
rax
DeepSea Master
For Fishing Vessels...

INTRODUCTION

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The DeepSea Master (DSM) is a integrated system designed to monitor, control and manage multiple critical areas within a fishing boat/vessel. Fundamentally, the DSM master bridge integrates navigation, AIS, net tracker, people safety, weather data and fish data to enable precise route planning, tracking and makes each voyage to be safe ,secure and fruitful through robust hardware and dual communication capabilities (satellite and cellular networks).

In addition DSM provides real-time onboard data acquisition, surveillance, intelligent alerting and remote accessibility to ensure the safety, security, efficiency and operational readiness of the boat/vessel.

DeepSea Master

FEATURES

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01

- Navigation

02

- People Safety

03

- Surveillance

04

- AIS
- Net Tracking

05

- Weather Data (2way)

06

- Fish Data

07

- Satellite Comm

08

- Cellular Comm

09

- Room Management

10

- DSM OwnerApp
- Central Monitoring & Tracking

NAVIGATION

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Our DSM features a fully integrated Offline Navigation module within the onboard navigation HMI. Designed for total independence from internet connectivity, this system empowers fishing boats/vessels to navigate safely and efficiently.

Also the DSM offers advanced navigation features such as precise route planning, real-time vessel tracking, and route management. Users can plan custom routes, save them for future use, and retrieve or modify them as needed, supporting efficient and repeatable voyage operations.

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PEOPLE SAFETY

People safety is the most prioritized. One small change can lead to chaos. So the following parameters are provided by the DSM for on board people safety:

- **People Safety e-Tags with panic switch**
- **SOS Switche**
- **Panic and Help Switches**
- **Smoke Detectors**
- **Hooter/ Voice Announcements**

For crew safety, Bluetooth-enabled People Safety e-Tags are assigned to each crew member, allowing real-time monitoring of battery status, connection status, and panic button alerts. Up to 20 tags can be configured anytime via the Navigation HMI. When a panic button is pressed, the system instantly displays an alert, activates the hooter, and announces, “People Safety Tag Alert.”

SURVEILLANCE

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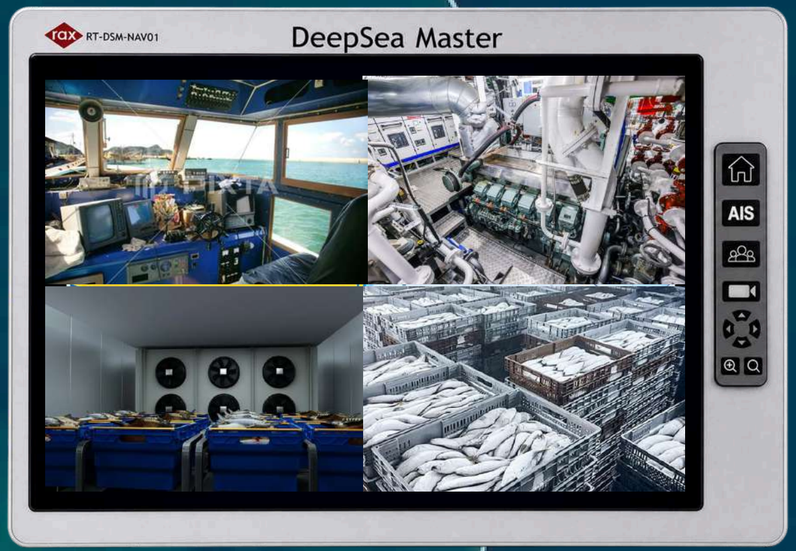
The DSM supports surveillance through IP cameras installed in critical areas across the fishing boat/vessel. These cameras provide real-time video feeds to the navigation HMI, enhancing security and situational awareness in high-priority zones.



AIS

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BOAT LOCATOR

The Boat Locator feature in the DSM system provides real-time tracking of the fishing boat's/vessel's location using AIS. It displays the boat's/vessel's current position on the onboard navigation HMI, helping the crew navigate accurately and monitor movement.

Additionally, the system receives AIS data from nearby ships and marine vehicles, enabling collision avoidance, awareness of surrounding traffic, and safer route planning in busy waters.

NET LOCATOR

Net Locator Buoy is a dedicated feature in the DSM system that allows real-time tracking of fishing nets in the water. It helps the crew monitor net positions, locate them efficiently for retrieval, and reduce the risk of loss or misplacement, ensuring smoother and more organized fishing operations.

