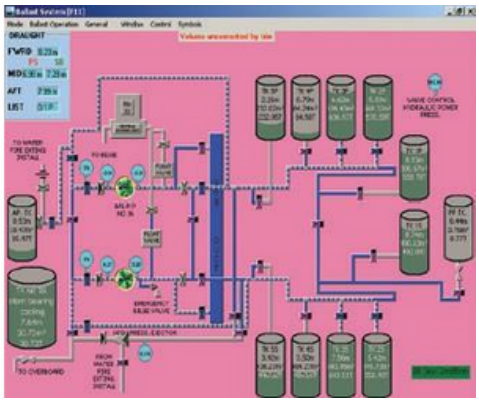
Totem IMACS

Integrated Monitoring Alarm & Control Systems

Advantages:

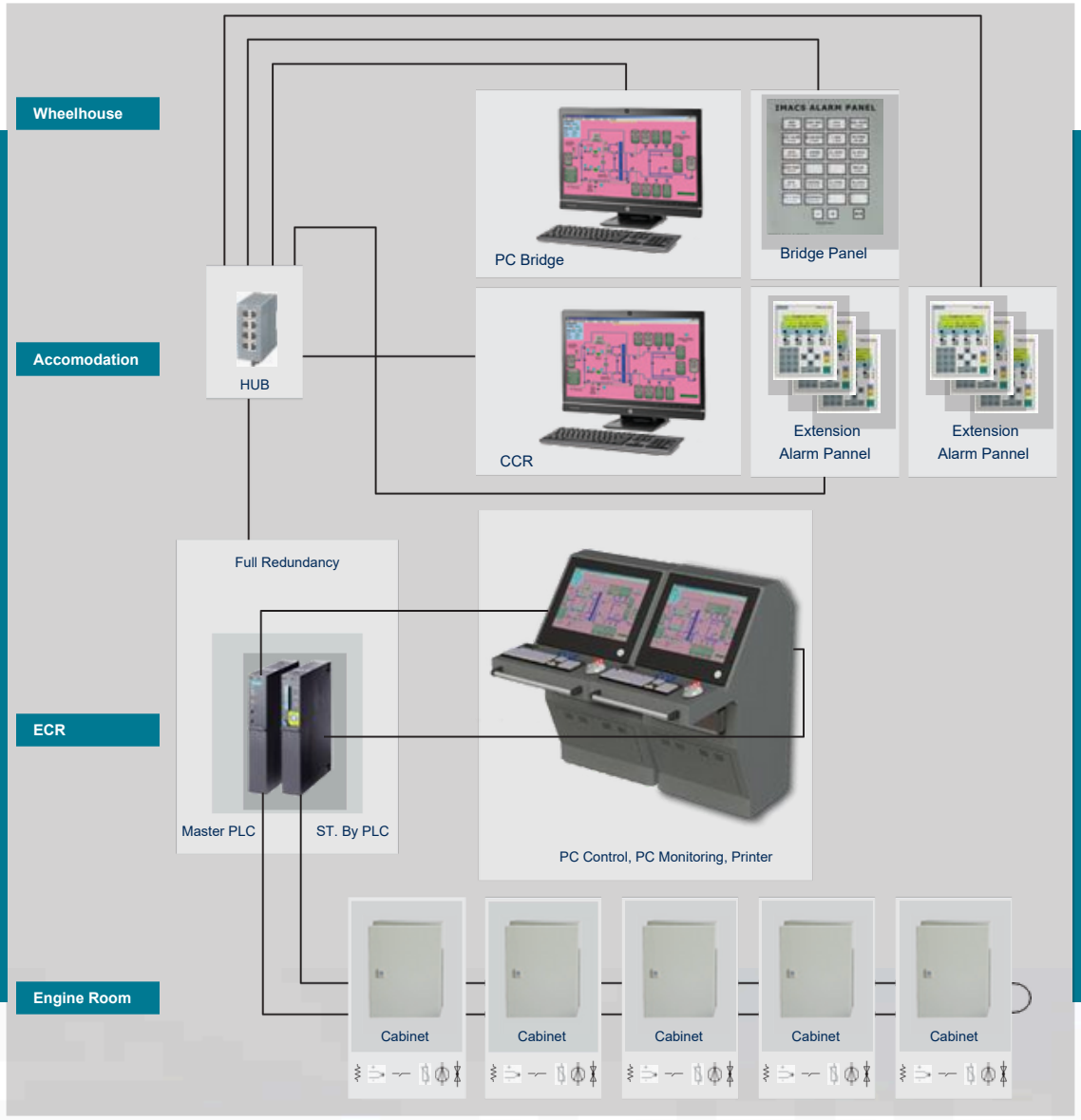
- ➤ Use of available and affordable Commercial Off The Shelf hardware.
- ➤ Full redundancy of CPU (optional) and BUS and work station.
- ➤ On Line Stability – Automatic GM Measurement before sailing, during voyage.
- ➤ Fuel Efficiency.
- ➤ Office version as part of the system.
- ➤ Multi Sensor Alarm makes the IMACS an event based system.



