DANPHONE

PORT COMMUNICATION SYSTEM

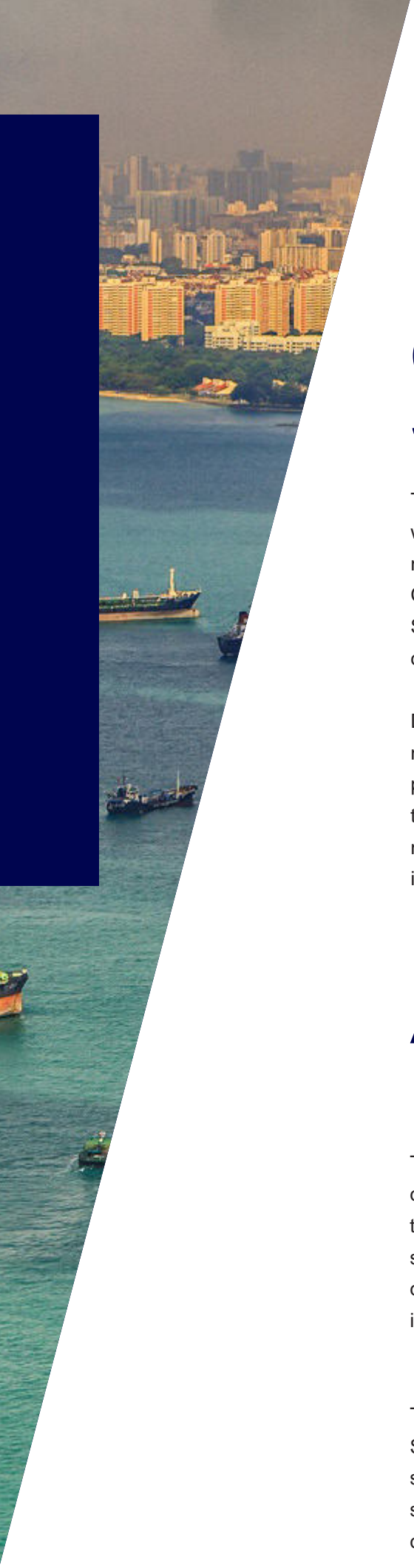
WE ENSURE SAFE MARITIME COMMUNICATION WORLDWIDE

THE HISTORY OF THE PORT COMMUNICATION SYSTEM

The Danphone Port Communication System is a globally recognized solution for enhancing a port's operation, efficiency and performance.

In the modern maritime industry, ports face two significant challenges. The first is congestion, where vessels queue up, unable to berth, leading to delays and operational disruptions. The second challenge is the ever-evolving nature of the maritime sector, characterized by an increasing number of ships, new ports, changing infrastructure, and a growing emphasis on technology, service, climate, and security.

Our Port Communication System empowers you to overcome these challenges and regain control of your day. It's a user-friendly modular system designed to meet all your specific needs and requirements, ensuring smooth operations and peace of mind.



PORT COMMUNICATION SYSTEM IN BRIEF

The Port Communication System is derived from our experience with GMDSS Coastal Radio Solutions but tailored to the specific requirements of ports. It includes components such as Digital Selective Calling (DSC), Automatic Identification System (AIS), VHF, UHF, MF/HF, Satellite Communication, NAVTEX/MSI, and other modules, allowing for customizable configurations to suit your port's needs.

DSC automates distress channel monitoring across VHF and MF/HF radios, while satellite communication provides coverage throughout the port's vicinity. This modular approach ensures that the system can be tailored to meet the unique aspects, requirements and needs of any port, regardless of its size or complexity, providing a reliable communication infrastructure.

AREA OF PORT EXPERTISE

The essential part of the Port Communication System is located in the control center. The main purpose of the Port Communication System is to monitor and coordinate maritime traffic and radio communication. In some cases, the Port Communication System is also required to send out maritime safety information (MSI) to vessels, for example navigation information.

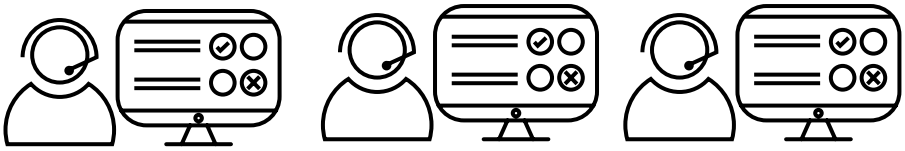
To meet the different requirements and truly build a customized Port System that fits the individual port's needs. Danphone offers a remarkable solution with a modular design, built around leading commercial off-the-shelf products, allowing great flexibility and adapting to simple or more complex configuration.

THE COMPLETE **PORT COMMUNICATION SYSTEM**

Danphone has developed, manufactured and installed advanced radio communication systems and complete solutions since 1990. Danphone's GMDSS Communication Systems provides the complete solution incorporating both hardware and software.

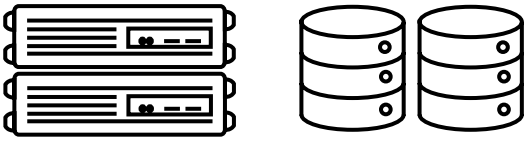
We are experts within maritime communication technology, specializing in VHF, UHF, MF/HF, AIS/VDES, DSC and MSI/NAVTEX. We have in excess of 14 Port systems in operation around the world and more than 30 GMDSS Coast Station Systems in operation worldwide.