WEATHER FORECAST

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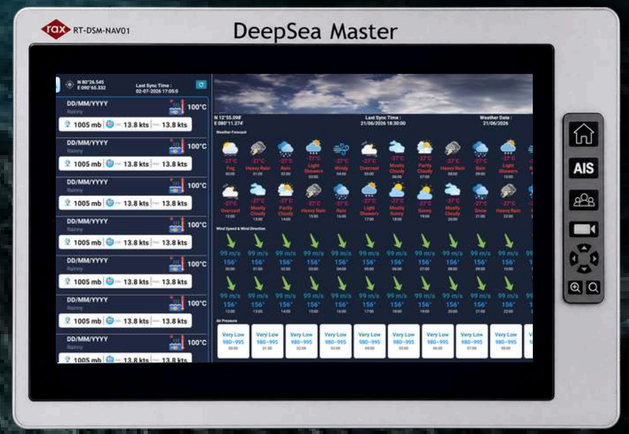
DSM provides comprehensive marine weather forecasts, including wind speed and direction, sea temperature, weather conditions, atmospheric pressure, humidity, and air temperature. These insights help users ensure safer navigation, efficient fishing operations and trips, and informed voyage planning.



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FISH DATA

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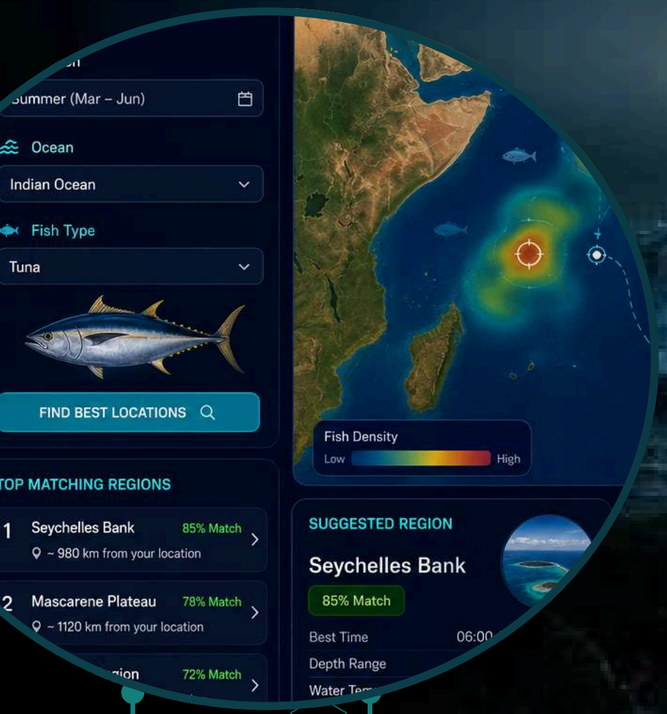

DSM provides fish data to support more efficient and productive fishing operations. Users can select the fishing season, ocean where the boat/vessel is operating, and the type of fish they want to catch. Based on the selected criteria, DSM analyzes the available data and identifies the regions or locations with the best match for the selected fish species, helping users find potential fishing areas, improve catch opportunities, and plan fishing trips more effectively.

SATELLITE COMMUNICATION

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Satellite communication is used only when the GPRS signal is lost. It acts as a backup communication system to ensure safety and connectivity in remote sea regions. Via satellite, the system is limited to sending only SOS alerts and predefined critical messages, periodical location messages at long interval, ensuring that essential information still reaches the DSM App or emergency contacts during communication outages through DSM server.

CELLULAR COMMUNICATION

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Cellular communication is the primary method used by the DSM for real-time data transmission to the DSM App via the DSM server, depending on network availability. It is prioritized for transmitting essential operational data when within cellular coverage.

ROOM MANAGEMENT

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Room management serves as the core functionality, enabling comprehensive monitoring and control of various compartments within the fishing boats/vessel. It provides real-timestatus of each room ensuring safety, security, efficiency, and optimized operation onboard by our Slave Bridge Units (SBUs).

