

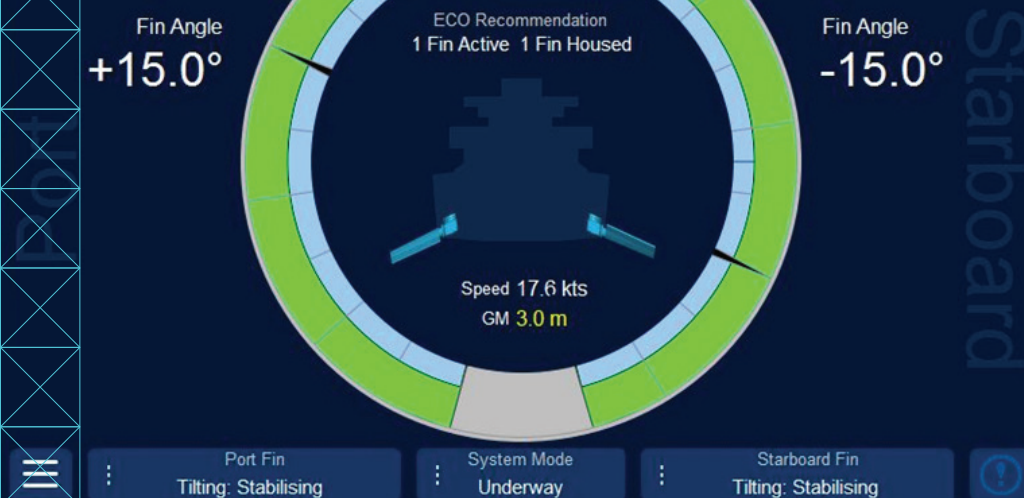
# ECO CONTROLS RETRACTABLE-FIN STABILISERS

Fin Stabiliser System

Bridge



KONGSBERG



## KONGSBERG STABILISERS

### Enhanced controls for Retractable-Fin Stabilisers

Kongsberg Maritime recognise the need to minimise the environmental impact of systems. Control systems technology has advanced and the development of Eco Controls is primarily focused on assisting the ship's crew in the use of fin stabilisers in the most efficient and economical way. The stabilisers generate lift to oppose the rolling motion of the ship. Using a stabiliser when it is not required, causes unnecessary drag which slows down the ship and leads to increased fuel costs. For example, achieving 90% stabilisation with a single fin in moderate sea conditions whether automatically or in advisory mode will aid the Captain's decision to use the equipment efficiently and safely.

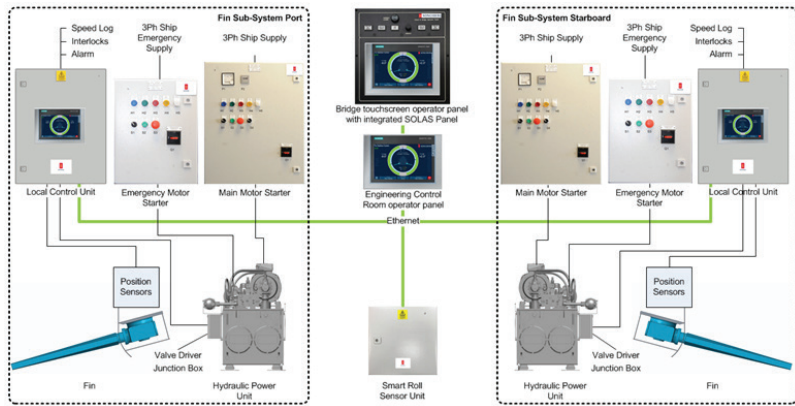
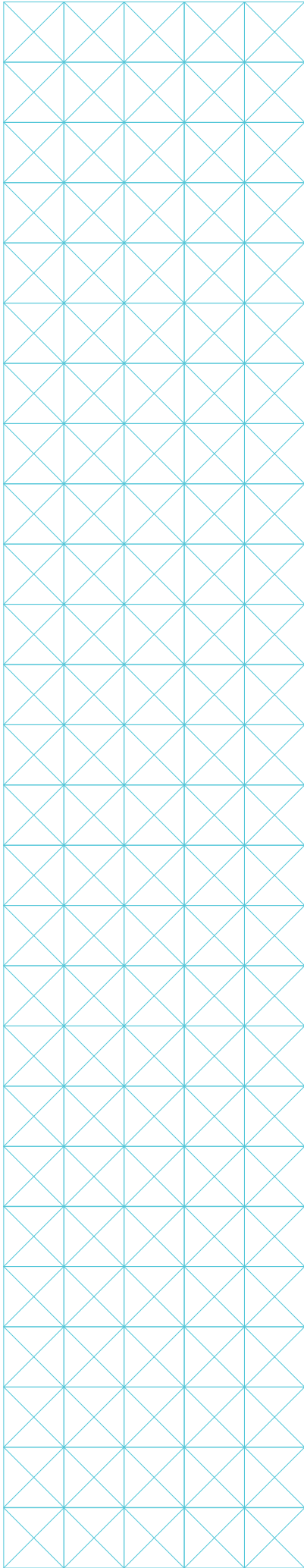
The Eco Controls system monitors the constantly changing sea conditions and determines the optimal mode in which to use the stabiliser system. Ensuring that the stabiliser is deployed when required to reduce roll (a rolling ship uses more fuel than a stabilised ship) and that the stabilisers are used in passive mode (held at zero degrees) or housed when not in use.

This product improvement is primarily a software upgrade. The most visible change will be the operator interface. The operator interface has vastly improved, moving away from a simple mimic of pushbuttons and lamps to a modern intuitive, easy to use interface. The system interface provides the required guidance for the ship's crew and information on how efficiently the stabilisers are being used.

This enables the operator to use the system efficiently whilst avoiding over use of the system, subsequently achieving lower fuel costs and longer life expectancy of the system operations.

#### MAIN POINTS

- Eco Controls feature provides operational feedback so the operator can make informed decisions on the most efficient use of the stabilisers.
- Savings in fuel and power consumed.
- Automatic or advisory mode which the operator can clearly select.
- New user interface offering an intuitive display and control.
- Based on the company's proven industrial Programmable Logic Control system.
- Retrofit solutions are available.



System block diagram

Eco Controls are now a standard feature across all commercial fin stabiliser products.

The system has various modes of operation in addition to active underway stabilisation with two fins, with the ability to use the stabilisers in passive mode, and single fin mode depending on demands caused by heading, sea and weather conditions. The thresholds of the system can be customised by the operator to set comfort levels as required.

The Eco Controls system manages the hours used per side of the stabiliser so this is evenly distributed.

The system stores historic use, trends and data for future analysis. For example logging deviations from the advisory mode settings.

Eco Controls is available for new builds and is a retrofit solution for existing KONGSBERG installations. The precise scope will depend on the age and the original equipment supplied and may require additional hardware.