

FURUNO equipment supports safe, secure navigation.

Since 1948, when we became the first company in the world to successfully commercialize a fish finder, we have offered a wide range of marine electronic equipment that serves the needs of our customers, including fishing boats, large merchant vessels, government vessels, and recreational boats. Today, our goal is to ensure a safe, secure, and comfortable life at sea, and to support further development of maritime culture.

Merchant

VDR (Voyage Data Recorder)
VDR records and stores navigation data and information. This data is obtained from onboard sensors, and can be analyzed in the event of a marine accident to pinpoint the cause and prevent further recurrence.

Merchant Fishing Recreational Government

Satellite Communications Equipment / Service
We offer communications equipment and services employing communications satellites. This enables telephone and facsimile communication with the shore, as well as onboard connectivity to the Internet.

Fishing Government

Coastal Monitoring System
These systems monitor the sea and harbor by combining surveillance radar, surveillance cameras and other equipment. They support a broad array of applications, from wide-range surveillance for marine traffic control, to surveillance over a limited range such as fishing grounds and aquaculture areas.

Merchant Fishing Recreational Government

Radar
Radar acts as the eyes of a ship, sending out radio waves as a means of detecting other vessels and obstructions in the surrounding area. Radar allows ships to navigate safely, even when dense fog reduces visibility.

Merchant Fishing Recreational Government

GPS, Chart Plotter
Navigating in the open seas requires accurate assessment of one's current position. GPS chart plotters pinpoint a vessel's position based on radio waves sent from GPS satellites. The position is displayed on a simplified navigational chart.

Recreational

Autopilot
Linked to the steering system and heading sensors, the autopilot automatically controls the ship to maintain the course, making steering much easier for the captain.

Fishing Recreational

Fish Finder / Sonar
These systems detect fish schools using ultrasound waves, which travel in straight lines as they penetrate the water and bounce back to the original source after hitting fish, the seabed or other objects. The depth and distance to schools of fish can be calculated based on the time it takes for the ultrasound waves to return.

Fishing Recreational Government

Radiotelephone
A means of communication while at sea, used in times of distress or emergency and to receive maritime safety information (navigation warnings, weather information, etc.)

FURUNO's products support safe, secure and comfortable navigation.

As a comprehensive marine company with marine electronics equipment at its core, we will contribute to safe and secure navigation for our marine customers and the development of marine culture.

For Merchant Vessels

Our mission is to contribute to the safe and efficient operation of our customers' ships, from large and small cargo and passenger ships to container ships, tankers, and LNG carriers, by developing and maintaining products such as Radar, ECDIS (Electronic Chart Display and Information System), and Satellite Communication Equipment.



For Fishing Vessels

We develop and sell fish finders that detect schools of fish, sonar that enables wider area search, radar for fishing, tide gauges, and other products for fishing vessels such as short sea gillnets, overseas gillnets, mid-water trawlers, and skipjack trawlers.



For Recreational Boats

We develop and sell navigational equipment that emphasizes safety, security, and comfort, such as small fish finders, GPS plotters, radars, and wireless communication devices used in pleasure boats such as sport fishing boats, sailing boats, and cruisers.



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.



Marine Radar

(Model FAR-23x8 series)

Detects nearby vessels or obstructions using radio waves. Among many features that support safe navigation, our latest marine radar products automatically eliminate unwanted echoes and adjust the radar images according to sea conditions.



Remote Monitoring & Support System (RMS) HermAce

HermAce is a centralized management system to remotely monitor the operational status of each device on board a ship in real time. The system provides a full range of troubleshooting services based on extensive experience, enabling customers to take prompt initial action when an alert occurs.

TOPICS **I**

Radar for merchant ships recognized by the Ministry of Economy, Trade and Industry of Japan Selected as one of the new "Global Niche Top Companies Selection 100"

In recognition of our achievements in radar for merchant ships and other initiatives, we have been selected as one of the new "Global Niche Top Companies Selection 100" for 2020 by the Ministry of Economy, Trade and Industry of Japan. This highlights our leading position in a niche field in the global market through appropriate marketing, our development of highly unique products and services, and our strict quality control.

FURUNO was recognized in the electrical and electronics category for its "41%* global market share for radars for merchant ships", "product 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 that enables customers to use our products with peace of mind".

