## Global Network / Corporate Information (as of March 1, 2023)

● Subsidiaries and Representative Offices ● Affiliated Companies ● National Distributors

**Americas**
2 companies
( 2 consolidated )
105 employees

**Asia** and Oceania
12 companies
( 8 consolidated )
445 employees

**Japan**
FURUNO ELECTRIC CO., LTD. and
6 companies
( 4 consolidated )
2,091 employees

**Europe**
18 companies
( 16 consolidated )
410 employees
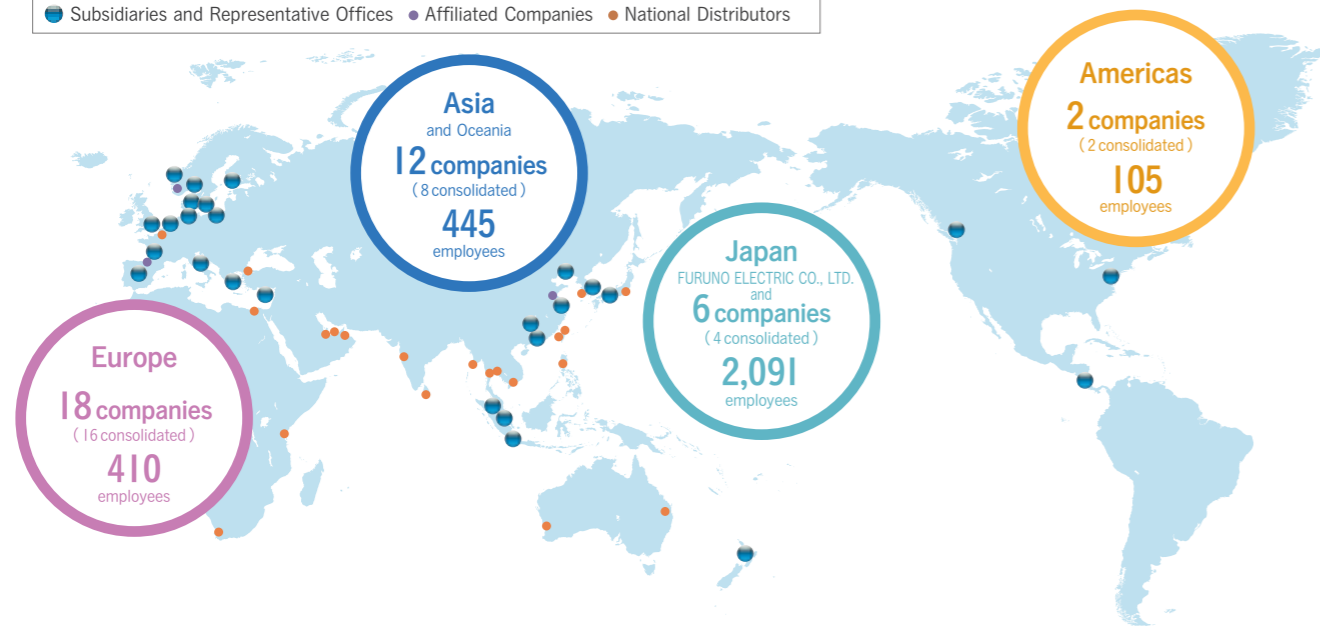
### Europe

FURUNO (UK) LTD.
FURUNO NORGE A/S
FURUNO DANMARK A/S
FURUNO SVERIGE AB
FURUNO FINLAND OY
FURUNO POLSKA Sp. z o.o.
FURUNO DEUTSCHLAND GmbH
FURUNO EUROPE B.V.
FURUNO FRANCE S.A.S.
FURUNO ESPAÑA S.A.
FURUNO ITALIA S.R.L.
FURUNO HELLAS S.A.
FURUNO (CYPRUS) LTD
EMRI A/S

### Japan

KYORITSU RADIO SERVICE CO., LTD.
FURUNO SYSTEMS CO., LTD.
FURUNO LIFEBEST CO., LTD.
FURUNO SOFTECH CO., LTD.
LABOTECH INTERNATIONAL CO., LTD.

