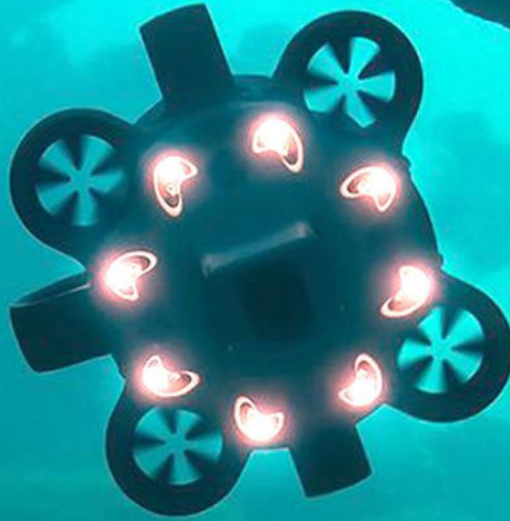


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AUGUST 2025



**OCEAN RESOURCES  
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**FEATURING:**

**Single-Supplier Tech Ecosystem  
Global Maritime Safety Network  
Industrial Seaweed**

# Global Maritime Safety

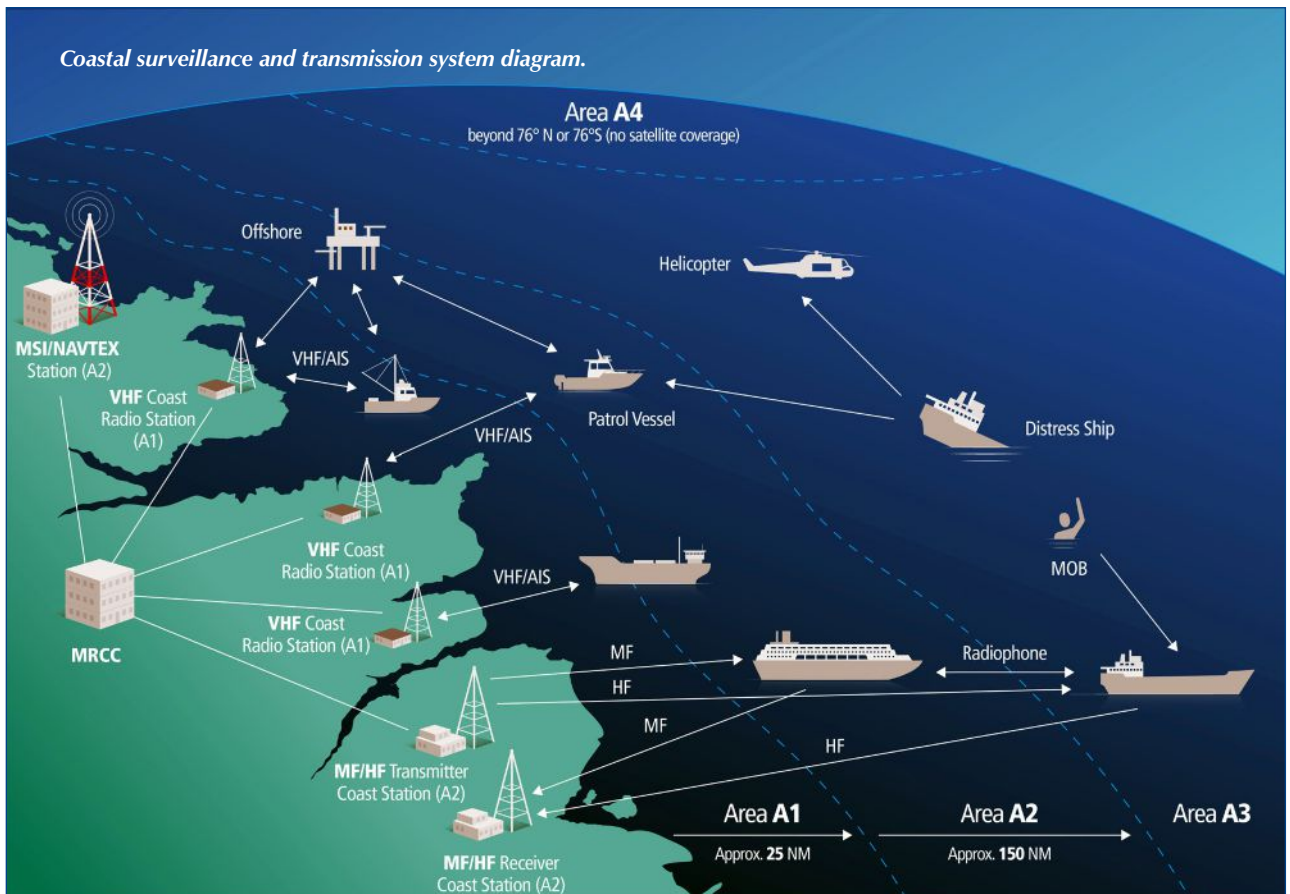
## *Evolving Tech Standard for International Communication Network*