CAPTAIN ROOM

- DSM Navigation & Monitoring
- Distress & Navigation Light Control
- Deck Light Control
- Room Lights & Fans Control
- SOS Switch
- Panic Switches
- PIR & Door Sensor
- Smoke Sensor
- Temperature, Humidity

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ROOM MANAGEMENT

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ENGINE ROOM

- Bilge Sensor & Pump Control
- Panic Switch
- Help Switch
- PIR & Door Sensor
- Light & Fan Control
- Smoke Sensor
- Temperature, Humidity

Engine Parameters

- Engine Speed (RPM)
- Engine Coolant Temperature
- EngineOil Pressure

ROOM MANAGEMENT

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ACCOMMODATION

- Panic Switch
- Help Switch
- PIR & Door Sensor
- Light & Fan Control
- Smoke Sensor
- Temperature,Humidity

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ROOM MANAGEMENT

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COLD STORAGE

- Panic Switch
- Help Switch
- PIR & Door Sensor
- Light & Fan Control
- Smoke Sensor
- Temperature,Humidity

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ROOM MANAGEMENT

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DEEP FREEZER

- Panic Switch
- Help Switch
- PIR & Door Sensor
- Light & Fan Control
- Smoke Sensor
- Temperature,Humidity

SYSTEM OVERVIEW

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DSM CORE SYSTEM CONSISTS OF

01 Navigation HMI

02 Master Bridge Unit

03 Slave Bridge Units

04 DSM App

ARCHITECTURE

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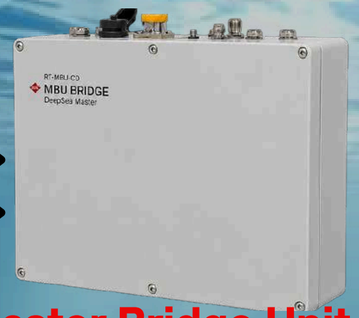
Navigation HMI



Master Bridge Unit

Satellite Server

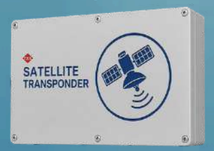
DSM Server

Weather Data

Fish Data

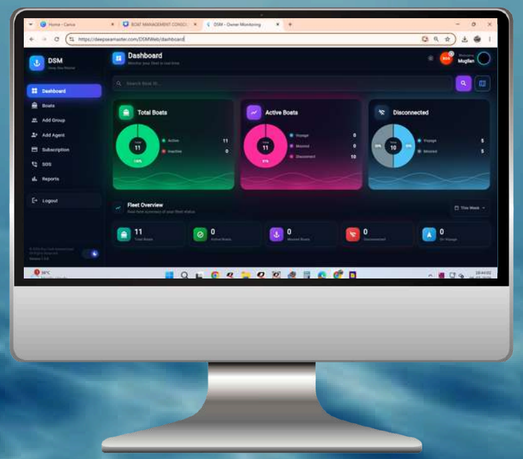
Companion App

Weather Station Bridge Unit

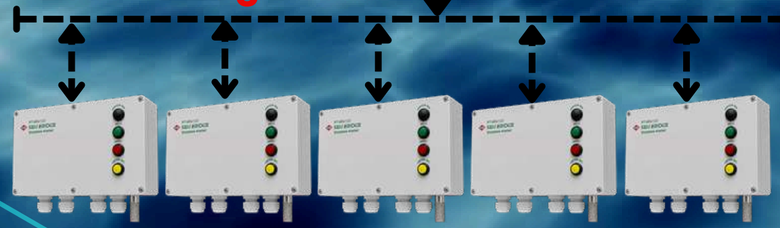


Satellite Transponder

DSM App



Centralized Monitoring



Slave Bridge Units

Navigation Light Bridge Unit

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NAVIGATION HMI

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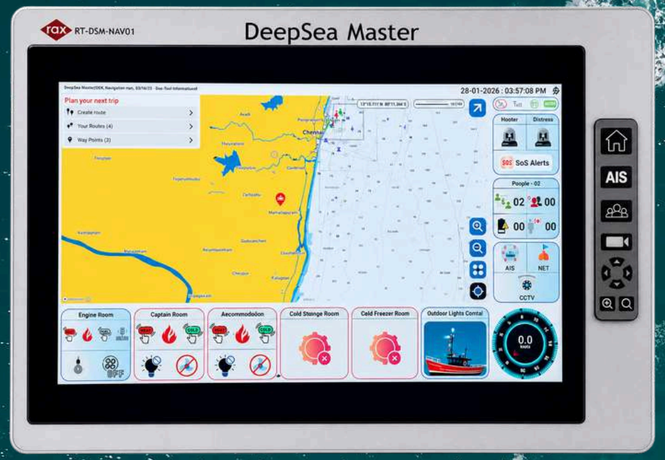

This navigation HMI is a robust & rugged monitor designed for extreme and challenging marine environments.

