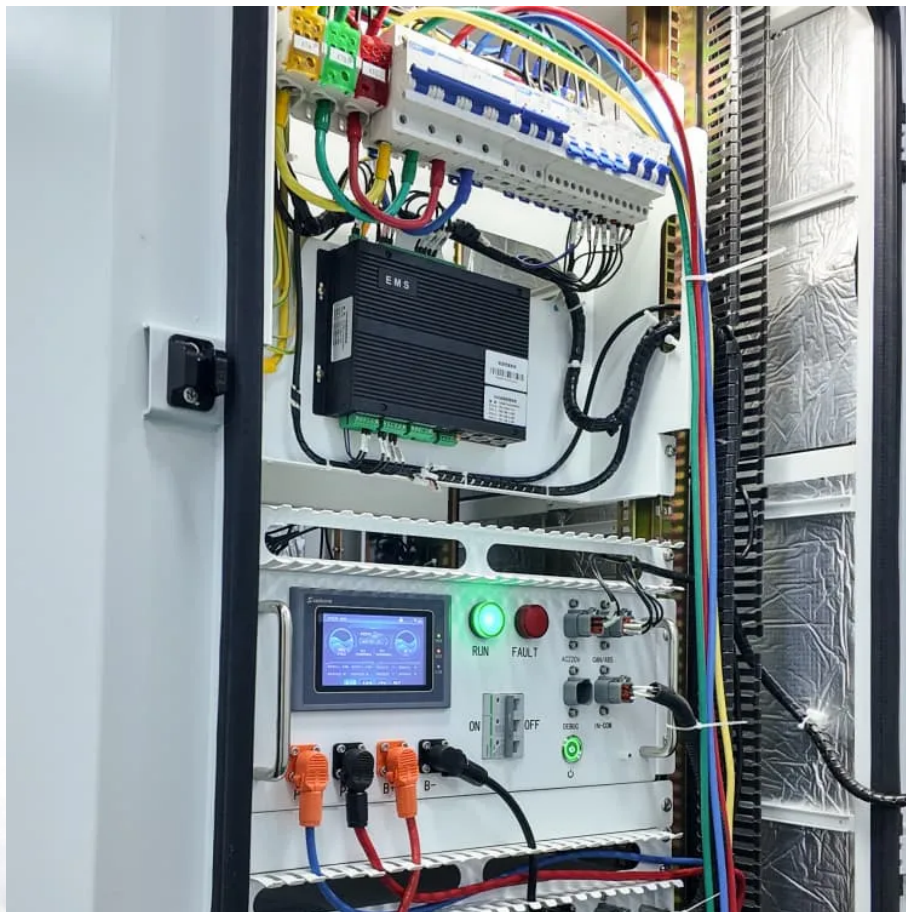


# **What are the base stations of the maritime communication network**





## Overview

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What are the four segments of a maritime communication network?

Figure 1 depicts four main segments in the MCN architecture. More specifically, a maritime segment supporting underwater and sea surface activities, a shore segment, an aerial segment and a space segment. Figure 1. The different segments of a maritime communication network adapted from (Nomikos et al., 2023).

What is a maritime communication network (MCN)?

In this context, maritime communication networks (MCNs) support services related to maritime transportation, smart ports, ocean monitoring, tourism, as well as search and rescue (SAR) operations (Guan et al., 2021; Haidine et al., 2021).

How do base stations improve maritime safety and efficiency?

Vessel Tracking and Monitoring: Base Stations enable maritime authorities to track and monitor vessel movements, thus enhancing maritime safety and efficiency of navigation. 3.

Why are wireless channel models important for marine communication?

In order to comprehend and create communication systems that function in the maritime environment, wireless channel models are crucial for marine communication. Marine communication entails the sharing of data in order to improve operational coordination, safety at sea, and navigation between ships, shore stations, and other maritime entities.

How do you categorize marine communication?

III. CLASSIFICATION The categorization of marine communication can be achieved by considering the objectives, modes of communication, and available technologies. Navigation Communication: Covers communication pertaining to safe vessel movement and navigation, including course



corrections, position reporting, and collision avoidance.

How has wireless communication evolved in the maritime industry?

