

Wärtsilä NACOS VALMATIC Platinum

Integrated Automation
System





Integrated Automation for Assured Quality and Safety

Wärtsilä has always been in the forefront of technological developments that add real value to the installations of its customers. Our leadership position is now once again emphasised with the introduction of the new Wärtsilä NACOS VALMATIC Platinum system, a fourth generation technology platform for modern ships. This innovative technology is the result of 30 years of experience, and is a powerful state-of-the-art distributed process control and monitoring system.

The Wärtsilä NACOS VALMATIC Platinum system has a multifunctional and user friendly operator interface where process related information is readily at hand at all times. An information management system that includes a history database, analyzing tools, process replay, reporting functions, diary and more is available for optimizing the ship's operational performance.

Distributed hardware combined with a modular architecture enables a very high degree of flexibility to ensure optimal installation solutions. Redundancy is the standard solution in system design, and

the built-in redundancy of Wärtsilä solutions enhances the company's reputation for reliability.

Leading the Way

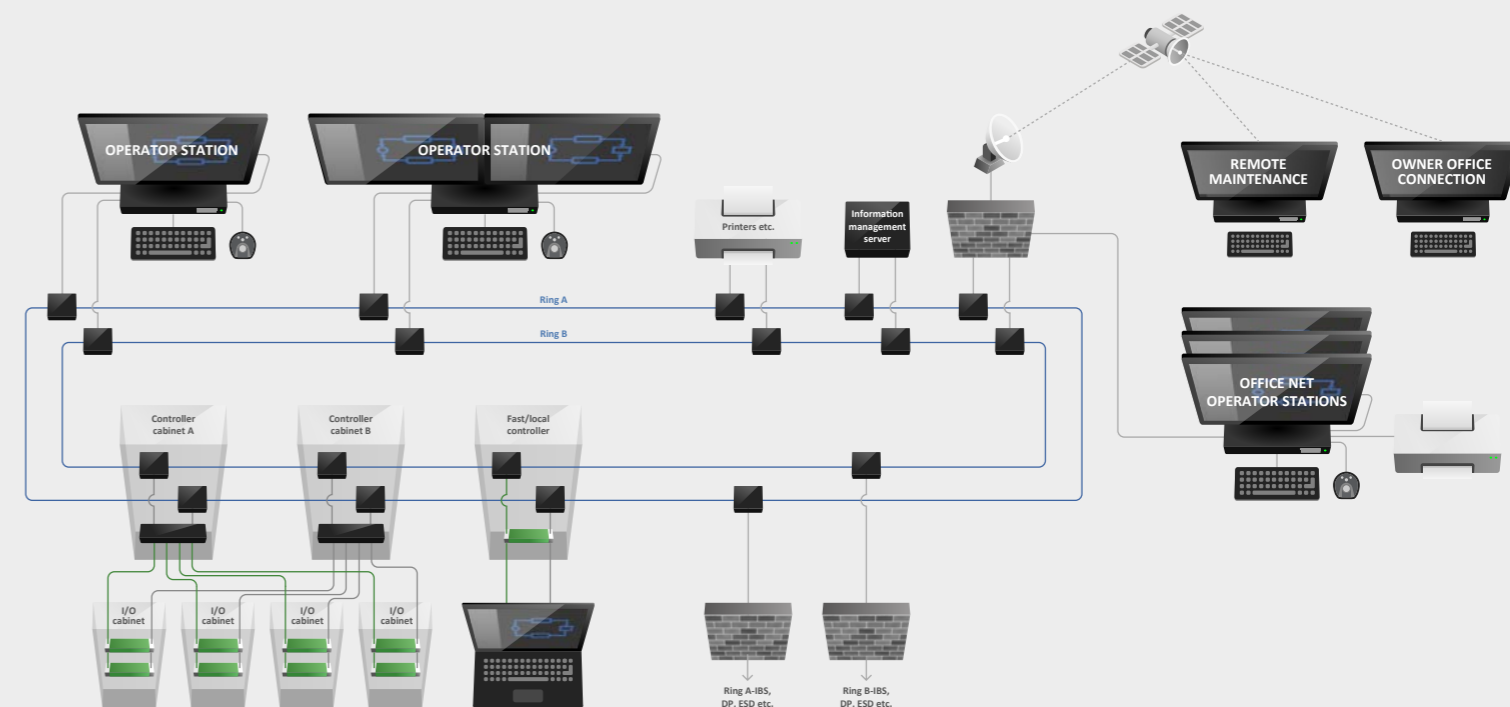
Our systems are available in a range of different versions, from a basic design with only a few work stations to serve ships where the space is limited, to customized solutions that offer the ultimate in ship system integration. Wärtsilä's dedicated and highly skilled staff is on hand to meet the demands of its customers with professionalism and the highest possible level of service.