- ➤ LAN ready for ship's computers.
- ➤ Intelligent Data Analysis for Condition Based Maintenance & Monitoring
- ➤ Cyber (E27) compliant.
- ➤ DSS: Engineer DECISION SUPPORT SYSTEM

Totem IMACS

Example of System Layout:



Totem IMACS can integrate TLG, VRC, PMS, Anti Heeling and Stability into one comprehensive system.

DSS: Engineer Decision Support System

Increase of Engineer situation awareness & response time.

- **Multi Sensor Alarm Analysis -** With the help of MSA, based on status of **several sensors**, a Physical Event is defined and alarms are issued.
- **For each alarm:**
  - IMACS issues the engine maker (or management) advice for trouble shooting.
  - IMACS enables the user to get solutions from a specific page in the relevant manual.

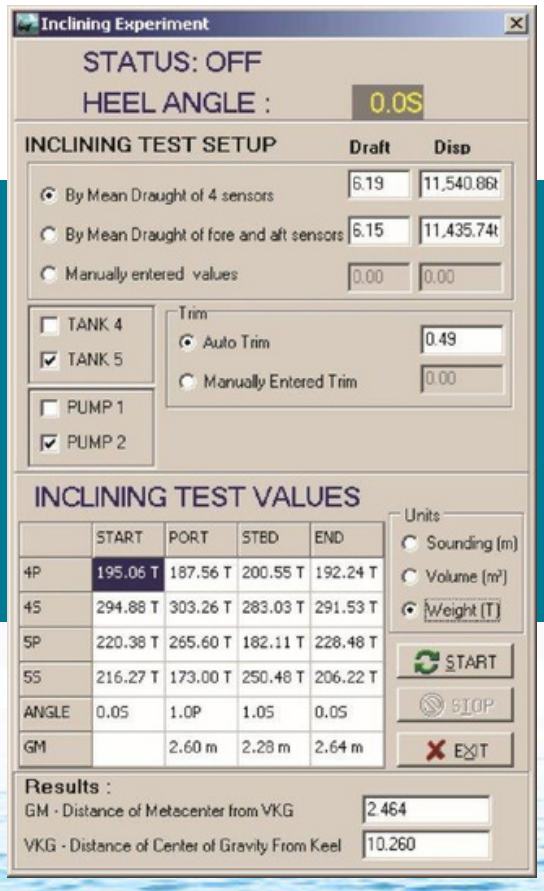
Faster ENGINEER RESPONSE Minimizes Failure Escalation!