II. HISTORY The evolution of wireless channel communication in marine systems has occurred over several decades, with substantial technological and communication protocol advances. Wireless communication in the maritime industry dates back to the late nineteenth century, with the introduction of radio telegraphy.



## What are the base stations of the maritime communication network

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### Maritime Communications: A Survey on Enabling Technologies

The existing maritime communication systems involve terrestrial, aerial, and satellite networks.

### 566 JOURNAL OF COMMUNICATIONS AND NETWORKS, ...

Abstract--The rapid development of marine science and tech-nology, coupled with the growing needs of offshore operations, underscores the significance of studying offshore communication ...



### Frontiers , Sailing into the future: technologies, challenges, and

This service mixture is based on heterogeneous networks nodes, including satellites, unmanned aerial vehicles (UAVs), shore base stations (BSs), buoys, platforms, ...

### Analysis of Maritime Wireless Communication Connectivity Based

...

The restricted coverage of onshore base stations





in marine areas makes relay technology a critical solution for extending the communication coverage. Here, connectivity ...

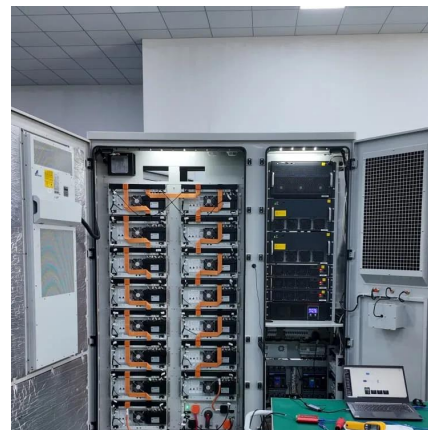


## Frontiers , Sailing into the future: technologies, ...

This service mixture is based on heterogeneous networks nodes, including satellites, unmanned aerial vehicles (UAVs), shore base stations ...

## MagicNet: The Maritime Giant Cellular Network

ABSTRACT Recently, the development of marine industries has increasingly attracted attention from all over the world. A wide-area and seamless maritime communication network has ...



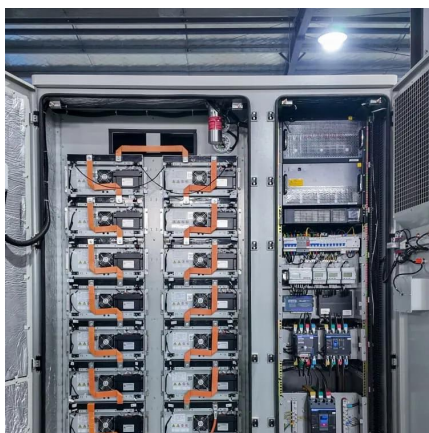
## Wireless Channel Models for Marine Communication

Higher data rates and reliable wireless communication are essential for these industries. Maritime communication systems that use the MF/HF/VHF bands include navigational telex (NAVTEX), ...



## EVALUATION OF THE USE OF M2M-TYPE NB-IOT AND ...

This paper aims to analyse the possibility of the use of NB-IoT technology for maritime communication applications and partially, for some maritime safety solutions, based on signal ...



### **Common communication systems in the maritime environment.**

Maritime networks establish wireless multi-hop networks to provide wireless broadband service at sea, connecting various kinds of ships, maritime buoys, and beacons.

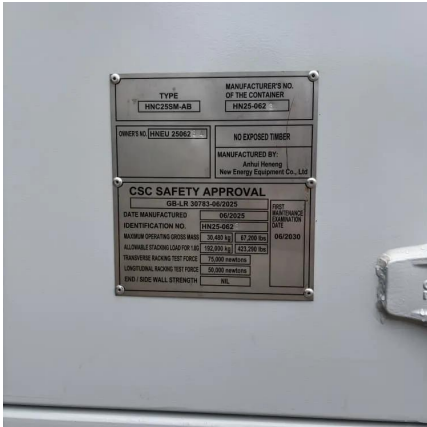
### **Modern Maritime Communications**

This concept is based on the interconnection of ships and shore facilities by communication links, including high speed broad band data links, to ensure safe navigation particularly in coastal ...