Features

- Dual redundant system network
- Redundant process network
- Local control & operation at processor level
- Hot swap of any components
- User centered HMI design – with zoom and pan
- Fast system recovery
- 1 ms sequence of events
- UTC & local time for alarms
- Remote diagnostics
- Ship to shore link
- Historical database incl. tools for reports, trends, replay etc.
- Improved online & offline tools for commissioning.

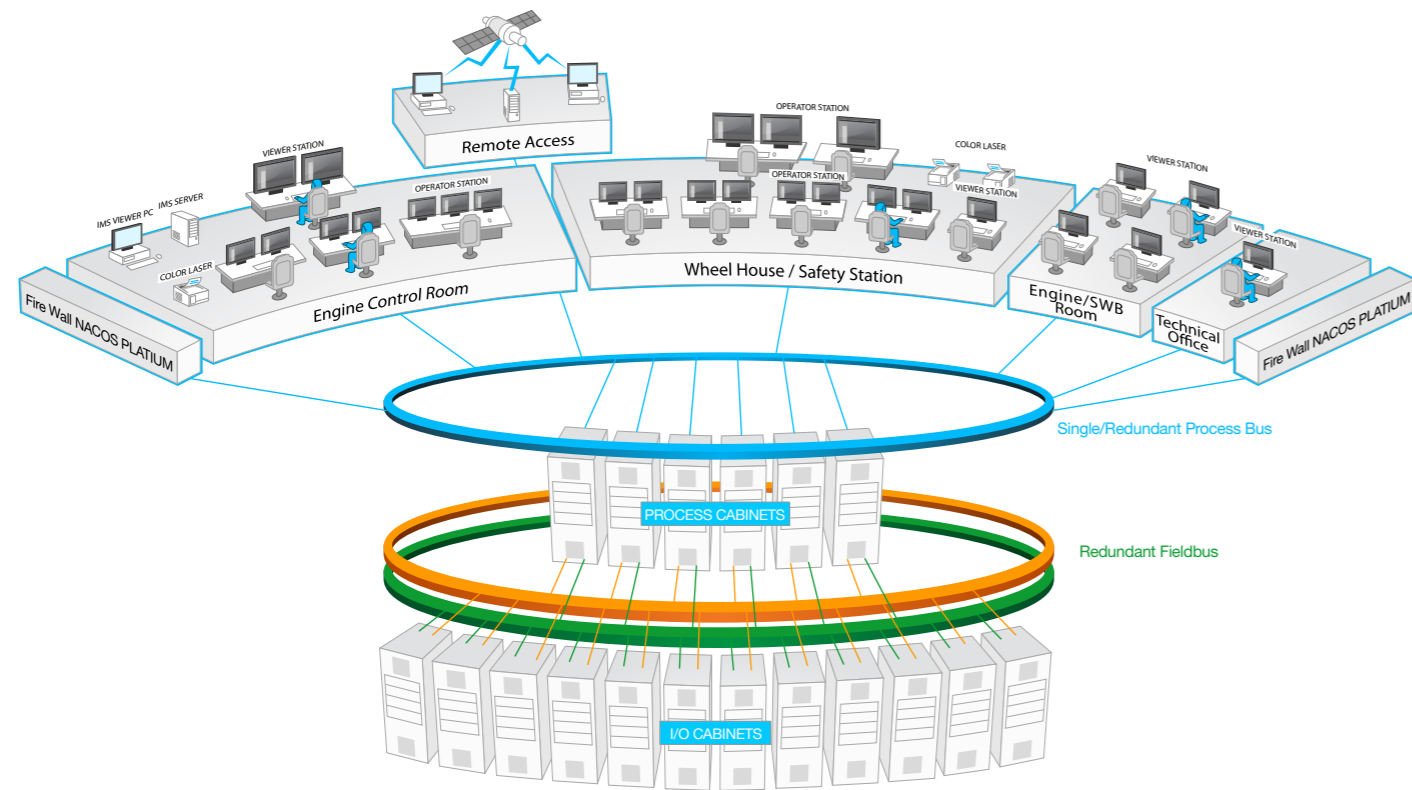
Applications

- Machinery control
- Power management
- Propulsion & thruster control
- HVAC
- ESD
- Cargo
- LNG
- Navigation
- Auxiliary equipment
- Dynamic positioning.



Configuration of the Wärtsilä NACOS VALMATIC Platinum system

Integrated Vessel Management System



Total Integration

The Integrated Vessel Management System from Wärtsilä offers a high level of integration between the ship's main control and monitoring systems, such as machinery automation, HVAC automation, emergency shutdown and integrated bridge systems.