### Asia / Oceania

FURUNO SHANGHAI CO., LTD.
FURUNO (DALIAN) TECHNOLOGY CO., LTD.
FUNOTEC (DALIAN) CO., LTD.
FURUNO CHINA CO., LIMITED
FURUNO DONGGUAN CO., LTD
FURUNO HONG KONG CO., LTD.
PT FURUNO ELECTRIC INDONESIA
FURUNO KOREA CO., LTD.
FURUNO SINGAPORE PTE LTD
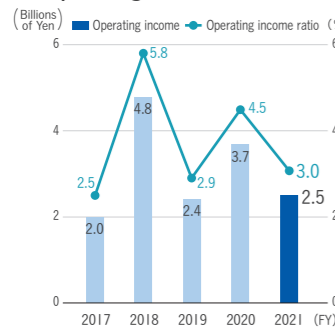FURUNO ELECTRIC (MALAYSIA) SDN. BHD.
ELECTRONIC NAVIGATION LIMITED

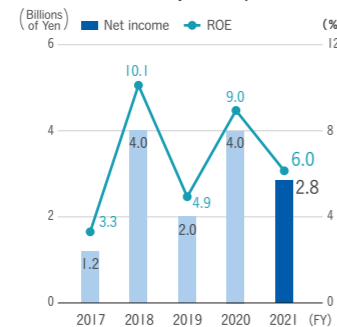### Americas

FURUNO U.S.A., INC.
FURUNO PANAMA, S.A.

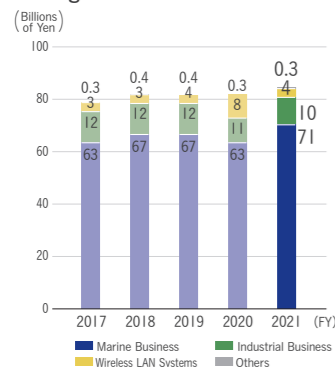## Financial Highlights (Consolidated)

Years ended the last day of February
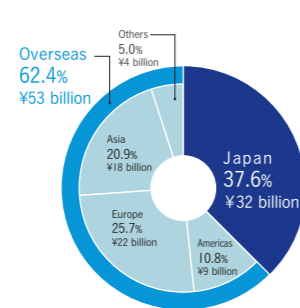
### ▶ Operating income / Operating income ratio

(Billions of Yen) ■ Operating income ● Operating income ratio (%)

| FY | Operating income | Operating income ratio |
|---|---|---|
| 2017 | 2.0 | 2.5 |
| 2018 | 4.8 | 5.8 |
| 2019 | 2.4 | 2.9 |
| 2020 | 3.7 | 4.5 |
| 2021 | 2.5 | 3.0 |

### ▶ Net income attributable to owners of the parent / ROE

(Billions of Yen) ■ Net income ● ROE (%)

| FY | Net income | ROE |
|---|---|---|
| 2017 | 1.2 | 3.3 |
| 2018 | 4.0 | 10.1 |
| 2019 | 2.0 | 4.9 |
| 2020 | 4.0 | 9.0 |
| 2021 | 2.8 | 6.0 |

### ▶ Net sales by business segment

(Billions of Yen)

| FY | Marine Business | Wireless LAN Systems | Industrial Business | Others |
|---|---|---|---|---|
| 2017 | 63 | 12 | 3 | 0.3 |
| 2018 | 67 | 12 | 3 | 0.4 |
| 2019 | 67 | 12 | 4 | 0.4 |
| 2020 | 63 | 11 | 8 | 0.3 |
| 2021 | 71 | 10 | 4 | 0.3 |

### ▶ Net sales by region

Overseas 62.4% ¥53 billion

Japan 37.6% ¥32 billion
Asia 20.9% ¥18 billion
Europe 25.7% ¥22 billion
Americas 10.8% ¥9 billion
Others 5.0% ¥4 billion

## Company Outline

(as of February 28, 2022)

| | |
|---|---|
| Company Name | FURUNO ELECTRIC CO., LTD. |
| Incorporated | May 23, 1951 |
| Headquarters | 9-52 Ashihara-cho, Nishinomiya City, Hyogo 662-8580, Japan |
| Capital | ¥7,534 million |
| Number of Employees | 3,065 (consolidated) |
| Consolidated Sales | ¥84,783 million ($777.9 million)* |
| President | Yukio Furuno |
| Website | https://www.furuno.com |

*US dollar amounts are converted at 1 USD = 108.99 JPY, the average exchange rate for 2021. These conversions do not mean the Japanese yen is subject to the above rate or any other rate when converted to US dollars.

