvring models, and validation of simulation models. External specialists will be invited to some of these workshops.

## Completed activities April – July 2013

In addition to the 1st Steering Committee meeting that took place in Trondheim 21st May, MARINTEK has completed separate meetings with its project partners from Belgium/The Netherlands, Brazil, and Singapore. Preparation and testing of software and hardware to be used for data collection and logging on the first sea trial with NTNU's research vessel "Gunnerus" have been completed. Upgrading of the model to be used for captive model tests in MARINTEK's towing tank late August has begun.



NTNU's research vessel Gunnerus.

A separate meeting with Torghatten Nord took place on the case vessel "Landegode" on the 26th of June. Participating representatives from the shipowner included experienced



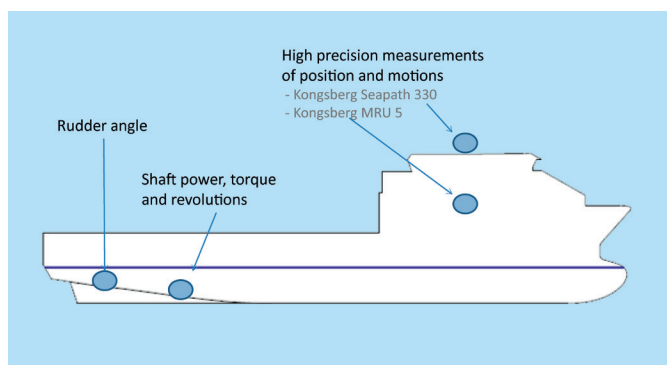
Gas driven ferry Landegode.

ferry masters as well as their regional training provider. Scheduling for sea trials was discussed and it was agreed to perform the first set of tests in early September 2013. Captive model tests will be run in MARINTEK's Towing Tank in late October. For this vessel, design and delivery trial documentation has been obtained with the assistance of the ferry designer LMG Marin. A model of the vessel has been transferred from CTO (Poland) to MARINTEK, and necessary modifications will be made for use of its Hexapod captive model test tool.

### Planned activities for August – September 2013

As mentioned above the first two sea trials will be completed in August and September. RV Gunnerus sea trials will take place in Trondheimsfjorden 13-16 August. MARINTEK's sea trial instrumentation package will be tested and outcomes compared to the vessel's own data collection system. The main components of MARINTEK's instrumentation package are shown in the figure below.

Revised work plans for the other case vessels will be pre-



MARINTEK's instrumentation package for sea trial documentation.

pared by the research partners. MARINTEK will arrange the first of two validation method workshops in Trondheim early September. These workshops will be open for external shiphandling simulation experts.

The first captive test with MARINTEK's Hexapod system will take place late August. A brief description of this system can be found at [http://www.sintef.no/upload/MARINTEK/PDF-filer/Review/Review\\_2\\_2011\\_Web.pdf](http://www.sintef.no/upload/MARINTEK/PDF-filer/Review/Review_2_2011_Web.pdf), pages 4 and 5.



MARINTEK's Hexapod system is mounted on the Seakeeping carriage in the towing tank.

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Neither MARINTEK nor its project partners are responsible for errors or omissions in this newsletter.