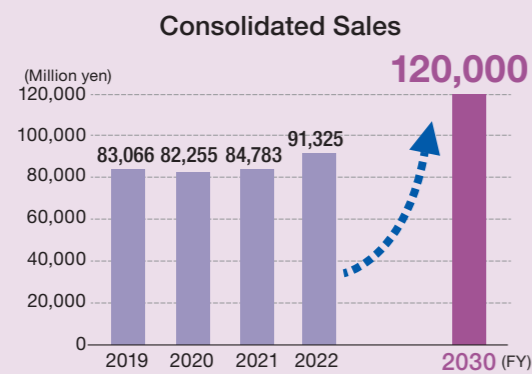


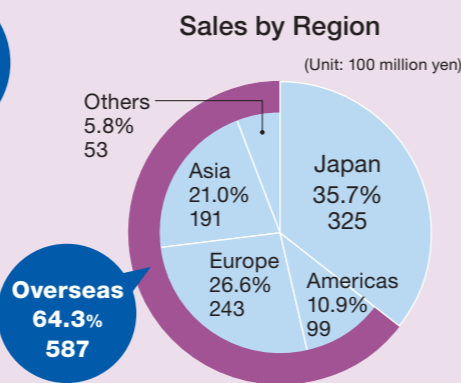
### Business Overview

**<Business Vision> Achieve better safety, security and comfort to bring about a society and sea navigation that considers the needs of people and the environment**

Making full use of our core technological expertise, namely, sensing, processing and communication, FURUNO strives to bring about safety and efficiency in vessels' operation, sustainable fishery with thorough resource management, safe healthcare and the pleasant society filled with safety and peace of mind.



**Corporate Vision Goal**

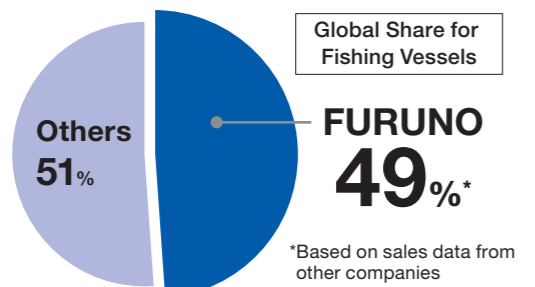
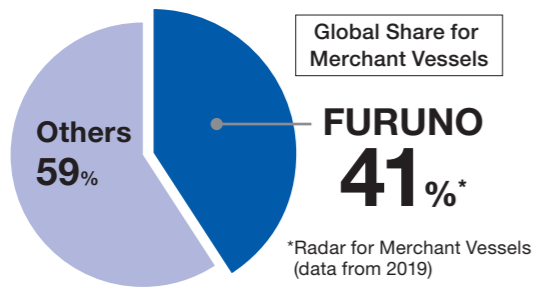


**Overseas 64.3% 587**

### FURUNO's Strengths

#### Marine

FURUNO offers equipment for a wide variety of ships, from large merchant vessels, to fishing boats and recreational boats.



#### Land-based

FURUNO has expanded into new fields, including medical equipment and ICT devices, such as GPS and ITS products, to realize a comfortable society with greater safety and peace of mind.



## Marine Business

• Related SDGs

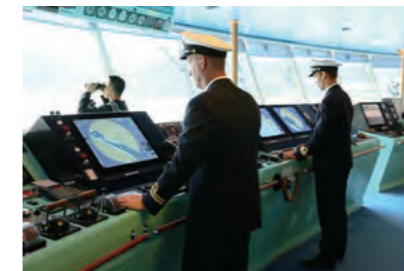


Since successfully commercializing the world's first Fish Finder in 1948, FURUNO has met customer needs by developing and marketing various types of navigation and communications equipment. Today, we offer equipment to ensure safety, peace of mind, and higher efficiency for a wide variety of ships, from large merchant vessels, to fishing boats and recreational boats.



**Kazuma Waimatsu**  
Marine Electronic Products Division General Manager

### For Merchant Vessels



#### For safe and efficient navigation

As part of our mission to contribute to safe and efficient navigation, FURUNO offers a variety of navigation and communications equipment. These products are designed for all types and sizes of merchant vessels, carrying both people and goods. With regards to newly-built vessels, we have built up a track record and global network commensurate with our top market share. Leveraging these assets, our business spans from new vessel construction to upkeep and lifecycle maintenance and retrofitting.

#### Selected in the Global Niche Top Companies Selection 100 with our radar for Merchant Vessels

FURUNO was recognized for its "41%\* global market share with its Radar for Merchant Vessels," "products capabilities that enable FURUNO to offer a comprehensive range of electronic equipment necessary for ship navigation," "service capabilities that enable FURUNO to respond to requests from customers at any port without stopping their ships as they sail around the world," and "a global sales network enabling customers to use its FURUNO with peace of mind."



\* based on the number of radars installed on vessels built at Japanese, Chinese and Korean shipyards, from January to December 2019.