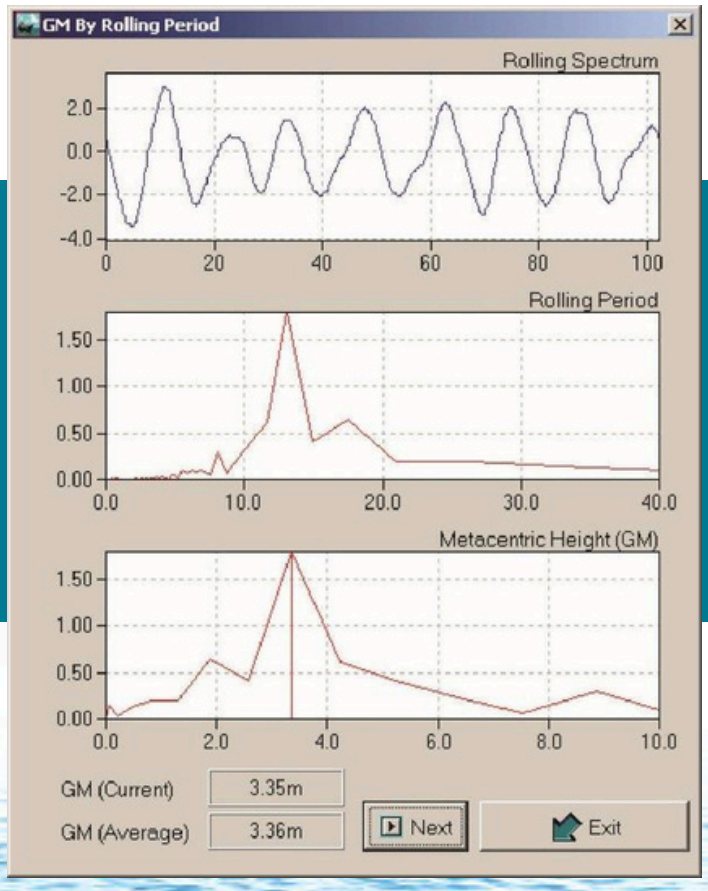
On Line Stability

Container ships and Car Carriers can be at risk of losing stability due to wrong cargo values.

IMACS allows measurement of GM onboard to keep vessel safe at all times:

- GM from Pre Sail inclining experiment
- Automatic GM monitoring during voyage



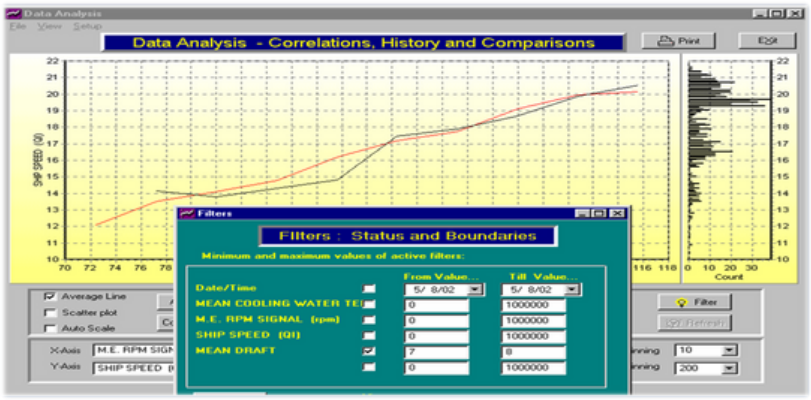


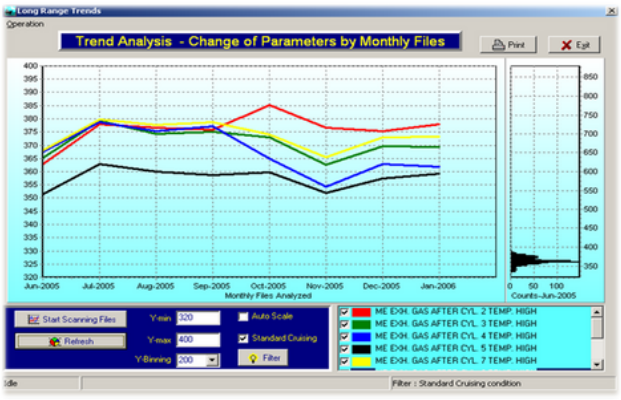
Intelligent Data Analysis

The analysis can achieve better understanding of engine performance, and gain significant improvement in Preventive Maintenance.

- ➤ Engine data can be analyzed at all times.
- ➤ Trends of important sensors are analyzed to show future values.
- ➤ Correlations of sensors (under varying conditions such as RPM, draft, etc.) can be analyzed.
- ➤ Plot dependencies of co-related parameters.
- ➤ Establish common domain for correlations.

Data Analysis - Trends, Correlations, History, and Comparisons





Engine Performance