

Completely Integrated Solutions
for Vessels

SISHIP^{CIS} SINET

A service-integrated network

With SISHIP^{CIS} SINET, Siemens provides a comprehensive, future-oriented solution for shipping operations. Utilizing fibre-optic cables, the individual components of the ship are combined into a single network. This not only lowers installation costs, maintenance and cabling, but also results in more safety on board while facilitating the monitoring and control of the entire system. Because SISHIP^{CIS} SINET is based on standardized components, the network solution can be flexibly adapted to meet the individual needs of a particular ship, as well as easily expanded at a later point in time.

SISHIP^{CIS} SINET – meeting the challenges of the future

Passengers on cruise ships have high demands with respect to communications, information and entertainment, including Intranet/Internet access, the E-mail system, web-based information systems, games, as well as constant availability of a comprehensive selection of video/audio applications.

As a result of the international competition for passengers, cruise ship companies and shipyards are therefore greatly interested in fulfilling these increasingly high demands. And they are also interested in innovative solutions that provide the ship owner with value-added customer benefits, and that at the same time reduce the total costs of building a new ship.

Numerous different systems are distributed particularly on board cruise ships. The current situation shows a variety of different networks for the various services. Kilometer upon kilometer of copper or coaxial cables,

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UTP/STP and fibre-optic cables form these networks. The larger the ship and, consequently, the distances, the more difficult and cost-intensive it is to equip the facility with cabling. What is more, space for units, devices and the cable network is very limited.

There is also a trend toward more and more connections and data with respective networks. This means that the cabling costs of ships will continue to rise, and that great space constraints can be expected in the future, space for all of the many new components, as well as for the additional cables and cable paths.

This requires one network, rather than many, that provides a simple means of integrating the entire infrastructure.

Five good reasons for SISHIP^{CIS} SINET

- Higher level of availability and operational safety
- Cost reduction through minimized installation, maintenance and cabling expenditures
- Simplified network management through integration of all services into one large, standardized network
- Investment- and future-proof through simple expansion and integration of new services
- Flexibly adaptable to new situations



SISHIP^{CIS} SINET – Our solution in detail

Our solution is a network based on fibre-optic cables that integrates part or all of the services into a single comprehensive network. The best solution is a services-integrating network that integrates all services.

The utilization of fibre-optic cables guarantees the highest degree of security and reliability, because they are not sensitive to electromagnetic interferences. Cable damage as a result of fire also does not impair the functionality of the rest of the network.

If the safety-relevant functions and control components are also integrated into the network, the crew has immediate access to the relevant process data in the event of damage, and can promptly initiate counter-measures. This significantly increases the availability and operational safety of the ship.

SISHIP^{CIS} SINET offers a variety of innovative solutions and, in addition, is designed to meet more than the current needs, for example:

- Value-added customer benefits through the use of innovative technology while, at the same time, reducing total costs.
- SISHIP^{CIS} SINET is designed to assist shipping companies and shipyards successfully meet the challenges of the future.

SISHIP^{CIS} SINET is based on standardized components which are adapted to the individual needs of a ship. This flexibility creates an open dialogue between all involved partners wherein the partners make the final decision as to the type and size of the successful network.

Expansions and migrations at a later point in time are also easily performed.

First, all non-critical functions are integrated, i.e. the electronic point-of-sale system (EPOS), the management systems, telephone system, camera systems (CCTV), as well as the information and entertainment system with digital TV and video/audio on demand. Safety-critical systems are integrated at a later point in time: security management, alarm, monitoring and control, emergency shutdown, fire alarm, watertight doors and fire door control.

One network for all services. This means that availability – i.e. system failure protection, and the data and data transfer protection within the network – plays a vital role.

In terms of availability, this means that SISHIP^{CIS} SINET is designed to take high redundancies concerning hardware and cabling into account. Depending on the security zones or other special requirements, multiple redundancies can also be realized.

In order to provide secure bandwidths within the network for the various services, every service is allocated an individual virtual network, a so-called "Virtual Local Area Network (VLAN)," thereby, for example, avoiding that a service blocks the network in the event of a system failure.

Access to services and/or data is regulated by a "smart card." This prevents individuals from gaining access to all services and data. Unlike the crew, for example, passengers should not have access to important ship data. Particularly confidential and sensitive data can also be encoded and is additionally protected by security protocols.

The individually adapted concepts available for shipping companies and shipyards must, in cooperation, be further developed. The goal, after all, is to reduce the system costs, taking into consideration the demands of the classification companies, and to enhance the safety of the ship while protecting the environment.

www.siemens.com/marine

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CIS = Completely Integrated Solutions*

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SISHIP^{CIS} – Completely Integrated Solutions for Vessels

As a comprehensive industry-specific solution for seagoing vessels, our SISHIP^{CIS} product family integrates all the products and services you need for sustained maximization of your ship's performance.

For each particular task, a solution has been defined that

- **horizontally** improves all of your ship's operations
- **vertically** integrates the ship's information and security management end-to-end, helping to make better-founded decisions
- and, at the same time, is designed for optimal vessel-specific maintenance and comes with assured further development **over the whole life cycle.**

Due to this unique combination of horizontal, vertical and life cycle dimensions, our solutions all carry the genes of an exhaustive and sustained plant productivity in their very core.

For More Efficiency. More Performance. More Power.
Completely Integrated Solutions from Siemens.