User Layer



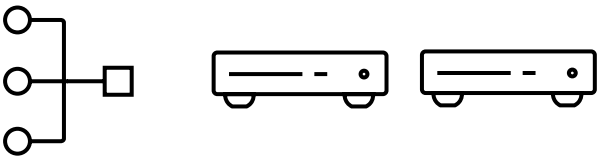
Operator | Supervisor | Adminstrator

Control Center Layer



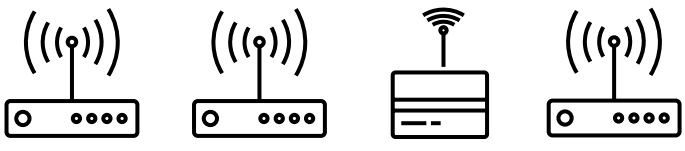
System Control Management | Datalogger

Network & Interface Layer



All IP Network | 3rd party interfaces

Radio & Safety Equipment Layer

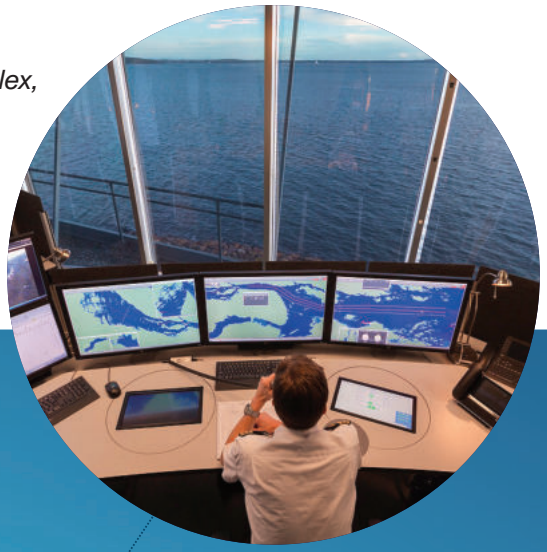


VHF radio | UHF radio | MF/HF radio | AIS

THE DANPHONE PORT COMMUNICATION SYSTEM

Are you facing challenges in your current port communication setup? Wondering how to enhance safety, streamline operations, and improve overall efficiency? The Danphone Port Communication System – the perfect modular solution that adapts to your unique requirements, addressing users, workflow, key processes, equipment, infrastructure, and technology.

Whether it's a small and straightforward setup or a complex, large-scale port, our Port Communication System is the foundation of maritime communications. Its modular design ensures it seamlessly caters to your specific needs, making it the ideal choice for ports of all sizes.



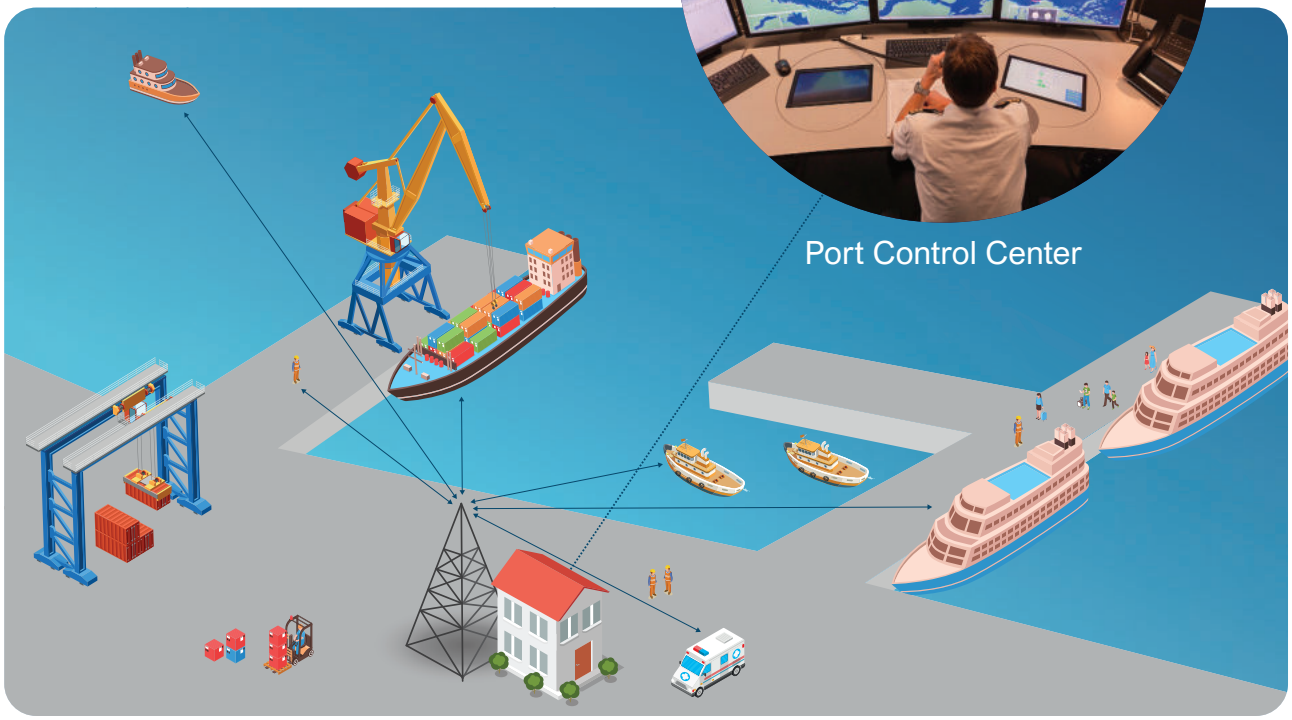


Illustration of a typical Port Communication System.

SCALABILITY AND MODULARITY FOR ANY PORT

Our Port Communication System is adaptable, whether your port starts small or grows larger. It's designed to handle sudden increases in maritime traffic, ensuring reliable communication. The modular design allows for easy customization to match your port's unique requirements. Whether it's a simple setup or a more complex configuration, our Port Modular System can be tailored to deliver the services your port needs. No matter the complexity, we're here to support you.

