

ROHDE & SCHWARZ

Make ideas real



NAVICS – ENHANCED CONNECTIVITY FOR TODAY'S NAVAL VESSELS



NAVICS

Enhanced connectivity for today's naval vessels

NAVICS, the IP based naval integrated communications system (ICS) from Rohde&Schwarz, is a turnkey solution for all classes of naval vessels. It is designed to ensure operationally proven, secure and fully IP based, internal and external voice and data communications.

**EFFICIENCY THROUGH
INTUITIVE OPERATION**

**RELIABILITY THROUGH
ROBUSTNESS AND REDUNDANCY**

**SCALABILITY THROUGH
THE LATEST IP TECHNOLOGY**

An aerial photograph of a coastline with a network diagram overlay. The diagram consists of several concentric circles and radial lines connecting to various points on the coast. The central circle is semi-transparent and contains the text 'NAVICs' and 'Turning vessels into networks'. Two other text blocks are positioned at the top and bottom of the diagram, each connected to a point on the outermost circle by a line.

**SECURITY THROUGH
CERTIFIED DOMAIN SEPARATION**

NAVICs

Turning vessels into networks

**AVAILABILITY THROUGH
LIFETIME SERVICES**

SCALABILITY

Reliable and secure information exchange for naval forces

NAVICS uses state-of-the-art Voice over IP (VoIP) and Ethernet standards, moving away from outdated and proprietary Time-Division Multiplex (TDM) based approaches toward IP-based networks.

Being a secure and fully-IP based system solution for internal and external voice and data communications that uses a single, Ethernet network for all services. It ensures reliable and secure information exchange and brings the advantages of modern IT technology to today's vessels.

NAVICS combines an open, modular and scalable IP architecture. Its multilevel security capability allows operators to communicate accrosss several securtiy domains, thereby saving installation, maintenance and training time and costs. Communications solutions by Rohde & Schwarz enable naval forces worldwide to conduct operations more efficiently and effectively.





300

Rohde & Schwarz has provided more than 300 ship platforms with state-of-the-art communications technology and makes sure to deliver a safe, future-ready investment for its maritime customers on time and on budget.

NAVICS: MISSION-PROVEN

NAVICS is mission-proven, ensures low obsolescence risk, and was developed in accordance to future naval requirements.

SECURITY

Security through certified domain separation



MULTILEVEL SECURITY

NAVICS allows operators to share voice and data, while maintaining strict multi-level security standards across all domains. NAVICS is the only solution on the market implementing hardware security modules for advanced information assurance.

NAVICS enables powerful red/black separation up to multilevel security, i.e. the thorough separation and partitioning of signals that contain sensitive or classified information (red) from those that carry unclassified information (black).

NAVICS features minimal latency, maximum throughput and extremely strong jamming resistance. Being one system for all security domains, it allows secure, trusted and tamper-proof voice and data communications.



Proven track record in CYBER DEFENSE

With more than 600 employees at its cybersecurity business unit, Rohde & Schwarz is one of Europe's largest providers of network and cybersecurity equipment for professional customers.

40

**More than 40 navies and coast guards around the world
rely on secure solutions by Rohde & Schwarz.**

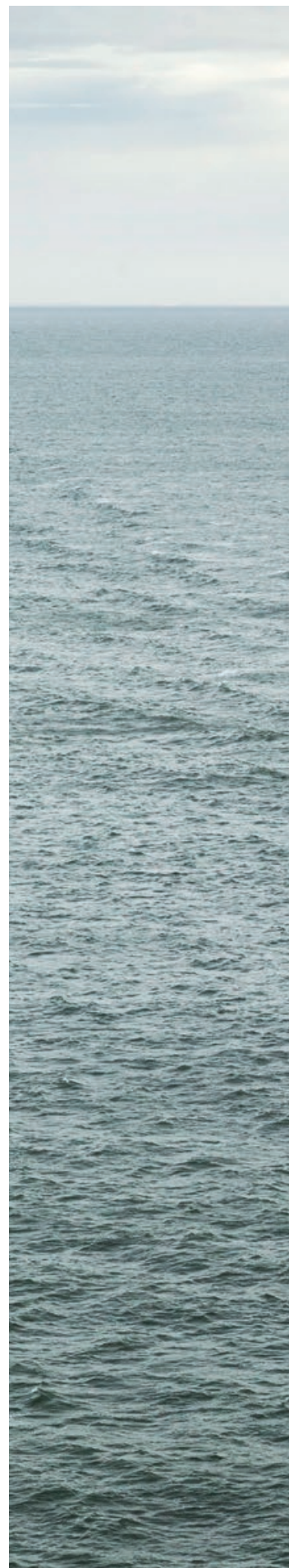
RELIABILITY

Reliability through robustness and redundancy

Rohde & Schwarz provides its customers with best-in-class information security and interoperability. NAVICS is built on a proven record of rigorous research, engineering and development expertise.

Durable and operationally proven, this robust and redundant communications network features high performance throughput and resilience. Media gateways enable the connection of legacy devices into the IP based NAVICS infrastructure in real time without any data loss. Rohde & Schwarz has a proven track record.