Redundancy is built into all levels of the system, preventing a system failure from causing loss of control, monitoring, or safety functions.

Work stations are multi-functional and any station can be used for any task. The system communication network is redundant and based on fiber optics.

The process control stations have main and reserve units distributed in different compartments. I/O field buses are redundant with electrically isolated branches.

These features ensure availability and operational safety.

The NaviNet Integrated Bridge System (IBS) is the world's first truly multi-functional network based navigation system. It offers integration with or interfacing to a wide range of sensors and sub-systems. This includes ARPA, ECDIS, Conning and IAS availability on all work stations. NaviNet™ IBS is installed on advanced naval and commercial ships.

Machinery System

The Wärtsilä NACOS VALMATIC Platinum IAS is available for different propulsion alternatives:

- Dual fuel diesel electric propulsion (DFDES)
- Slow speed diesel electric propulsion (SSDR)

- Conventional steam propulsion (STEAM)
- Combined gas turbine and steam turbine
- Electric propulsion (COGES)

The system integrates the control and monitoring of all the basic machinery systems such as:

- Propulsion plant
- Power plant
- Auxiliary machinery
- Fuel plant / bunker system
- Bilge system

Interface to:

- Integrated bridge system
- VDR
- CCTV system
- Ship performance system
- Ship administrative system

Power Management System

Wärtsilä has vast experience in power management systems and whether the power plant utilizes a diesel engine, a gas turbine, or a steam turbine, the fully integrated Valmatic Power Management System is the right choice.

The system offers a wide range of functions that can easily be adjusted to fit the actual machinery configuration or operational needs.

Cargo System

The Wärtsilä NACOS VALMATIC Platinum system integrates all the main functions related to the cargo handling process. The cargo control and monitoring system can be fully integrated with the machinery system, or designed as a stand-alone

system with a redundant communications link to the machinery system.

The system interfaces the different sub-systems and provides manual, semi-automatic, or automatic operation modes.

Propulsion Control System

Wärtsilä offers propulsion control solutions for electric motor / thruster systems, as well as for conventional mechanical propulsion systems.

The system is designed with redundant and physically separated processing control units for maximum system availability and operational safety. Command levers have an electric shaft system and the set point potentiometers are dual for maximum redundancy and safety.

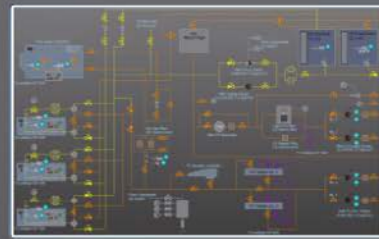
Integrated Vessel Management System

The integrated vessel management system (IVMS) offers a high level of integration between the important control and monitoring systems, such as IAS, ESD system, ISMS and IBS.

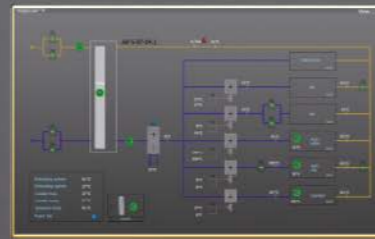
The concept enables seamless communication between the various sub-systems on a common network platform. At the same time, it maintains the integrity of each sub-system through the use of ethernet routers as connectors.

Multi-functional work stations enable the availability of sub-systems in any control room within certain defined operational restrictions.

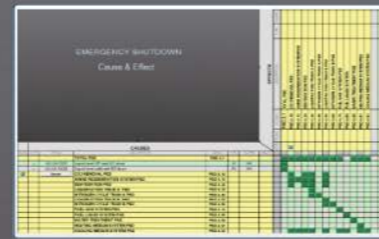
VALMATIC Platinum series Integrated Vessel Management System