BUILD A PORT SYSTEM THAT FITS YOU!

with Danphone Moduls

MARITIME COMMUNICATION

VHF Radio

Very High Frequency is communication technology used everywhere in maritime operations.

UHF Radio

Ultra High Frequency is communication technology typically used within the port area.

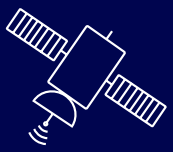
MF/HF Radio

Critical for long-distance maritime communication, MF/HF radios ensure safety and connectivity at sea.

AIS

Automatic Identification System tracks vessels, enhancing safety, navigation, and situational awareness

EXTERN COMMUNICATION



SATCOM

Satellite Communication relays data globally for various applications, including telecommunications, broadcasting, and defense.

Complete Communication

Enabling seamless connectivity with a wide range of networks and devices for enhanced external communication capabilities. This includes PSTN, PLMN, Tetra, 5G etc.

DATA COMMUNICATION

Multi Logger

Records, stores, and archives audio conversations and event data in digital format.

Back-up System

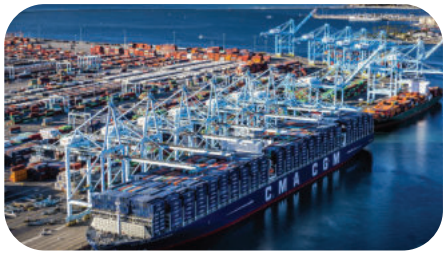
Backup Radios or Servers in the system are vital for reliability in the rare case of equipment failure.

QUALITY AND RELIABILITY IN CHALLENGING ENVIROMENT

The Danphone Port Communication System meets industry standards for top quality and reliability. Our systems perform reliably in challenging maritime conditions, ensuring ports have resilient connections.

SIMPLIFIED OPERATIONS FOR ENHANCED PRODUCTIVITY

The Port Communication System prioritises simplicity and efficiency. Our user-friendly interface streamlines communication tasks, minimizes downtime, and boosts productivity.



KEEPING PACE WITH INDUSTRY CHANGES

At Danphone, we're dedicated to future-proofing your port system by staying up-to-date. Our digitization efforts simplify processes for customers and optimize performance. We enable you to keep pace by providing ongoing software updates and offering midlife upgrades.

SUSTAINABILITY

We are committed to durability, extending equipment lifespan, reducing waste, and promoting a greener maritime industry through ongoing innovation.

INTERNATIONAL MARITIME ORGANIZATION

COMPLIANCY

Our research and development team is continuously ensuring our solutions are compliant with international standards and requirements. We ensure full compliance to UN/ IMO and IALA standards.

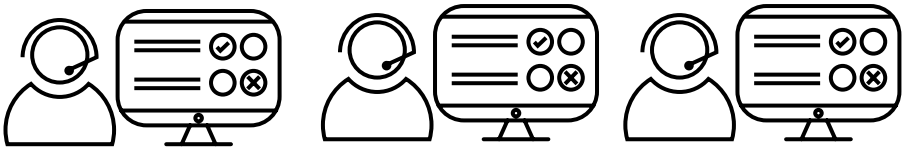
KEY FEATURES

- Easy and intuitive touch screen operation
- VHF, UHF and MF/HF for voice communications and DSC
- Flexible and scalable secure communication system
- IP network infrastructure and voice over IP
- Multiple radio sites, control centers and operator positions
- Designed for 24/7 operation
- Fully GMDSS, IMO and IALA Compliant
- Prepared for mGMDSS
- Remote controlled and monitored via LAN
- Remote controlled network management & configuration
- Simple Network Management Protocol (SNMP) Interfac
- Well-proven reliable communication system
- No single point af failure

DESIGNED FOR **PORT OPERATIONS**

Customized and optimized for every day operation from complex Port Communication Systems to simple single radio setups. The Danphone “User Layer” focuses on easy operation by seamlessly integrating DSC-AIS.

User Layer

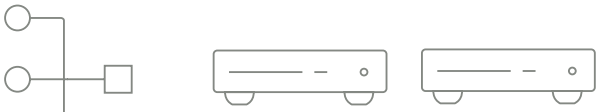


Operator Supervisor Adminstrator

Control Center Layer

System Control Management Datalogger

Network & Interface Layer



All IP Network 3rd party interfaces

Radio & Safety Equipment Layer

VHF radio UHF radio MF/HF radio AIS

EASY AND INTUITIVE OPERATION

The Danphone operator software has an intuitive graphical interface designed for touch screen operation with full logging of all communication lines, both maritime and extern calls, regardsless time and place.

INTUITIVE ONE-SCREEN / ONE-MAP

The Danphone Port Communication System is designed with user-friendliness in mind. The intuitive interface and controls make it easy for port personnel to operate and manage the system effectively. From configuring transceivers to monitoring communication channels, our solution simplifies complex tasks, reducing the learning curve for users.

Optimize your operations with a single screen – from Port Communication System to AIS software, we simplify your experience, giving you a smooth transition and removing the need for multiple screens.

