

► Platform Management System

The Platform Management System is an integrated vessel control and monitoring system, providing centralised management of sub-systems by means of a computer network. Access to the functions of the PMS is via a human-machine interface, using a graphical environment to display information effectively.

The PMS would typically provide the following functions :

- Provide a general view of various sub-systems
- Facilitate rapid solutions to complex decision situations
- Allow monitoring and control of remote equipment from a generic PMS Console (PMC)
- Interface to proprietary systems
- Record information for record keeping and maintenance purposes
- Provide a training facility through the use of simulation

Features

- Integrated
- Distributed
- Networked
- Fault-tolerant
- User friendly
- Affordable
- Scalable

Functions

The Platform Management System (PMS) provides centralised management of the following classical functions within the vessel :

- Manage ship's propulsion system
- Manage ship's electrical system
- Manage ship's auxiliary system
- Manage damage control
- Provide ship's stability data
- Assist with helicopter operations
- Assist with maintenance tasks
- Data logging
- Distribute video
- Provide training
- Provide electronic mail facility
- Manage ship's operative manning



Typical Console for PMS using Flat-Panel Display

Design and Architecture

The PMS implements a distributed hardware architecture ensuring a high level of reliability with redundancy at any level and freedom from any single point of failure, effective reconfiguration procedures and extensive BIT (Built-in Test). The PMS provides a flexible and modular architecture which interfaces to equipment manufactured by different suppliers, accommodates alternative versions of the installed equipment and allows improvements and updates to be incorporated during the service life of the platform. The PMS is based on an open systems architecture, facilitating ready integration of new sub-systems.

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Interfaces

The PMS interfaces, either directly or indirectly, to the control circuitry of equipment, such as main engines, generators and pumps, allowing remote monitoring and control. A multi-level access control system is used to ensure responsible use of this powerful facility.

The PMS provides an interface to on-shore logistic support systems in the form of equipment usage statistics, fault finding logs and service intervals. This information can be used to determine optimal servicing of all major equipment. The PMS allows for the display of live video from unmanned machinery spaces, the flight deck, cargo holds and other remote areas.

Graphics

The PMS utilises high-performance display technology to implement its human-machine interface. Information received from the various sub-systems is displayed in a user-friendly fashion. Dials and indicators are used to present information in a clear, easily understood way. Screens can easily be reconfigured to accommodate user preferences, equipment changes or upgrades.

Applications

- Naval Ship Management
- Merchant Ships
- Leisure Yacht Ship Management

PMS Specifications

Physical Characteristics :

- The PMS uses the ship's 115 V, 60 Hz power supply. The power supply requirements are specified by STANAG 1008. The power requirement is 5 500 W maximum (for a typical system of 3 000 nodes)

Performance :

- The PMS can monitor at least 3 000 analogue points
- The PMS can monitor at least 3 000 digital points
- The PMS provides at least 10 bits of resolution for analogue inputs. All conversions performed (for example voltage to temperature) are accurate to 0,1%
- The inputs to the PMS are categorized as slow inputs and fast inputs. Slow inputs are used to monitor values that change slowly, such as tank levels, while fast inputs are used for critical sensors such as equipment temperatures

Inputs	Numbr of Inputs	Intervals between Samples
Slow	4 000	<1 minute
Fast	2 000	<5 seconds

Input Sampling Performance