FerryCat Manoeuvring Simulator

MARINTEK

Rolls-Royce

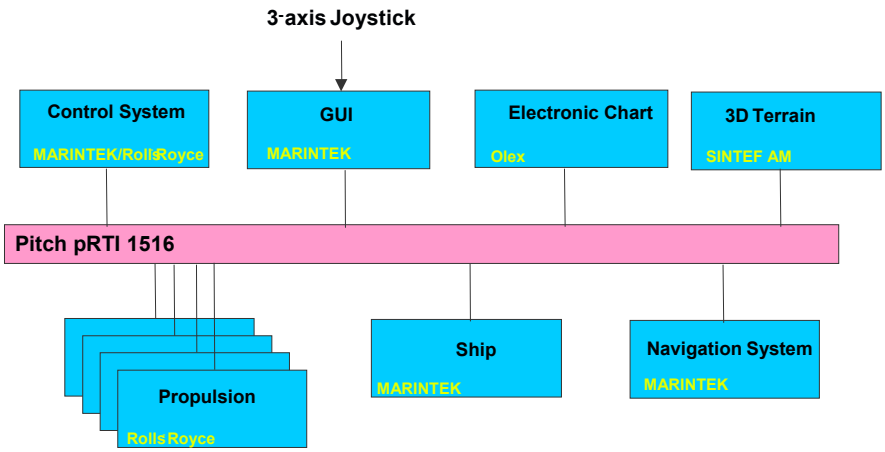
FJELLSTRAND

FerryCat™ 120

The FerryCat simulator is developed by MARINTEK and Rolls-Royce Marine in Norway. The simulator is used in early design phase to develop a joystick manoeuvring control system for the catamaran ferry denoted FerryCat™ 120. The FerryCat™ 120 is a high-speed aluminium catamaran and is an innovation in the field of commuter ferries. The ferry will have a capacity of 112 cars and 400 passengers, and will be capable of speeds of 22-24 knots, using a recently developed propulsion system, Ulstein Aquamaster Azipull® (***Azi***muthing ***pull***ing propeller).

The propulsion system consists of four propeller units, one at each "corner" of the vessel. The ferry will be steered from a wheelhouse equipped with an operation bridge, which can be rotated 180 degrees, depending on the direction of travel of the ferry. The new ferry will provide considerable improvements for passengers travel time, a more comfortable journey and quicker embarkation and disembarkation.

Simulation Architecture



FerryCat simulator architecture.

The simulator modules are connected together using the Run Time Infrastructure (RTI) software.
The RTI is an implementation of an international and NATO simulation infrastructure standard (IEEE 1516 - High Level Architecture standard).

Technology

The simulator consists of the following modules:

- Ship (hull force, wind and current effects)
- Propulsion (force and power)
- Control system (joystick and autopilot control)
- Navigation (GPS, gyrocompass, speedlog and wind sensor)
- Electronic Chart (visualisation and navigation tool)
- 3D Terrain (visualisation)
- GUI (Graphical User Interface and 3 axis Joystick)

Benefits

- Reduced commissioning time
- Safety analysis (FMEA)
- Training of operators

MARINTEK

SINTEF

MARINTEK
P.O.Box 4125 Valentinlyst
Otto Nielsens veg 10
N-7450 Trondheim, Norway

Tel: +47 73 59 58 56
Fax: +47 73 59 58 70
Email: SveinPeder.Berge@marintek.sintef.no
Web: www.marintek.sintef.no