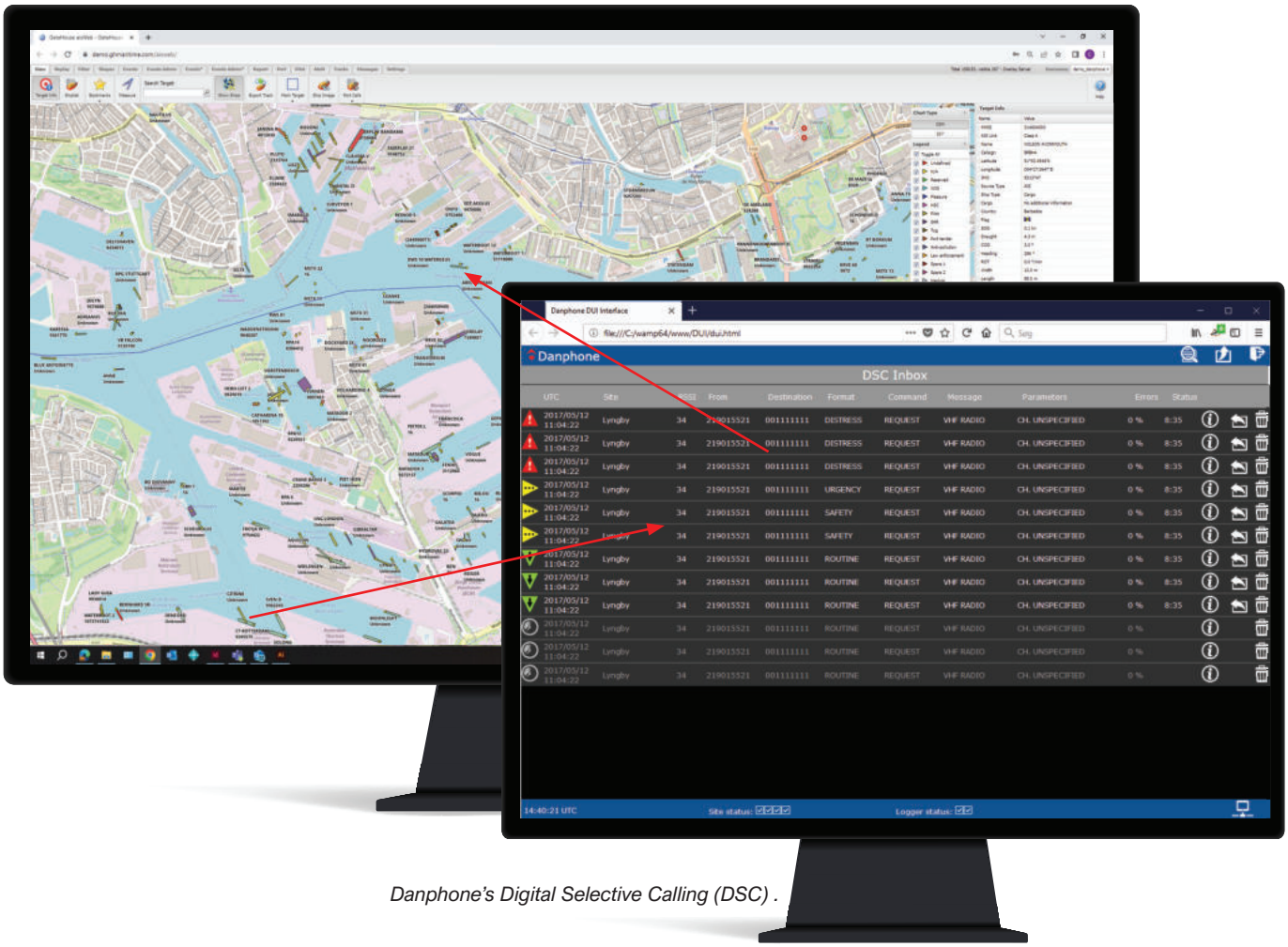
EXCLUSIVE AIS INTERMEDIA SOFTWARE

Our enhanced AIS system introduces advanced features for seamless ship communication. With the click of a button, you can now directly contact any vessel displayed on your screen, fostering quicker and more efficient maritime conversations. Moreover, our intuitive interface allows you to simply enter the MMSI number to instantly pinpoint a ship's location, ensuring precise tracking and communication. Experience the future of AIS technology with us!

KEY FEA

- Customizable user interface
- Channel scanning and automatic broadcast
- Integrated VHF, UHF, MF/HF and Airband radio control
- Instantaneous voice replay
- Touch screen operation
- Language packages

Illustation of the One-screen concept integrated with the AIS map.



Danphone's Digital Selective Calling (DSC) .