### FURUNO ELECTRIC CO., LTD.

・ The information in this pamphlet is current as of June 1, 2022.
・ All brand and product names are registered trademarks, trademarks or service marks of their respective holders.

Catalog No.CA000002021

## FURUNO

# Corporate **Report**
## 2022–2023

Corporate Profile & CSR Report

*CHALLENGE the INVISIBLE.*

Since our inception, FURUNO has been continually helping
people see things that are beyond the realm of visibility.
Through exhaustive research and development,
we create and implement our innovative technologies to solve
any problem, seen or unseen.
This mentality resulted in our invention of the
world's first fish finder.

However, the products FURUNO manufactures go far beyond making things visible.

By making the invisible visible, we encounter new possibilities that we weren't aware of before.
This not only benefits those who directly use our instruments, but it also affects the lifestyles
of many people beyond them.

By looking at things from a customer's point of view, we can see the problems at hand and find
new possibilities that were previously beyond the realm of visibility.

And by analyzing the way we live,
FURUNO continues to create new values that are not yet visible to the human eye.

# CHALLENGE the INVISIBLE.

## CONTENTS

## PRESIDENT'S MESSAGE

### Contributing to Sustainable Development of Local Communities and Society through Increased Value to Customers and Enhanced Corporate Values

In 2018, the FURUNO Group formulated the "NAVI NEXT 2030" global vision consisting of a "Business Vision" and a "Human Resources and Corporate Culture Vision" to be achieved by 2030.

Our business vision is to achieve better safety, security, and comfort to bring about a society and sea navigation that considers the needs of people and the environment. This vision prioritizes not only safety and security in addition to the environment but also creates an inspiring, comfortable society for all. Meanwhile, our human resources and corporate culture vision, "Value through globalization and speed," is an extolment of the virtue of working together to create value through globalization and speed.

Through the development of various activities aimed at realizing this management vision, we will continuously and progressively enhance both the value we provide to customers and our corporate value.

### FURUNO Group's Vision and our SDGs

"A company exists to serve society" as a management principle, FURUNO has been developing its business to build a sustainable society. We will continue to create new value by recognizing the idea of SDGs and utilizing our core technologies to solve social issues.

SUSTAINABLE DEVELOPMENT GOALS

Creating Social Value
Improving Social Sustainability
Solving Social Issues
Recognizing Social Issues

Realizing our SDGs

President  Yukio Furuno

Corporate Vision

# FURUNO GLOBAL VISION "NAVI NEXT 2030"

On December 3, 2018, to mark the 70th anniversary of its foundation, FURUNO Group has formulated a new management vision, FURUNO GLOBAL VISION "NAVI NEXT 2030," to carry the company through to 2030.

We will progressively and promptly work toward realizing the FURUNO GLOBAL VISION "NAVI NEXT 2030" through the following three phases. Our growth targets for FY 2030, the completion year of the three phases, are consolidated net sales of 120 billion yen, operating margin of 10%, and new business composition ratio of 30%.

Customers
Suppliers
Local Community
Shareholders
Employees
Environment

## Management Principles
- A company exists to serve society
- Its management must be creative
- The happiness of its employees comes with the growth of a company

## Business Theme
- Challenge the invisible

## Action Guidelines
- Face the future
- Strive to be the best
- Be persistently original
- Be sincere

## 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

This business vision expresses the priority all businesses in the FURUNO Group place on working to bring about safety, security and comfort on the sea and land, as the basis for achieving a society and sea navigation that considers the needs of people and the environment. We have expanded the focus of the FURUNO Group's business activities from offering the values of safety, security and environmental consciousness to also include comfort and humanity. This is a new marker for us as we move forward in providing customers with greater value in our existing businesses and cultivate new businesses in associated fields.

Since the time of our inception in 1948, when we commercialized the world's first practical fish finder, the FURUNO Group has been fulfilling its mission of solving social issues through our businesses. Meanwhile, the United Nation's Sustainable Development Goals (SDGs) are becoming a shared awareness in the international society, and companies are now being called on to contribute to realizing the SDGs through their business activities. The FURUNO Group will also actively incorporate SDGs into our corporate management and basic policy for business activities, while carefully preserving the values we have cultivated since our foundation.