NAVICS enables long-lasting missions and ensures full connectivity in harsh environments.





100

A manufacturing depth of almost 100% ensures traceable quality and interface control down to the last detail.

NO SINGLE POINT OF FAILURE

NAVICS has no single point of failure (SPOF) network and provides emergency modes to save lives in worst case scenarios. It offers built-in redundancy to protect against failure, outage or disaster. It provides a holistic approach that hardens all safety-critical parts of the system against errors. It is reliable, safe, secure and always available.

EFFICIENCY

Efficiency through
intuitive operation



NAVICS WCS: A REVOLUTIONARY WIRELESS COMMUNICATIONS SYSTEM

NAVICS WCS reduces noise pollution to a minimum for mission success and to improve the quality of life on board, not least through new, modern methods for silent, efficient communications. Smartphone-like ATEX wireless handhelds enable excellent integration and enhanced connectivity to everything and everyone on board with pin-point accuracy; anytime and anywhere.

NAVICS revolutionizes onboard communications by enabling freedom of movement throughout an entire ship, 24/7 with NAVICS WCS, an intuitive wireless communications system for uninterrupted, high-quality voice communications on the move.

Smartphone-like ATEX wireless handhelds feature intuitive graphical user interfaces (GUI) that allow the operator to access all required communications securely at her/his fingertips. It connects users to the secure IP network, allowing them to enjoy the same internal communications functionalities of stationary voice terminals without being bound to a physical location, i.e., the same communications functionalities, including initiation of announcements and alarms, like "man overboard," or "fire." These and other alarms can be activated immediately without trying to reach a voice terminal.

The system can be extended with further apps for messaging, logistics support, platform management, and even personnel location, making usage of this naval smartphone easy and intuitive.

NAVICS: ALL SHIPBORNE COMMUNICATIONS AT YOUR FINGERTIPS. ANYTIME AND ANYWHERE.



EXTENDABLE WITH FURTHER APPS, CONNECTING USERS TO THE SECURE IP NETWORK, INTUITIVE GUI

24

Rohde & Schwarz stands ready for its partners, 24 hours, seven days a week.

AVAILABILITY

Availability through lifetime services

NAVICS SERVICES

- ▶ A support network extending over many different time zones with over 70 service and sales locations, enabling 24/7 service support
- ▶ Comprehensive service throughout the product lifecycle
- ▶ Regional service centers, production plants and specialized subsidiaries provide a wide range of services, planning and training
- ▶ A reliable partner under all circumstances

Maintaining complex technologies, especially at sea, requires dedicated staff and is time consuming and resource-intensive. The technical experts at Rohde&Schwarz ensure peace of mind by offering professional maintenance, repair and overhaul (MRO) services for the entire lifecycle, including cyber resilience, from a single source. These services range from analysis of operational requirements to system design, production and commissioning as well as lifetime support.

The technical and technological expertise of Rohde&Schwarz offers customers low risk and supports them by offering comprehensive services throughout all phases of the product lifecycle. A global service network with local contacts ensures short response times. The service portfolio includes standardized products, such as calibration and repair services, and individual service concepts tailored to customer requirements. A free 24/7 hotline provides support for all of the company's products.

SINGLE POINT OF CONTACT



**OBSOLESCENCE/
RESOLUTION**



**SECURITY AND
MAINTENANCE**



**24/7 SUPPORT
HOTLINE**



**REPAIR AND
SECURITY PATCHING**

70

**With more than 70 service and sales locations,
Rohde & Schwarz is always close to you.**

NAVICS

A complete system from one source

Longevity is a fundamental quality feature of Rohde & Schwarz products. Being a high-tech company that thrives on innovation, it is paramount to maintain highest standards. Rohde & Schwarz keeps nearly its entire value-added chain within the company. Central research and development (R&D) is located at its Munich headquarters and development centers around the globe implement applications that are tailored to the requirements of local customers.

CYBER SECURITY



LIFETIME SERVICE

ONBOARD NETWORKS

COMMUNICATIONS CONTROL

MOBILE COMMUNICATIONS

VOICE AND DATA

NAVICS

Turning vessels into networks

EXTERNAL COMMUNICATIONS

Rohde & Schwarz

The Rohde & Schwarz technology group is among the trailblazers when it comes to paving the way for a safer and connected world with its leading solutions in test and measurement, technology systems, and networks and cybersecurity. Founded more than 90 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

www.rohde-schwarz.com

Service at Rohde & Schwarz You're in great hands

- ▶ Worldwide
- ▶ Local and personalized
- ▶ Customized and flexible
- ▶ Uncompromising quality
- ▶ Long-term dependability

Sustainable product design

- ▶ Environmental compatibility and eco-footprint
- ▶ Energy efficiency and low emissions
- ▶ Longevity and optimized total cost of ownership

Certified Quality Management

ISO 9001

Certified Environmental Management

ISO 14001

Certified Quality Management

AQAP-2110

Certified Quality Management

EN 9100

Rohde & Schwarz training

www.training.rohde-schwarz.com

Rohde & Schwarz customer support

www.rohde-schwarz.com/support