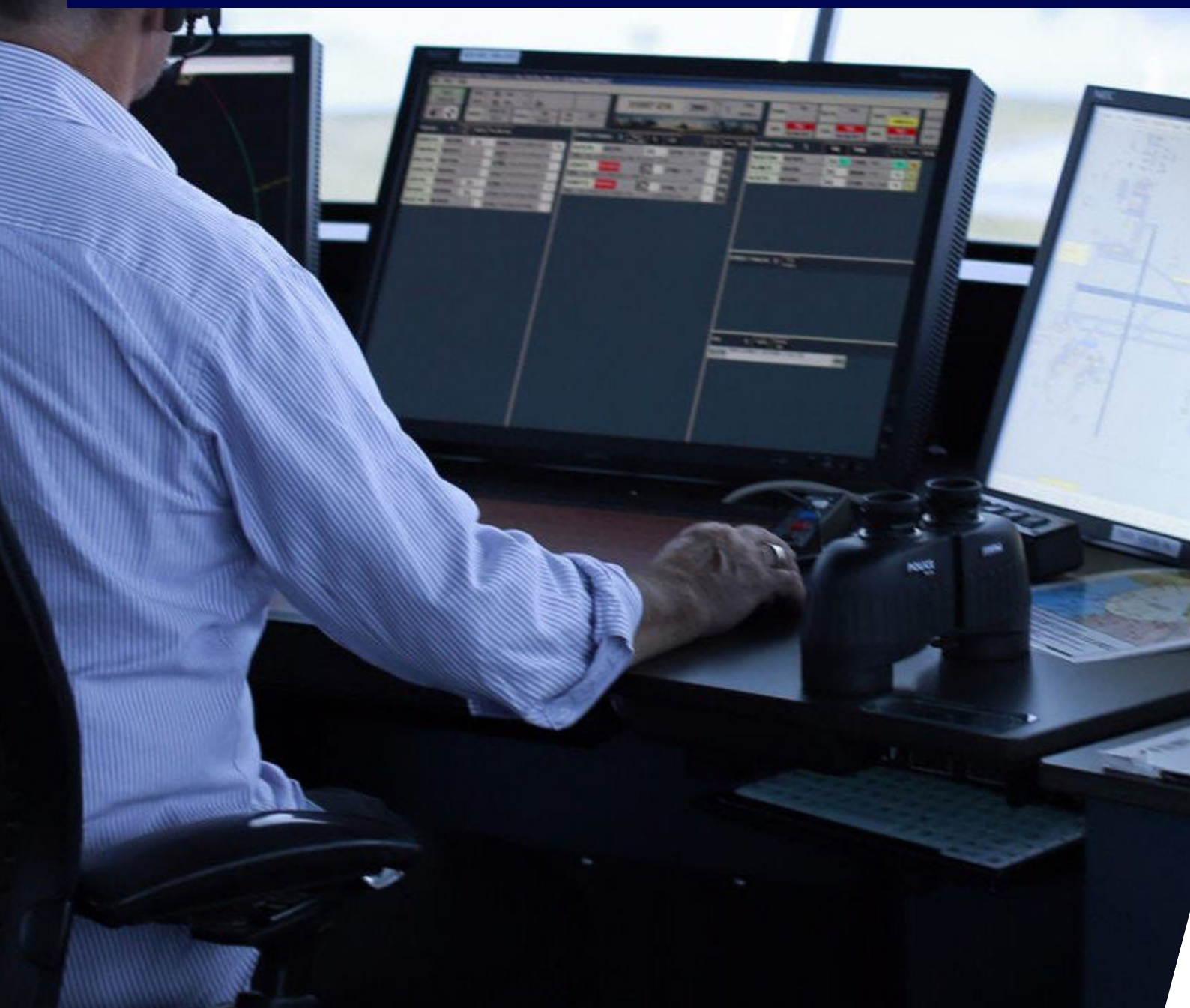
Our "One-Screen" concept merges Port Communication System and AIS software into a single, efficient interface. This integration offers real-time risk statistics for informed decision-making, simplifies slot allocation, and calculates Actual Time of Berth (ATB) and Actual Time of Departure (ATD) automatically. It seamlessly integrates with the port management system for faster workflow, reducing delays, and enhancing precision. Accurate information ensures reliable billing and eliminates manual errors, making it your gateway to a more efficient harbor communication experience.

ATURES

Digital selective calling (DSC)	PSTN interface incl. GSM messaging	Intercom between operators
Received signal strength indication (RSSI)	Quality of Line indication (QoL)	VoIP

INTEGRATED SYSTEM MANAGEMENT

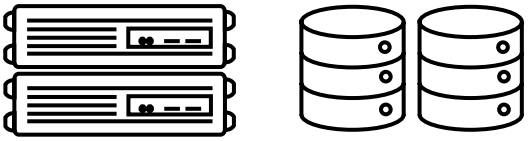
In the heart of every efficient port operation lies the seamless integration of advanced technologies. Danphone's commitment to excellence extends beyond individual components; it extends to the orchestration and management of your entire port system. This chapter delves into the intricate web of the Control Center Layer, the robust Control System, the datalogger's crucial role, and the underlying network infrastructure that ties it all together. Discover how these components work in harmony to empower port authorities with comprehensive control, real-time insights, and enhanced decision-making capabilities.



User Layer

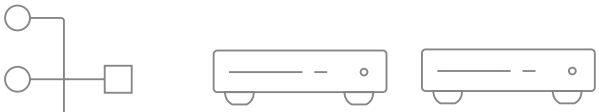
Operator Supervisor Adminstrator

Control Center Layer



System Control Management Datalogger

Network & Interface Layer



All IP Network 3rd party interfaces

Radio & Safety Equipment Layer

VHF radio UHF radio MF/HF radio AIS

SIMPLE MANAGEMENT

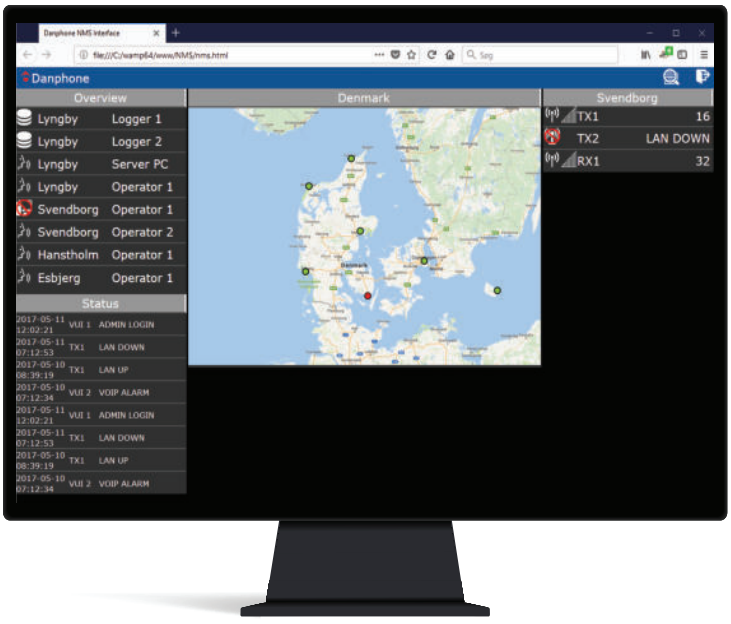
Danphone's Network System for the Port System provides users with a comprehensive graphical overview of the entire system and network. This intuitive interface empowers users to effortlessly monitor and control individual equipment, making management straightforward and efficient.

Our Port Communication System leverages existing software and hardware components found in our comprehensive GMDSS solutions, offering unparalleled versatility. Designed to support multiple users across various locations and a wide array of devices and radios, our system's capabilities are boundless.