## Human Resources and Corporate Culture Vision

### VALUE through GLOBALIZATION and SPEED
This is our key proposal for the focused strengthening and assessment of human resources, a valuable resource in corporate management, and corporate culture to achieve our business vision. It comprises the following three points.

### Value — Creating greater value together
We will cultivate a deep understanding of our vision and adopt a highly autonomous approach to achieving it. We will work together with every FURUNO Group stakeholder to create even greater value in society.
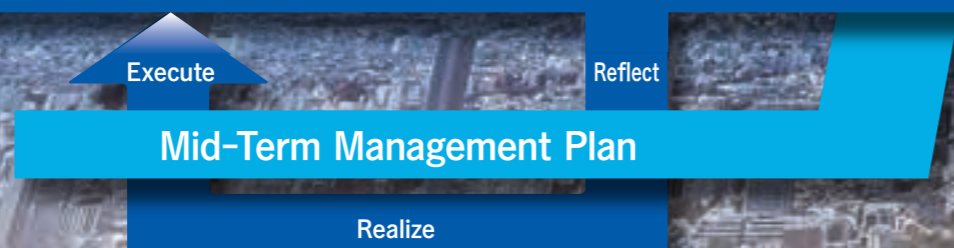
### Globalization — Comprehensive globalization
We will foster a global mindset in our organization, and ensure the optimal and maximum use of our internal and external resources to achieve our vision, irrespective of their affiliated division, region, country, etc.
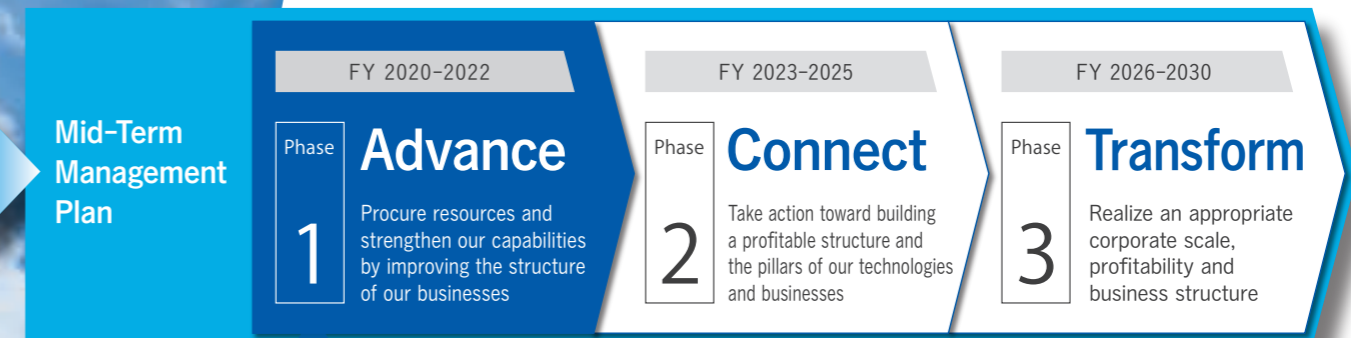
### Speed — Quick and agile decisions and action
We will not falter in the face of change, as we strive to continue creating a new era.

**FURUNO GLOBAL VISION NAVINEXT 2030**

Execute
Reflect
Realize

## Mid-Term Management Plan

### Mid-Term Management Plan

| | FY 2020–2022 | FY 2023–2025 | FY 2026–2030 |
|---|---|---|---|
| Phase 1 | **Advance** Procure resources and strengthen our capabilities by improving the structure of our businesses | | |
| Phase 2 | | **Connect** Take action toward building a profitable structure and the pillars of our technologies and businesses | |
| Phase 3 | | | **Transform** Realize an appropriate corporate scale, profitability and business structure |