### **Delay Minimization for NOMA-MEC Offloading in ABS-Aided Maritime**

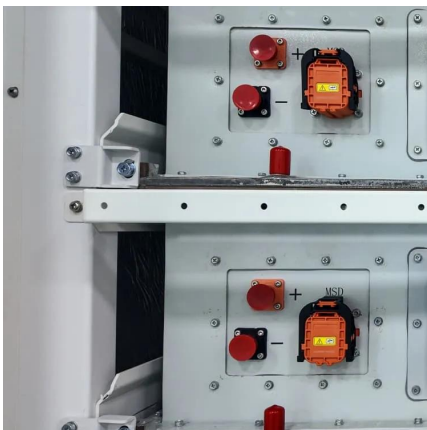
As maritime activities increase, the demand for high-speed, low-latency communications and efficient task processing in maritime communication networks (MCNets) intensifies. Currently, ...



## Guest editorial: Maritime communications in 5G and beyond

...

Current maritime communication networks (MCNs) mainly rely on satellites and on-shore base stations (BSs). The former generally provides limited transmission rate while ...



## Multiuser Maritime Integrated Sensing and Communication Shipboard Base

This research delves into an integrated sensing and communication (ISAC) system, which leverages a ship-based station to simultaneously offer maritime communication services and ...

## [Analysis of Maritime Wireless Communication ...](#)

The restricted coverage of onshore base stations in marine areas makes relay technology a critical solution for extending the communication ...





### netBALTIC SYSTEM - HETEROGENEOUS WIRELESS ...

This issue is addressed in the netBaltic project with the objective to design, deploy and validate in a real maritime environment a non-satellite wireless communication system enabling ship-to ...

### **A Survey on Air-to-Sea Integrated Maritime Internet of ...**

Future generation communication systems are exemplified by 5G and 6G wireless technologies, and the utilization of integrated air-to-sea (A2S) communication ...



### **Maritime Communications in 5G and Beyond Networks, No. 9, 2022**

The hybrid satellite-UAV-terrestrial maritime networks have shown great promise for broadband coverage at sea. The existing works focused on vessels collaboratively served by UAV ...

### **Application scenarios of Nautical Ad-Hoc Network for maritime**

In terrestrial wireless communications, high data-rate transmission can be readily achieved by installing base stations on the ground. However, the same system may not be ...





## AIS Base Station

An AIS Base Station, also known as an AIS Shore Station or AIS Coastal Station, refers to a ground-based installation equipped with AIS (Automatic Identification System) technology, ...



## Common communication systems in the maritime ...

Maritime networks establish wireless multi-hop networks to provide wireless broadband service at sea, connecting various kinds of ships, maritime buoys, ...



## TELKOMNIKA

Abstract High data rate communication in terrestrial wireless scenarios can be accomplished by setting up Base Stations (BS) on the ground. But applying the similar technique to maritime



## Prediction-based data collection of UAV-assisted Maritime ...

In maritime data collection scenarios, due to the constraints of wireless communication and environmental factors such as wave motion, sea surface ducting effects, ...



## Wireless Channel Models for Maritime Communication

The two primary types of channels for an air-ground-sea communications network are air-to-sea (for communication links from, for instance, aircraft-based base stations or relays) and near ...

## Dynamic Priority-Based Computation Offloading for Integrated Maritime

In order to meet the increasing demand for delay-sensitive and computing-intensive applications of maritime users, we first propose an integrated satellite-maritime mobile edge ...



## Maritime Communications

Commercial communications can be split into two main categories: those concerned with the employment of the vessel (Voyage related communications) and those related to management ...



## Maritime communication networks: A survey on architecture, key

Next, we sequentially overview five MCN architectures, including the maritime mobile ad-hoc network (M-MANET), onshore BSs-assisted, satellite-assisted, UAV-assisted, ...



## Multi-user maritime integrated sensing and communication ...

In practical multi-user scenarios, the shipborne ISAC base station needed to make a trade-off between communication and sensing functions to meet different SCNR requirements.



## Guest editorial: Maritime communications in 5G and beyond networks

Current maritime communication networks (MCNs) mainly rely on satellites and on-shore base stations (BSs). The former generally provides limited transmission rate while ...





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