## For Fishing Vessels



### For safe fishing and sustainable use of fishery resources

Since our founding, FURUNO has offered electronic fishing equipment to modernize and improve the efficiency of commercial fishing. FURUNO is working to develop fisheries with resource management, through the fishery consulting capability that we have previously cultivated in countries around the world, and by providing products and services that are both innovative and optimally suited for the market.

### Towards the Realization of Smart Fishery

The fishing industry is now in a transitional stage of change, from intuition- and experience-based industry, to a more efficient industry based on data. FURUNO, with its new technologies, such as applications for utilizing past operational data or 3D sonars, is helping to realize a smarter fishing industry, one step further.



Fishing vessel with the latest Smart Bridge (Turkey)

## For Pleasure Boats



### For safe and comfortable boating

FURUNO offers high-quality products for users of all types of recreational boats, including sport fishing boats, sailboats, and yachts. While continuing to supply innovative and highly reliable products to our users, we are expanding our efforts to enhance customer value.

### FURUNO brand alongside the largest North American pleasure boat market

Marine equipment sales for the pleasure boat market are approximately ¥170 billion, with half of these sales being in the United States. Sport fishing boats also have professional scanning Sonar and Fish Finder for targeting fish and Multibeam Sonar for habitat monitoring. This is where the NavNet TZtouch series, a high-end model for pleasure boats, is installed. It displays various information making it an indispensable item for users who aspire to high-end sport fishing.



Targeting high-speed fishing with multi-beam sonar

## For Workboats



### For the safety and security of maritime operations

FURUNO contributes to the safety, security, and comfort of its customers while continuously providing innovative and reliable products to users of government ships and port marine and work vessels.

### For the safety of the largest high-speed ferry in the United States

Seastreak's *Courageous* is a high-speed ferry with the largest capacity in the United States. Two large, award-winning FURUNO radars are installed on board, and an intuitive and powerful new interface also simplifies operation. FURUNO contributes to the safety of passengers by providing high-quality marine electronics.



FURUNO radars installed on Seastreak's *Courageous* ferry

## For Maintenance Services

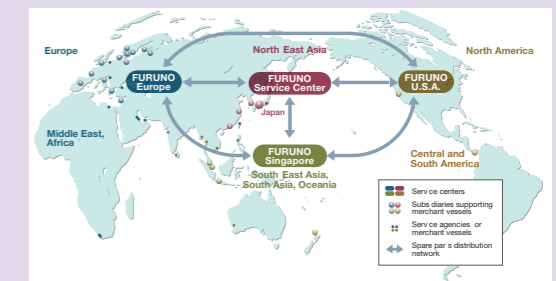


### To ensure that products are useful to customers

FURUNO provides world-class technical services and statutory inspections in a timely and accurate manner, using its global service network to ensure that its products perform and maintain their best performance anytime, anywhere.

### Global service system for peace of mind

The Merchant Vessel Division, which has customers all over the world, has implemented an online system called "SMS" (Service Management System) to provide efficient services. SMS is a web-based database that stocks information such as product support history, failure prevention measures, service progress and result reports. Any problems or findings are fed back to the sales, service, development, and quality departments to help improve quality of operations.



FURUNO Service Network

# Industrial Business

• Related SDGs



Based on technology developed for marine electronic equipment, FURUNO has expanded into new fields, including medical equipment and ICT devices, such as GPS and ITS products. Our aim is to realize a comfortable society with greater safety and peace of mind.



**Yukio Nobuhiro**  
System Products Division General Manager

## ETC2.0/ETC on-board equipment

These terminals are familiar at toll booths on expressways and are used to automatically pay the toll and pass through without having to stop the vehicle. ETC2.0 on-board equipment linked to GPS can provide voice and other information necessary for avoiding traffic congestion and safe driving.



## Vehicle access control service FLOWVIS

Vehicles are reliably identified by hybrid authentication that combines ETC authentication technology with camera-based vehicle number reading. The system also contributes to logistics DX as a solution to the “2024 problem” facing the logistics industry by reducing truck drivers’ waiting time for cargo by dispatching vehicles on premises according to berth conditions at each location.



Vehicle management solutions

## Dual-band GNSS receiver chip eRideOPUS 9

This receiver chip receives signals from GNSS satellites orbiting the earth and outputs highly accurate position information. It is the world’s first automotive receiver to achieve a positioning accuracy of 50 cm. The system is also highly robust, contributing to V2X and automated driving, which require accuracy and stability.



# Defense Equipment Business

• Related SDGs



Using its core technologies in marine electronics, FURUNO is committed to R&D for the Ministry of Defense, to provide safety and security for the people in Japan.

## Underwater acoustic technologies

The division has begun to study low power consumption, compactness, light weight, and strong resilience against voltage of the transmitter and receiver, with a view to installing UUVs or USVs.



**Takeshi Miyazaki**  
Avionics and Defense Electronics Division General Manager

# Wireless LAN Systems Business

• Related SDGs



FURUNO provides wireless LAN access points and wireless network management systems for better Internet access. We are also developing communication systems for the IoT field that can be used in social infrastructures.