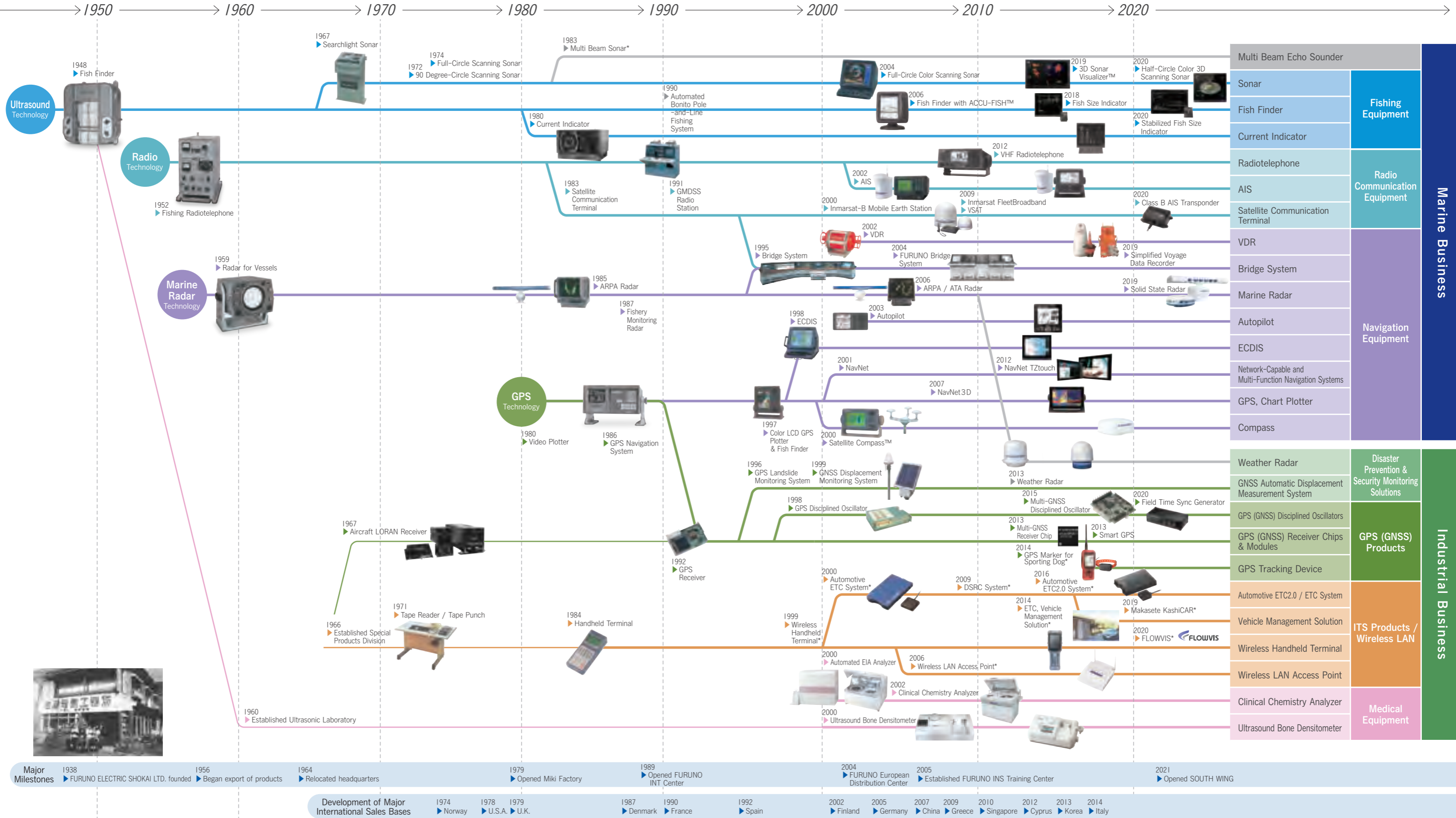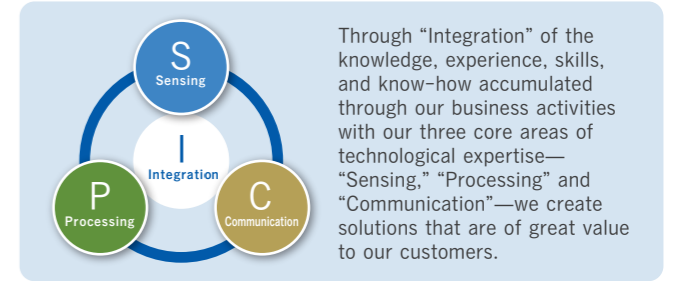## Overview of the Mid-Term Management Plan of Phase 1

In "Phase 1" of the mid-term management plan, covering the three-year period for fiscal years 2020 through 2022, we will improve profitability by implementing initiatives and individual business strategies to improve and strengthen our business.