This unit is intended to offer essential visual output for system status, alerts and navigation or operational data, serving as a key interface for users onboard.

Companion App

The companion app serves as a failover solution to the navigation HMI, enabling users to monitor and control most of the parameters accessible through the onboard navigation HMI.

MASTER BRIDGE UNIT

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The Master Bridge Unit (MBU) is the core of the DSM, acting as the central control hub on the fishing boat/vessel. It ensures seamless communication, coordination and real-time monitoring across all connected systems, making it the heart of onboard operations.

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SLAVE BRIDGE UNIT

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Slave Bridge Units(SBU) are placed in key areas of the boat/vessel to monitor environmental conditions and safety inputs. They provide room-level data to the MBU using an efficient communication protocol, enabling reliable and responsive system-wide monitoring.

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DSM OWNER APP

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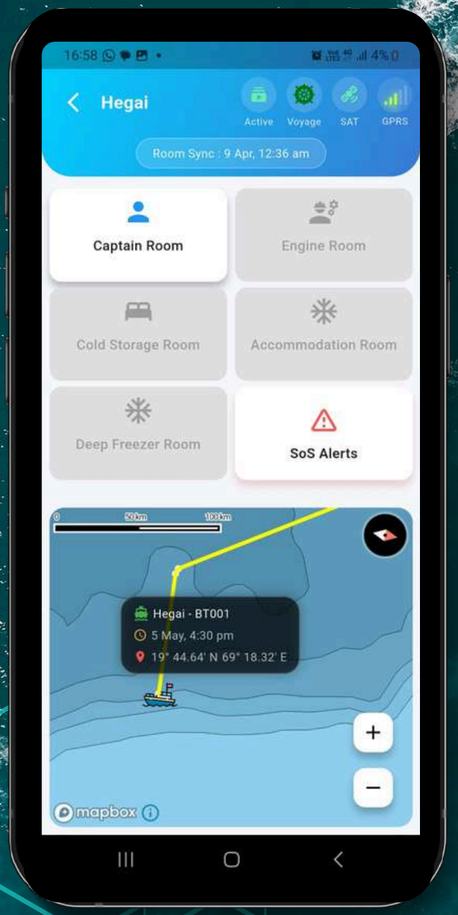

The DSM App provides remote access for boat/vessel owners to monitor and track the boat's/vessel's location and crew health status in real time, along with key onboard parameters from the entire DSM system

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CENTRALIZED MONITORING

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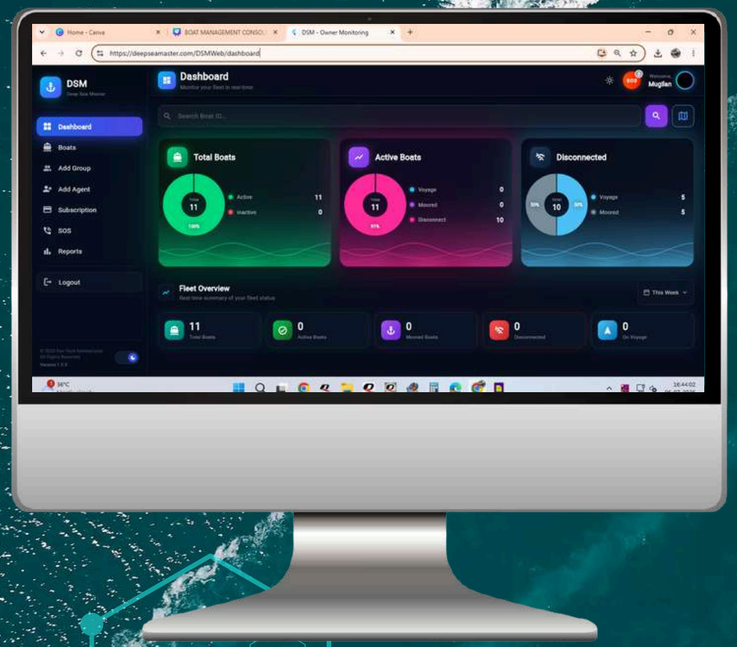

The DSM App provides a centralized monitoring and tracking platform that enables administrators to monitor the real-time location, device health status, and key onboard parameters of each boat/vessel, helping ensure the safety and security of the entire fleet.

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Thank You

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Design, Development and Manufacturing.