The Network Management System (NMS) provides users with a comprehensive network overview on their PC screens. It enables remote monitoring, system and device configuration, and even allows for transceiver shutdown in case of failure. For flexible and secure communication, users have full control over each transceiver.

Furthermore, our system automatically logs all events, such as errors, alerts, acknowledgments, and new configurations, in the system database, providing a complete incident history for your convenience.

The system features IP-network infrastructure, remote configuration and monitoring via either touch screen or keyboard for easy operation.



Danphone's User Interface with full overview of the network.

KEY FEATURES

- Complete system overview
- Complete logging of all events
- Various levels of monitoring: Network, sites and radios
- Multiple-level password protection
- Indication of transceiver parameters
- SNMP traps
- Visual alarm of warnings or failures
- Audible alarm upon request
- Fleksible graphical user interface
- Optional features: Antenna VSWR, remote humidity and temperature readings, power supply alarm etc.

NEXT-GEN **NETWORK SOLUTION**

In this section, we'll delve into the technological backbone of The Danphone Port Communication System, showcasing our cutting-edge IP network infrastructure and powerful Site Controller. Discover how our network solutions provide seamless connectivity and enable efficient management of your port operations. With Danphone, simplicity meets sophistication in the world of maritime communication

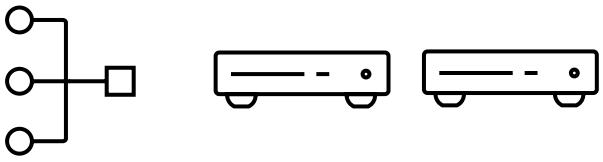
User Layer

Operator Supervisor Adminstrator

Control Center Layer

System Control Management Datalogger

Network & Interface Layer



All IP Network 3rd party interfaces

Radio & Safety Equipment Layer

VHF radio UHF radio MF/HF radio AIS

FULLY SECURED AND CONNECTED NETWORK

Join us on the journey of network and site control integration, where efficiency, security, and connectivity reach unprecedented heights. Stay secure with a connected network.

AII IP NETWORK INTEGRATION

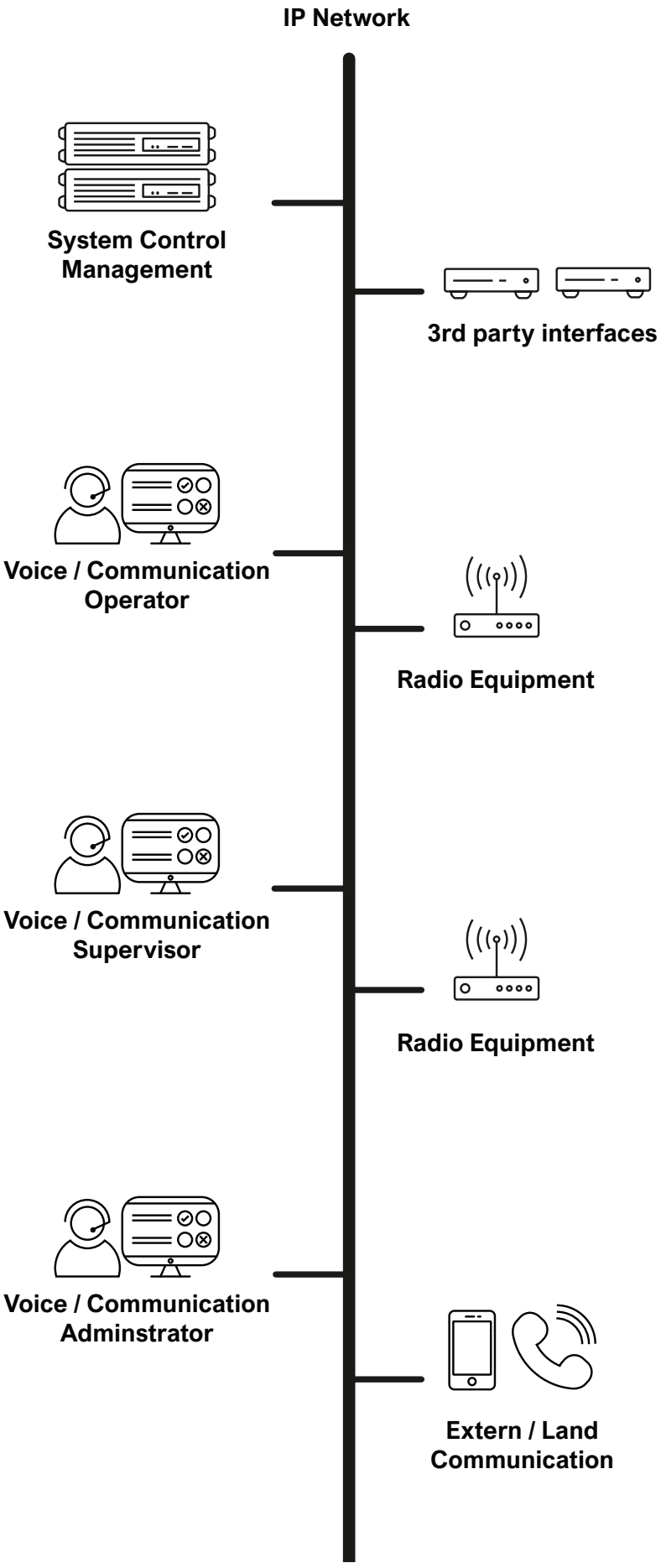
In the heart of a bustling port's operations lies a complex ecosystem of communication networks, where every connection matters. Danphone's commitment extends beyond the realm of conventional IP networks; it extends to a unified control system that harmonizes every facet of maritime and external communication. Welcome to the realm of the AII IP Network—a multifaceted infrastructure that bridges communication on vessels, at port facilities, and with the world beyond.

