

# PERFORMANCE MONITORING SYSTEMS



 **CETENA**  
S.p.A.

THE ITALIAN SHIP RESEARCH CENTRE

a **FINCANTIERI** company

## PERFORMANCE MONITORING SYSTEMS

MINIMISATION OF FUEL CONSUMPTION IS ONE OF THE TOP PRIORITIES OF SHIPOWNERS AND SHIP OPERATORS.

CETENA has a solid experience with the development, installation and operation of monitoring systems that have been successfully developed and installed on board merchant and naval ships over the years.

CETENA has developed the **PERFORMANCE MONITORING (PM) and OPTIMUM TRIM ESTIMATOR (OTE)**, a data collector system with the objective to monitor all the relevant parameters on board and provide ad hoc processed information to increase energy efficiency and reduce operating costs.

PM collects data from the vessel's automation and navigation systems and from ad hoc sensors (flowmeters, torquemeters, inclinometers...) and is able to filter and integrate data, display all relevant information to the ship master, provide customized voyage reporting according to customer needs and offices in order to assess the fuel savings and the ship management adopted by on-board personnel.

Furthermore, PM can be coupled with OTE to monitor and optimize dynamic trim in real-time, providing information to the ship master. Comparing all actions aimed at reducing propulsive fuel consumption on board a ship, the adoption of an optimum trim during navigation probably has the one characterized by the best benefits/cost ratio: this can lead to 5% reduction of fuel consumption.

### Benefits

- Compliance with IMO SEEMP guidelines
- Plan improvement actions based on long term data collection
- Assessment of retrofit effectiveness (silicon paints, hydrodynamic appendages, new propellers, etc.)
- Fuel consumption reduction adopting the optimum trim
- Reduction of emissions through improved fuel efficiency
- Automatic and customized voyage and fuel reporting
- Reporting of vessel performance and management to the onshore team
- Visualization of system interface on any PC on the ship and on-shore PCs linked to ship net