### Main Initiatives

| | |
|---|---|
| Strengthen Inventory Control and Achieve Appropriate Inventory Levels | Promote the reduction of inventories in all areas of the value chain by working together to refine production plans by improving the accuracy of demand forecasts, review logistics systems by optimizing distribution bases, and shortening procurement and production lead times. |
| Further Improvements in Quality | Based on a "Quality Before Everything" mentality, we aim to further reduce the cost of quality loss by reviewing and steadily implementing back-to-basics quality processes in each business division, fostering quality management human resources by upgrading the quality education system, and enhancing the corporate culture. |
| Optimization of Product Development Functions | Improve development efficiency by optimizing the global development system, promoting common design, utilizing simulation, and automating the inspection process. |
| Optimization of Comprehensive Manufacturing Functions | Optimize the global production system, automate production processes, expand configured production, thoroughly eliminate waste, and promote 1/2 manufacturing. |
| New Strategic Investment Quota | Investment for future growth in Phase 2 and beyond, including fostering new businesses, R&D investment, including advanced technology areas, business expansion into peripheral areas of existing businesses, and infrastructure development. |

# FURUNO will contribute to the development of society and industry previously invisible, using our SPC core competencies and our by giving visual form to that accumulated know-how.

Through "Integration" of the knowledge, experience, skills, and know-how accumulated through our business activities with our three core areas of technological expertise— "Sensing," "Processing" and "Communication"—we create solutions that are of great value to our customers.

S Sensing
P Processing
Integration
C Communication

1950    1960    1970    1980    1990    2000    2010    2020

Ultrasound Technology
1948 ▶ Fish Finder

Radio Technology
1952 ▶ Fishing Radiotelephone

Marine Radar Technology
1959 ▶ Radar for Vessels

GPS Technology

1967 ▶ Searchlight Sonar
1974 ▶ Full-Circle Scanning Sonar
1972 ▶ 90 Degree-Circle Scanning Sonar
1983 ▶ Multi Beam Sonar*
1990 Automated Bonito Pole -and-Line Fishing System
1980 ▶ Current Indicator
2004 ▶ Full-Circle Color Scanning Sonar
2006 ▶ Fish Finder with ACCU-FISH™
2019 ▶ 3D Sonar Visualizer™
2020 ▶ Half-Circle Color 3D Scanning Sonar
2018 ▶ Fish Size Indicator
2020 ▶ Stabilized Fish Size Indicator

1983 ▶ Satellite Communication Terminal
1991 ▶ GMDSS Radio Station
2000 ▶ Inmarsat-B Mobile Earth Station
2002 ▶ AIS
2009 ▶ Inmarsat FleetBroadband VSAT
2012 ▶ VHF Radiotelephone
2020 ▶ Class B AIS Transponder

2002 ▶ VDR
1995 ▶ Bridge System
2004 ▶ FURUNO Bridge System
2019 ▶ Simplified Voyage Data Recorder

1985 ▶ ARPA Radar
1987 ▶ Fishery Monitoring Radar
2006 ▶ ARPA / ATA Radar
2019 ▶ Solid State Radar

1998 ▶ ECDIS
2003 ▶ Autopilot
2001 ▶ NavNet
2012 ▶ NavNet TZtouch
2007 ▶ NavNet 3D

1980 ▶ Video Plotter
1986 ▶ GPS Navigation System
1997 ▶ Color LCD GPS Plotter & Fish Finder
2000 ▶ Satellite Compass™

1996 ▶ GPS Landslide Monitoring System
1999 ▶ GNSS Displacement Monitoring System
2013 ▶ Weather Radar

1998 ▶ GPS Disciplined Oscillator
2015 ▶ Multi-GNSS Disciplined Oscillator
2020 ▶ Field Time Sync Generator

1967 ▶ Aircraft LORAN Receiver
2013 ▶ Multi-GNSS Receiver Chip
2013 ▶ Smart GPS

2014 ▶ GPS Marker for Sporting Dog*

1992 ▶ GPS Receiver

2000 ▶ Automotive ETC System*
2009 ▶ DSRC System*
2016 ▶ Automotive ETC2.0 System*
2019 ▶ Makasete KashiCAR*