In this layer, we explore the pivotal role of our control system, where data seamlessly converges from maritime channels, VoIP communication centers, and a multitude of platforms. Dive into the world of the site controller, a masterful conductor coordinating diverse radios and interfaces, while the datalogger methodically archives every event.

Danphone Site Controller integrates leading radio equipment on all bands.

IP NETWORK OVERLOOK

At the core of our Port Communication System lies a robust IP Network, serving as the foundation for your ports connectivity. This Network branches out to various key aspects of communication both Maritime and Extern/Land. It features a dedicated Multilogger to track all data in and out of the network. The 3rd Party Interface plays a vital role in coordinating radios and interfaces. The System Control Management harmonizes every facet of the port communication infrastructure.


IP Network
System Control Management
3rd party interfaces
Voice / Communication Operator
Radio Equipment
Voice / Communication Supervisor
Radio Equipment
Voice / Communication Adminstrator
Extern / Land Communication

INNOVATIVE SOLUTIONS
DEPENDABLE EQUIPMEN

Maritime safety has been an international focal point since 1912. Since then, the marine industry has focused on developing a uniform standard of safety equipment to avoid delay in distress situations.

As a worldwide supplier, Danphone is a developer of innovative maritime safety systems compliant with UN/ IMO and IALA standards.

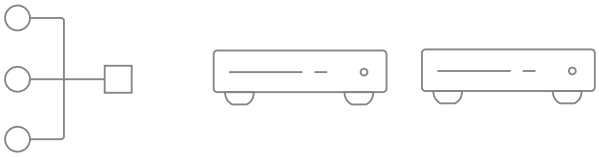
User Layer

Operator | Supervisor | Adminstrator

Control Center Layer

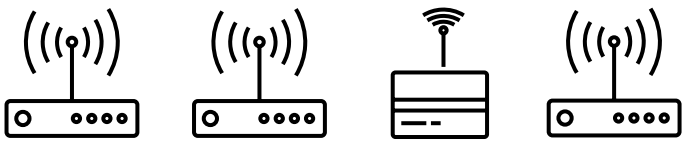
System Control Management | Datalogger

Network & Interface Layer



All IP Network | 3rd party interfaces

Radio & Safety Equipment Layer



VHF radio | UHF radio | MF/HF radio | AIS

WELL-PROVEN RELIABLE COMMUNICATION

Safety critical communication equipment is required to cover all sea areas. To meet all requirements, Danphone designs and builds a solution based upon products with high performance and reliability for VHF, UHF, MF/HF radios, DSC, MSI/NAVTEX and AIS/VDES. Integration and management of own and 3rd party radio equipment are currently ensuring complete and reliable communication. We have in excess of 14 Port systems in operation around the world and more than 30 GMDSS Coast Station Systems in operation worldwide.

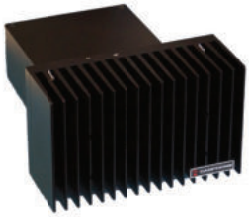
PLUG AND PLAY

With a Port system from Danphone you don't have to have a complete understanding of technology, we offer you support during the installation. Plug and Play is the solution for you, eliminating unnecessary stress, everything is ready and simple to put in place from time of delivery. Simply put in the Plug and we do the rest.

COMPLETE CUSTOMIZED SOLUTION

Danphone designs the complete system meeting the customers' needs and requirements. The system is based upon customized and commercial off-the-shelf. Our approach involves a combination of customized Danphone products and carefully integrated 3rd party products from industry-leading suppliers. This strategic blend of technology allows us to address the full spectrum of challenges that ports may face.

Over the years, we've encountered numerous distinctive challenges where the incorporation of 3rd party products was essential. This approach empowers our customers with unprecedented control, ensuring they can customize every aspect of the system to meet their specific requirements.



Danphone's VHF Transceiver operating in the marine VHF band.

MF/HF transceiver covers sea area A2 and A3.

UHF radio for internal Port Communication or ground to air.

HIGH PERFORMANCE VHF RADIOS

Danphone incorporates our own state-of-the-art VHF radios in the Port systems with a focus on explicit quality and functionality supporting safety-first policy.

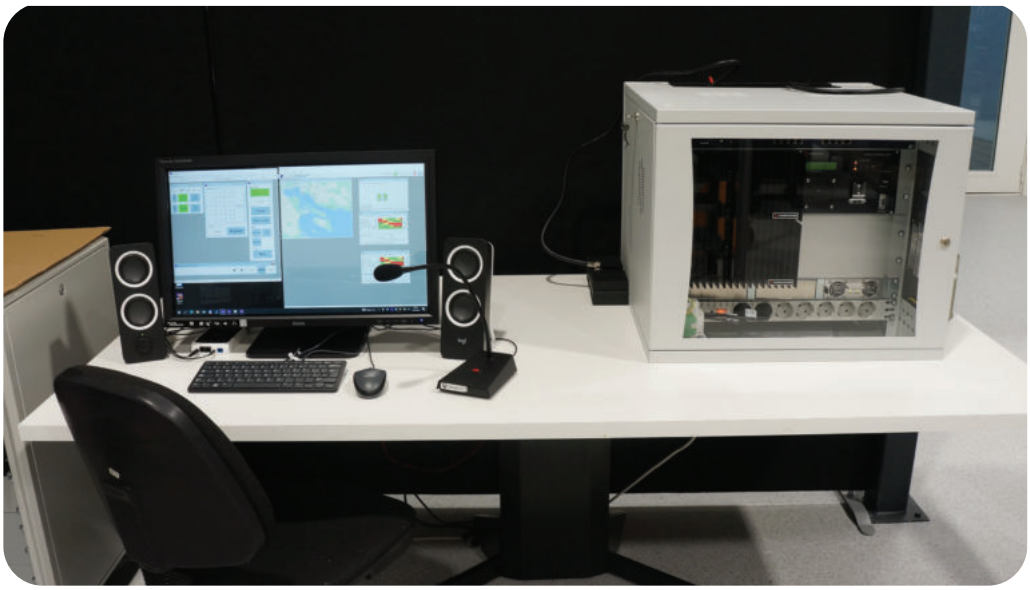
The new VHF radios come with an option of 2 receivers and built-in DSC modem for continuous automated supervision of CH70. In addition to VoIP and remote-control over IP, the VHF radio allows for local control via optional display and handset.