FURUNO will continue to strive to provide customers with safety, security, and comfort in navigation through high-performance, high-quality marine electronic equipment.

*Calculated based on the number of radars installed on ships (tankers, bulk carriers, and dry cargo) built at Japanese, Chinese, and Korean shipyards from January to December 2019.



Image of radar for merchant ships

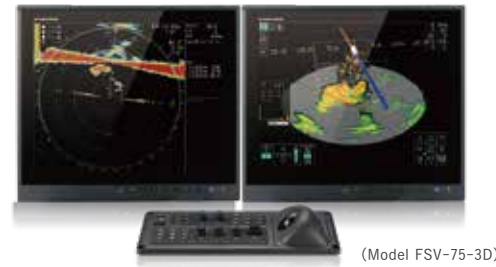


For Fishing Vessels



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.



(Model FSV-75-3D)

Half-Circle Color 3D Scanning Sonar

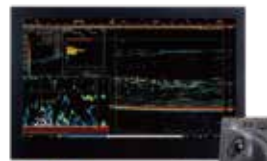
The 3D display function can accurately grasp the distance to the seabed and fish schools, as well as the fishing ground conditions, contributing to efficient operations.



(Model F3D-S)

3D Sonar Visualizer™

Gather information at a distance and in a full 360° circle around the ship, converted into three-dimensional information in real-time. Enjoy a complete picture of schools of fish at-a-glance and determine the distribution of the school for greater operating efficiency.



(Model FCV-38)

Stabilized Fish Size Indicator

A fish finder capable of measuring fish length and fish volume, contributing to information collection for fishery management and marine resource exploration.

For Recreational Boats



For safe and comfortable life at sea

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 the users of small workboats, such as coastal security vessels and tug boats, we are expanding our efforts to enhance customer value.



(Model TZT12F / TZT16F / TZT19F)

Multifunction Display

This device is equipped with a touch screen function that enables intuitive operation with a single fingertip so that anyone can easily operate the plotter and radar screen as they wish.



(Model DRS12A-NXT / DRS25A-NXT)

Radar Sensor

This radar can detect ships in the vicinity, seabirds, and rain clouds. It supports safe navigation by displaying only obstacles approaching the ship in different colors.



(Model DFF-3D)

Network Multi Beam Sonar

When connected to the NavNet TZtouch3, this device has a seafloor mapping function that displays the location of fish schools and the detailed topographical structure of the seafloor in 3D.

►► **TOPICS II**

For the Future of Shipping



Toward the Realization of Unmanned Ship Navigation

To contribute to the safety and security of navigation, FURUNO is developing technological innovations for autonomous vessels, such as the FURUNO ENVISION series, including a system (FURUNO AR Navigation System) for large vessels that uses Augmented Reality technology to support ship operations during navigation.

In recent years, the shipping industry has made rapid progress in ship operation support using the latest digital technology. In 2020, the Nippon Foundation announced the “Joint Program for Technology Development of Unmanned Ship Navigation Demonstrations”, and we are participating as a member of this project.

This project aims to commercialize the world’s first unmanned vessel by 2025. FURUNO is participating in two consortia selected for this program: “Creating the future of unmanned navigation: Grand design drawn by diverse specialists” and “Verification testing of unmanned technologies using coastal container vessels and car ferries”. We are aiming for practical application in cooperation with companies in various fields in Japan.

FURUNO will continue to contribute to the development of technology in this field by utilizing the technology and know-how it has cultivated over the past 70 years.



Display image of the AR Navigation System. Azimuth, AIS, own ship position, ship speed, and other information such as the route and waypoints are superimposed over the live video imagery.

►► **TOPICS III**

A New Challenge: The Aquaculture Support Project



As the depletion of marine resources is seen as a problem around the world, there is a need for a sustainable and stable supply of fish and food, and aquaculture fills this need. However, as the number of aquaculture companies in Japan is decreasing, FURUNO has started an aquaculture support project to see what we can do to contribute.

In this business, we will provide a service that enables newcomers to the aquaculture industry to start immediately and make a profit. We have developed a system to reduce feeding costs and shorten the period of fish cultivation, which are particular challenges in the management of aquaculture. In 2020, FURUNO started the “Fish Farming Management Support Service”, which provides analysis services using this system.

FURUNO will continue to work closely with its customers to develop new services.