1971 ▶ Tape Reader / Tape Punch
1966 ▶ Established Special Products Division
1984 ▶ Handheld Terminal
1999 ▶ Wireless Handheld Terminal*
2014 ▶ ETC, Vehicle Management Solution*
2020 ▶ FLOWVIS* FLOWVIS

2000 ▶ Automated EIA Analyzer
2006 ▶ Wireless LAN Access Point*
2002 ▶ Clinical Chemistry Analyzer
2000 ▶ Ultrasound Bone Densitometer

1960 ▶ Established Ultrasonic Laboratory

Multi Beam Echo Sounder
Sonar
Fish Finder
Current Indicator — **Fishing Equipment**
Radiotelephone
AIS
Satellite Communication Terminal — **Radio Communication Equipment**
VDR
Bridge System
Marine Radar
Autopilot
ECDIS
Network-Capable and Multi-Function Navigation Systems
GPS, Chart Plotter
Compass — **Navigation Equipment**

**Marine Business**

Weather Radar
GNSS Automatic Displacement Measurement System — **Disaster Prevention & Security Monitoring Solutions**
GPS (GNSS) Disciplined Oscillators
GPS (GNSS) Receiver Chips & Modules
GPS Tracking Device — **GPS (GNSS) Products**
Automotive ETC2.0 / ETC System
Vehicle Management Solution
Wireless Handheld Terminal
Wireless LAN Access Point — **ITS Products / Wireless LAN**
Clinical Chemistry Analyzer
Ultrasound Bone Densitometer — **Medical Equipment**

**Industrial Business**

Major Milestones
1938 ▶ FURUNO ELECTRIC SHOKAI LTD. founded
1956 ▶ Began export of products
1964 ▶ Relocated headquarters
1979 ▶ Opened Miki Factory
1989 ▶ Opened FURUNO INT Center
2004 ▶ FURUNO European Distribution Center
2005 ▶ Established FURUNO INS Training Center
2021 ▶ Opened SOUTH WING

Development of Major International Sales Bases
1974 ▶ Norway
1978 ▶ U.S.A.
1979 ▶ U.K.
1987 ▶ Denmark
1990 ▶ France
1992 ▶ Spain
2002 ▶ Finland
2005 ▶ Germany
2007 ▶ China
2009 ▶ Greece
2010 ▶ Singapore
2012 ▶ Cyprus
2013 ▶ Korea
2014 ▶ Italy

*Japanese market only

**FURUNO**

**Business Fields** I

# Marine Business

## 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
In addition to telephone and Internet use with land, this allows for monitoring operation of the ship's engines and electronic equipment. The Satellite Communication system is also used for safety and security support from land.

**Merchant · Fishing · Recreational · Government**

### AIS (Automatic Identification System)
AIS allows for ship information (e.g., ID, position, heading direction) to be exchanged among ocean-going ships and vessels. These systems help prevent collisions and ensure safe navigation. They also make it possible to detect ships, which do not appear on radar because they are hidden in the shadow of islands.

**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 · 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.

**Merchant · Fishing · Recreational · Government**

### GNSS 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.

**Fishing · Recreational**

### Fish Finder / Scanning 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.

**Merchant · 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

## 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.

**FOP** FURUNO Open Platform
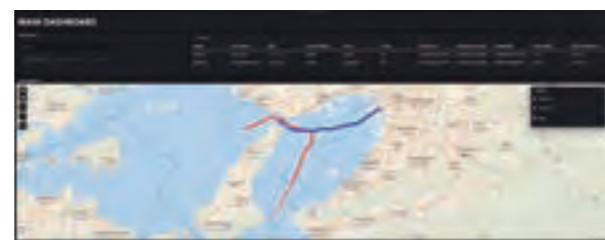
### FURUNO Open Platform (FOP)

The FOP is an onboard data collection platform that supports integrated ship-to-shore operations. The FOP unit collects engine data, engine operating status, and cargo loading / unloading status, and shares this information with offices on shore.

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### ▶▶ TOPICS I    For the Future of Shipping Toward the Realization of Unmanned Ship Navigation

FURUNO aims to contribute to navigation safety, security and eliminating maritime accidents. We are also working on various technological issues essential for the realization of future autonomous vessels, including Augmented Reality technology to improve the ability to recognize surroundings during navigation (FURUNO AR Navigation System) as well as a new millimeter wave radar sensor.