Machinery
Machinery Home



HVAC
HVAC Home



ESD
ESD Home



Maintenance

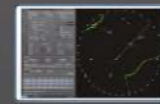


ECDIS

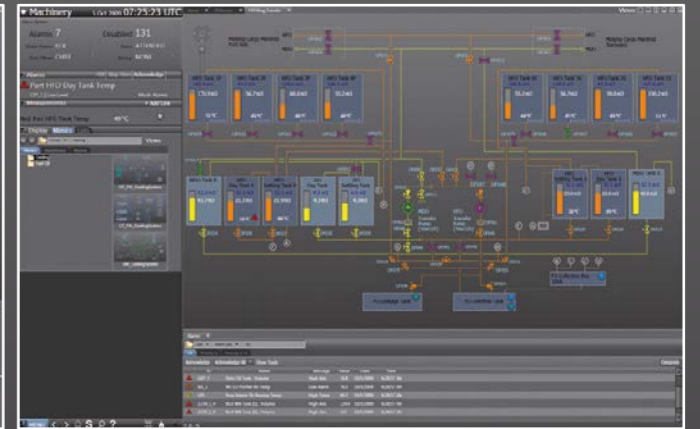
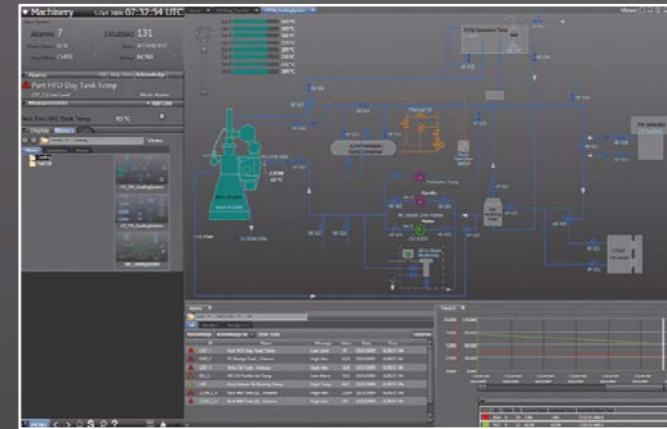
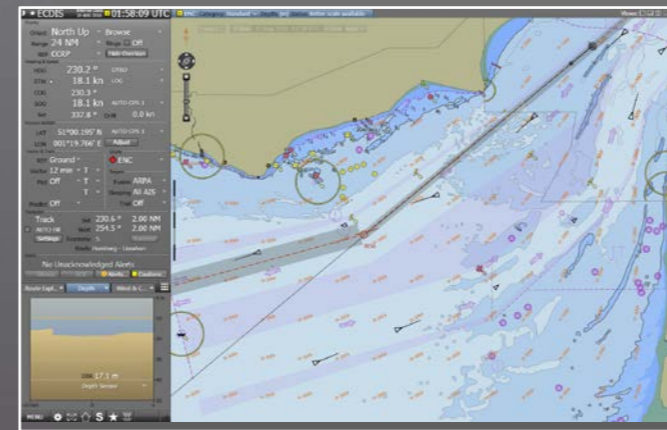
[Navigation Home](#)
[ECDIS Monitoring](#)
[ECDIS Planning](#)



Conning



Radar



Safety Management System

The safety management system (SMS) is a central part of the vessel management system for all activities that concern passengers, crew and ship safety.

The SMS provides access to all information and procedures related to the handling of incidents and emergencies.

Layer based graphics give the user the possibility to filter information irrelevant to the actual incident or emergency.

The system can include control functions related to the interfaced safety systems.

Efficient training of users and crew is supported by a simulation mode.

Integrated Bridge System

The integrated bridge system offers fully integrated navigation solutions based on redundant multi-functional workstations.

A work station may include all navigation functions as well as access to the IAS user interface. The NACOS VALMATIC Platinum IBS offers a highly flexible bridge arrangement that fits ships of any size and type. NaviNet™ is a naval version of the IBS.

Emergency Shutdown System

The ESD system is a redundant, failsafe system for the manual or automatic shut-

down of machinery, ventilation and flammable liquid systems.

Improved ship operations

The new Wärtsilä NACOS VALMATIC Platinum Automation System is designed to improve ship operations via increased usability, safety and reliability. The Wärtsilä Platinum series of integrated systems for navigation, dynamic positioning and marine automation, are all based on the same technology. This ensures seamless integration, leading to a consistent and common operational philosophy and alarm handling. A unique "Home page" concept makes all vessel applications

including machinery, HVAC, ESD, propulsion, ECDIS, ARPA radar, accessible from every operator station.

Operation

By following operating principles similar to those of modern browsers and major software packages, the Wärtsilä NACOS VALMATIC Platinum HMI will be immediately familiar to most computer users. The new and improved HMI also ensures continuous operations via extensive online diagnostics, support for onboard crew maintenance, and remote diagnostics.

Safety and Flexibility

Our system network is based on a single redundant ring net, but to meet the ever rising demand for increased safety we have designed the system with an optional second independent ring net. On the process side, redundancy is taken care of by a redundant process network based on a proprietary protocol. The networked system is highly scalable and offers superb flexibility to optimize safety and redundancy as well as cost effectiveness. All critical components, I/Os and controllers utilized in the system are the property of Wärtsilä, thus ensuring life support and the safeguarding of your investment.

Benefits

- Easy to install and maintain
- User friendly HMI
- Seamless integration with Wärtsilä products
- Improved service availability
- Reduced lifecycle cost.



Wärtsilä is a global leader in complete lifecycle power solutions for the marine and energy markets. By emphasising technological innovation and total efficiency, Wärtsilä maximises the environmental and economic performance of the vessels and power plants of its customers.

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