By Pierre Vergé

Managing coastal zones has become increasingly complex in recent years. Global maritime traffic has surged, demanding faster, more coordinated decision making from maritime authorities. Critical to this evolution is the rapid collection, transmission, and interpretation of data—and at the center of this challenge lies communication between people and systems.

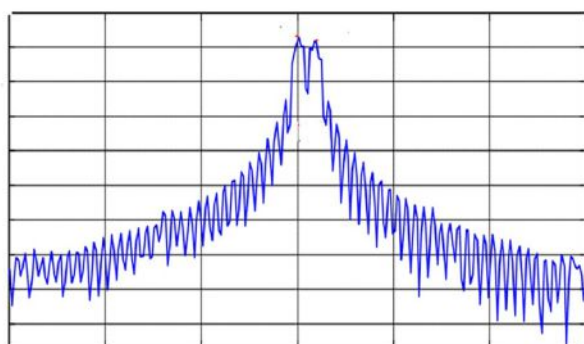
### Communication as Operational Infrastructure

Modern maritime operations hinge on the speed and clarity of information exchange. Whether coordinating pilotage services, managing vessel traffic systems, or responding to emergencies, the quality of decisions often depends on how effectively voice, sensor, and alert data are transmitted and interpreted. This need has moved in-

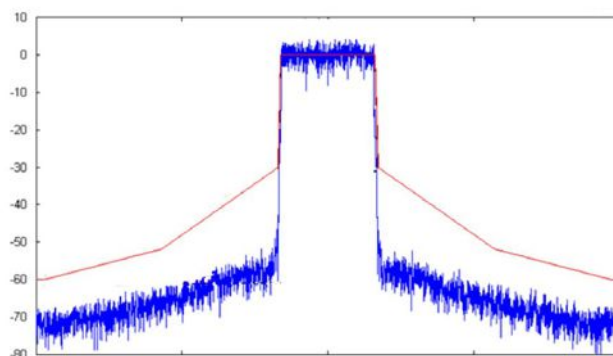


## Typical Spectra: NAVTEX and NAVDAT

300 Hz NAVTEX



10 kHz NAVDAT



*Existing NAVTEX infrastructure may be challenged to pass the higher bandwidth and peak power of NAVDAT, which can occupy as much as 10 kHz of bandwidth.*

tegrated communication systems into the realm of critical infrastructure.

Traditionally, voice and digital selective calling systems have served as the backbone of coastal radio communication. Today, these systems must interconnect with radars, AIS, weather stations and evolving sensor arrays. Maritime operators now have the challenge of creating a cohesive, reliable environment where all inputs contribute to a shared operational picture.

### Integration Over Isolation

A growing number of solution providers now specialize in systems designed specifically for these complex, integrated environments. One such firm, Kenta Technologies, focuses on radio communication systems tailored for coastal and maritime use, bringing VHF, MF/HF, and NAVTEX capabilities together with support for sensor integration and centralized control. While not a producer of radar or AIS hardware, Kenta uses these technologies to build systems that act as connective tissue across mission-critical environments.

From supporting distributed control rooms to facilitating long-range safety communications, companies such as Kenta are working to ensure that operational awareness is maintained, regardless of geography, topology or bandwidth.

### Toward a Smarter Broadcast Future: NAVDAT

As communication standards evolve, maritime safety broadcasts are entering a new era. The NAVDAT standard—poised to complement or succeed NAVTEX—promises richer, more flexible data dissemination for coastal authorities.

