

MESA



Maritime Europe Strategy Action

TTG 1 – Energy Efficiency
Workshop,
Brussels, 5 March 2014

MESA – ENERGY MANAGEMENT

Introduction

- Energy management for best efficiency - general principles:
 - Reduce demand
 - Optimize energy production:
 - Adapt production to demand
 - Increase efficiency of production (incl. recovery of waste energy)
- Types of measures
 - Design: individual systems, integration of all systems
 - Operational: monitoring & analysis, decision support, crew awareness
 - Ship level / fleet level

Technology Breakdown

6.1 Energy modelling	6.1.1 Mathematical modelling of shipboard systems
	6.1.2 Energy systems integration
6.2 Systems optimisation	6.2.1 Electrical plant, Power Management System
	6.2.2 Variable speed pumps / fans
	6.2.3 Waste heat recovery
	6.2.4 HVAC
	6.2.5 Other ship specific systems
6.3 Design for energy efficient operation	6.3.1 Optimum energy systems architecture in relation with ship operational profile
	6.3.2 Energy Management System
6.4 Decision support for energy efficient operation	6.4.1 Data monitoring & processing; ship & fleet levels
	6.4.2 Inference model / ship level
	6.4.3 Inference model / fleet level

Relevant EU Projects

(identified so far)

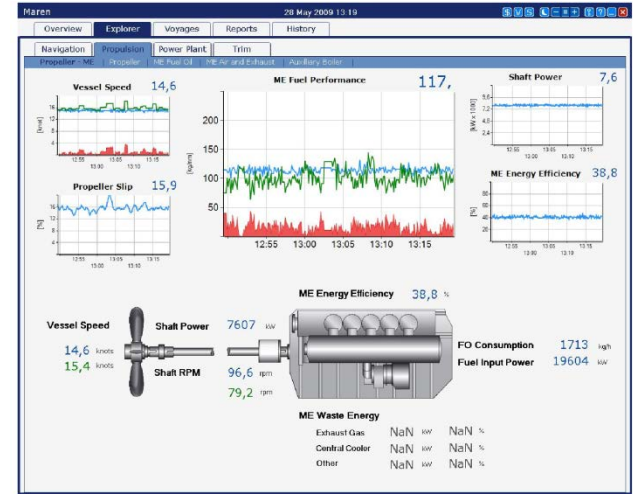
- BESST
- TARGETS
- REFRESH
- INOMANS²HIP
- TEFLES
- ULYSSES
- JOULES

Commercial Monitoring / DSS

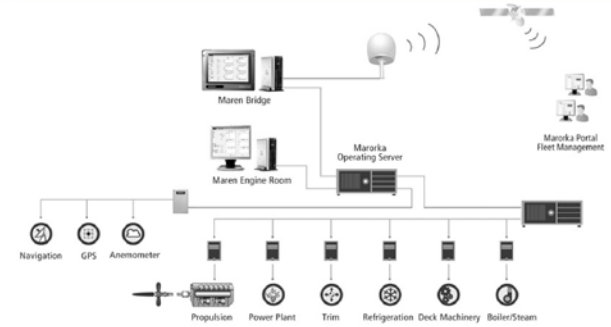
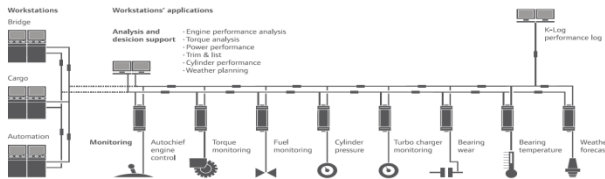
Kongsberg



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ABB



Summary

- Several EU projects dealing with energy management identified
- Most of them not completed; limited descriptions or results available
- Commercial products (Monitoring and DSS) exist
- Energy modelling: methodology, “standardisation” , use for design, developed in JOULES
- Need for further research:
 - Validation?
 - Adaptation to new energy network architectures, multiple-fuels, energy storage,...
 - Energy Management System
- All (your) inputs are most welcome

Thank you for your attention