## 11ah access point for IoT gateway support

IEEE802.11ah-compliant access points can communicate over long distances with a radius of approximately 1km. It is expected to play a role in supporting social infrastructure.



**Satoshi Nakatani**  
FURUNO SYSTEMS Co., Ltd. President

# Disaster Prevention and Surveillance Solutions Business

• Related SDGs



FURUNO is providing system solutions to support everyday safety and peace of mind by offering systems that predict meteorological and geological events.

## Water resources management

FURUNO’s compact weather radar contributes to efficient storage and utilization of rainfall and mitigation of damage from flooding and urban inundation through highly accurate precipitation forecasting.



**Takuo Kashiwa**  
System Solution Business Unit General Manager

# Our Technologies

## ● Challenge the Invisible

FURUNO looks thoroughly into the field and solves problems with the appropriate technology. The world's first Fish Finder was born from this attitude. What FURUNO offers is not just a product for visualization. When you can see what you could not

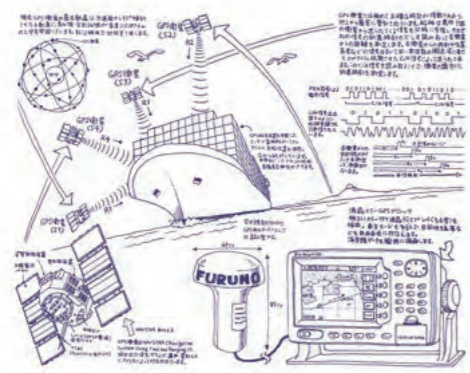
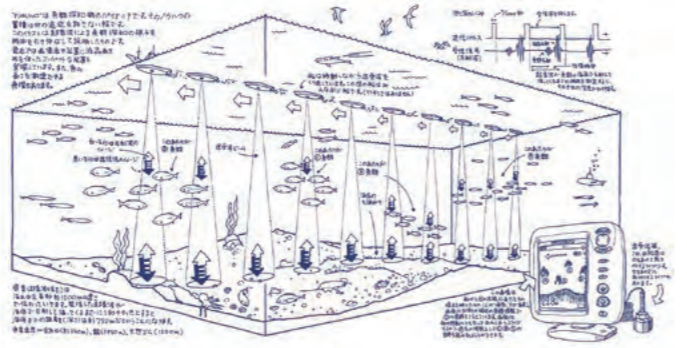
see before, you can also see new possibilities. There is no end to FURUNO's challenge of the invisible. FURUNO will continue to create encounters with the invisible while staying close to people's lives.

## FURUNO's Core Technologies

### 01

#### Underwater Acoustics

The distance from a school of fish is determined using the linear property of ultrasonic waves, by measuring the round-trip time when they are reflected to their original location.



### 02

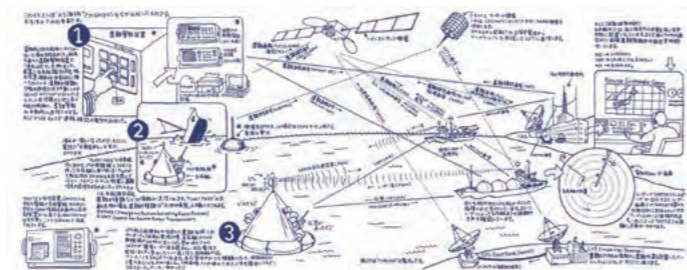
#### Satellite Positioning

Positioning is essential for ships navigating the oceans. We also measure and use highly accurate heading and the precise time of day provided by GNSS satellites.

### 03

#### Wireless Communication

Radio waves are essential for maritime communications. They are indispensable for safe navigation by detecting obstacles at sea as well as the movements of other vessels.



# Product Quality

To build a relationship of trust with our customers, all divisions are committed to providing higher quality products and services by listening to customers around the world.

## ● Providing safety and security through quality control

Based on the philosophy that "the quality of our products is created by the quality of our work," FURUNO aims to provide products and services that satisfy our customers. Specifically, FURUNO maintains and controls quality at every stage, from design, development, procurement, and production, based on its quality management system (ISO 9001), and incorporating its own appropriate quality standards and reliability evaluation methods at each development stage to ensure that its products are suitable even in harsh environments.

\*Testing for electromagnetic interference that is known to affect other equipment and the human body



In-house EMC\* testing environment

## ● Maintaining and improving product quality

The Miki Factory (Japan) has established a traceability system that clearly defines manufacturing methods



and inspection standards for each manufacturing process and manages production and inspection histories. In addition, the factory conducts strict quality checks, as well as prior inspections of local manufacturers' quality control systems and locally manufactured products. In the manufacturing processes, a high level of reliability is assured with 100% inspection.

## ● Environmental testing

FURUNO strives to further improve product quality by conducting various tests, such as electromagnetic environment tests, vibration/shock tests, and temperature/humidity tests.