Kenta Technologies, a designer and manufacturer of coastal maritime radios, has been actively involved in the development of the NAVDAT standard. The company's approach reflects a broader industry shift toward flexible, operationally aligned solutions.

Kenta is working on hybrid systems capable of broadcasting both NAVTEX and NAVDAT formats. The goal is not only to preserve compatibility for existing users but also to provide a pathway to more advanced messaging formats without requiring complete infrastructure overhauls.

Stakeholders across national administrations, port authorities, and research institutions may soon play an important role in validating and deploying these next-generation systems. Early collaboration could help accelerate real-world testing and set best practices for future deployments.

### Designing for Real-World Operations

Industry experts agree that technology design must begin with operational needs, with the recognition that understanding decision cycles, user profiles and existing infrastructure is critical. Companies that prioritize consultative engagement early in the project life cycle tend to deliver solutions that are both technically sound and operationally transformative.

The most effective communication platforms are those that: align with existing vessel traffic and infrastructure monitoring systems; scale with increasing data inputs and evolving mission profiles; provide intuitive interfaces that reduce cognitive load for operators; and support compliance with international safety and GMDSS standards.

### A Life Cycle Mindset

Beyond the equipment itself, long-term reliability often hinges on support and adaptability. The value of life cycle services—from system design and training to ongoing upgrades and maintenance—is especially evident in coastal zones, where conditions and regulations shift over time.

Providers such as Kenta are increasingly adopting full life cycle models, engaging with clients through initial





*A Kenta installation for the Bulgarian GMDSS coastal radio service.*

consultations, integration efforts, operational training, and future-proofing strategies. This approach acknowledges that maritime operations are dynamic and that communication systems must be adaptable, not just robust. In order to achieve the goals of current and future maritime operations, close collaboration is required.

Examples of collaboration include Kenta's partnership with GC Co. Ltd., which entered the GMDSS sector in Korea with the establishment of multiple shoreline sites in the country, and another NAVTEX project in Singapore. The Korean installation involved the design, manufacture, installation, and commissioning of five MHF transmission sites, five MHF/VHF reception sites, and two NAVTEX transmission sites. In Singapore, the Kenta replaced the Maritime and Port Authority's NAVTEX transmission system and is now providing system maintenance services.

"Kenta's willingness to transfer all necessary technical knowledge has been fundamental to our success," said GC Co. Ltd. Sales Department Manager Jae Bong Lee. This partnership "has served both Kenta and GC exceptionally well in the global GMDSS market."

As another example of collaboration, in Bulgaria, the Vessel Traffic Monitoring and Management System (VT-MIS) and GMDSS systems were put into operation over an 18-year span, with current systems in place for the past 12 years. Kenta transmitters are used for MF/HF and NAVTEX communications. Scortel Ltd., a representative and technical partner of Kenta, was recently awarded a maintenance contract on Kenta transmitters for the Bulgarian Ports Infrastructure Company.

"We have been working with Kenta for more than 10 years, providing implementation, commissioning and

maintenance of their MF/HF/NAVTEX transmitters for the Bulgarian GMDSS coastal radio service," said Ivaylo Simeonov, director of maritime and satellite systems for Scortel. "Kenta brings competent service, flexible technical solutions and maximum efficiency to its projects with us."

### **Navigating Complexity with Confidence**

As coastal zones become more congested and more technologically complex, the importance of integrated communication will only grow. Future systems are likely to include: smarter automation of alerts and coordination messages; cloud-based management and monitoring tools; interoperability across national and regional authorities; and secure, distributed architectures for continuity in crisis situations.

The maritime community—engineers, regulators, operators, and technology providers alike—must continue working together to ensure that communication systems are as agile and reliable as the operations they support. Real progress will come not just from innovation but from understanding: listening first, designing with intent, and deploying with long-term needs in mind. **ST**

*Pierre Vergé is the general manager of Kenta Technologies, a Nautel company (nautelnav.com). He directs product strategy, business development and the design of radio communication solutions for the maritime sector. He has an extensive background in manufacturing engineering and product management and has been leading operations at Kenta since 2023.*