The radios meet European ETSI and American FCC standards with respect to RF performance and EMC, and are manufactured with quality, cost efficiency and flexibility utmost in mind.

Danphone's VHF Transceiver operating in the marine VHF band mounted in rack.

MARITIME FREQUENCY RANGE

Our system ensures seamless communication by including all international maritime channels. With our equipment, users can rely on a communication experience they are accustomed to, promoting efficiency and ease of use.



Typical small Port VHF System.

BUILDING UPON LEGACY SYSTEMS

At Danphone, we take immense pride in our ability to enable customers to utilize their pre-existing equipment seamlessly with our advanced Port Communication System. Regardless of brand or model, our team of experienced software and hardware developers has encountered and successfully integrated a wide array of legacy systems. Incorporating your old or existing port infrastructure into the new Danphone Port Communication System is a seamless and hassle-free process.

PREPARED FOR EASE OF INSTALLATION

The radio equipment will be pre-installed and configured in 19” rack enclosers. Requiring only minimum on-site installation tasks. (Mains supply, LAN cable and a couple of coaxial cables).

Multible-racks for large scale systems.

DANPHONE LEGACY

Danphone is a global company within the maritime sector, specializing in Coastal and Port Radio Communication, MSI/NAVTEX, AIS systems, and test equipment for radio inspections. We are a part of the ecosystem for critical infrastructure for communication and safety in the maritime sector and have been for more than 25 years.

ENSURING GLOBAL MARITIME RADIO COMMUNICATION AND SAFETY

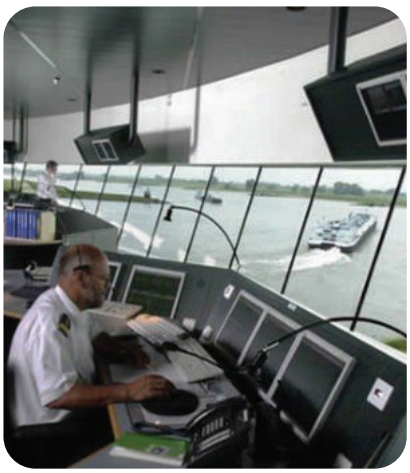
Since 1990 Danphone's engineers have developing, manufacturing and installing systems in challenging environments including system integration and network management world wide. Our expertise is founded on the three key pillars of maritime communication you see below.

GMDSS COASTAL RADIO

Our GMDSS Coastal Radio Solution, tailored for coast stations, ports, and offshore installations, is a scalable IP-based communication system. The system provides IP network infrastructure, Voice over IP, multi logging, DSC, and remote touch monitor control.

MSI/NAVTEX

NAVTEX serves as a global automated safety service, broadcasting crucial meteorological warnings, navigational updates, and urgent Maritime Safety Information (MSI).



SHORE BASED AIS

Advanced AIS solutions with custom rack-mounted AIS Physical Shore Stations (PSS). These stations feature dual-channel AIS base station receivers with data storage and TCP/IP interfaces. They ensure 24/7 operation, automatically timestamp AIS data, and provide NTP synchronization for accurate time data.

COMPLIES WITH GLOBAL MARITIME STANDARD

The systems we deliver fully complies with ITU, IMO, and global maritime standards. Danphone actively support organisations and companies like Aalborg Maritime & Logistics, InterForce, DigitalLead, the United Nations, DNV, etc.

OUR PORT REFERENCES

Danphone has developed, manufactured and installed advanced radio communication systems and complete solutions since 1990. Danphone's GMDSS Communication Systems provides the complete solution incorporating both hardware and software. We are experts within maritime communication technology, specializing in VHF, UHF, MF/HF, AIS/VDES, DSC and MSI/NAVTEX. We have in excess of 14 port radio systems in operation around the world and have done more than 85 projects in total in over 30 countries.

2023, 2021: Sudan - Port of Sudan: Complete GMDSS and MSI NAVTEX installation.

2023: Eastern mediterranean country- Complete GMDSS Port radio system incl. DSC, NAVTEX, AIS, Airband radios.

2023: Argentina - Bahia Blanca Port: VHF Voice Communication System.

2012: Abu Dhabi - Port of Mussafah: VHF harbour system with 6 transveivers.

2011: Abu Dhabi - Port of Khalifa: VHF harbour system with 6 transveivers.

2007: Croatia - Port og Rijeka: Harbour system with 6 VHF transceivers.

2005: USA - Port of Corpus Christi: VHF Port system with 4 transceivers.

2004: Eritrea - Port of Massawa: VHF Port system with 6 transceivers.

1999: Singapore - Port of Singapore: VHF system with 2 sites and 13 trancievers.

1999: Russia - Port of Novorossiysk: VHF System with 2 sites and 4 trancievers.

1996: UK - VHF Port system for 2 sites with 5 transceivers.

1994: China - Port of Tianjin: Harbour Radio system with 7 VHF transceivers.

www.danphone.com
danphone@danphone.com
+45 96 44 44 44

DANPHONE

Danphone A/S
Tagholm 16
DK-9400 Nørresundby
Danmark