Demonstration projects are underway in which ship operating companies and government agencies work together. In 2020, the Nippon Foundation announced a "Joint Program for Technology Development of Unmanned Ship Navigation Demonstrations," and FURUNO is participating as a vital member of this project.

FURUNO has participated in two consortiums 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." Moving forward, FURUNO will continue to work with companies in various fields in Japan to achieve practical applications.

FURUNO will continue to contribute to technological developments in this field by leveraging its technology and expertise accumulated through 70 years of developing Radar and wireless communication devices for ships.

ENVISION

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.

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### ▶▶ TOPICS II    Selected as one of the new "Global Niche Top Companies Selection 100"

In the electrical and electronics category of the new "Global Niche Top Companies Selection 100" for 2020 by the Ministry of Economy, Trade and Industry of Japan, FURUNO was recognized for its "41%* global market share for Radars on 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 enabling customers to use our products with peace of mind."

FURUNO will continue striving 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

(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 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.

## For Recreational Boats

(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.

### 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.

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▶▶ *TOPIC* **III** | ## Toward the Realization of Smart Fisheries

The fishing industry is trending toward greater "operational efficiency" and "resource management." With this in mind, coordination among fleets, as well as collection and analysis of information on sea conditions have become indispensable. Still, the current situation is that there is not an adequate environment in the field to accommodate these needs. FURUNO has developed a device to share images among various vessels in the fleet and a web application to collect and analyze mark registration information to facilitate cooperation. To strengthen our support in the future, we are furthering our research and development of systems that will contribute to the coordination among fleets and the understanding of information on sea conditions.
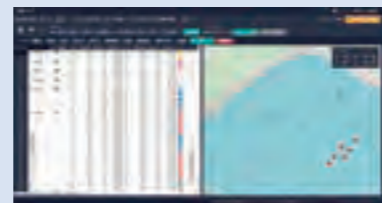
Web application for fisheries information management

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## COLUMN    New Challenge in Marine Field : Aquaculture Support Business

With the depletion of marine resources worldwide, there is a need for a sustainable and stable supply of fish catch and food, and aquaculture is compensating for this. However, in Japan, the number of aquaculture businesses is decreasing due to management pressure caused by feeding costs and difficulties in finding successors. FURUNO started the aquaculture support business to provide solutions that contribute to resolving this situation. Our aim is to develop a system that reduces feeding costs and shortens the fish training period in particular. We have started a "fish farming management support service" in 2020 that will provide analysis services.

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▶▶ *TOPIC* **IV** | ## FURUNO brand alongside the largest North American pleasure boat market

Marine equipment sales for the pleasure boat market are approximately 170 billion yen, with half of these sales being in the United States. Pleasure boats come in various types, such as cruising, sailing, and sport fishing boats, and are equipped with electronic navigational equipment. Among them, sport fishing boats, the mainstream in the U.S., also have professional scanning Sonar and Fish Finder for targeting fish and Multibeam Sonar for habitat monitoring. Many owners invest beyond the scope of their hobby.

High-end NavNet TZtouch Series for pleasure boats is now available stylishly equipped in the glass bridge of a sport fishing boat

Bird Radar to detect birds chasing fish schools and Multibeam Sonar to understand the shape of the seafloor and its habitat for high-speed fishing

The equipment is also highly stylish, presenting a sophisticated glass bridge that blends with the boat design. This is where the NavNet TZtouch series, a high-end model for pleasure boats, is installed. The machine's comprehensive display of Chart Plotter, Fish Finder, Radar, weather, engine, and various other information makes it an indispensable item for users who aspire to high-end sport fishing.

# FURUNO
## Business Fields II

## Industrial Business

# FURUNO products are at work in many areas of daily life.

Based on technology developed for marine electronic equipment, FURUNO provides products and services for use in social infrastructures and automobiles, including products and services for positioning, navigation, and timing, as well as medical equipment and wireless LAN systems. Our goal is to achieve better safety, security, and comfort to bring about a society that considers the needs of people and the environment.

### Infrastructure / Meteorological Monitoring
### Meteorological Monitoring and Analyzing System
As an application of small marine radar, we offer compact, low-cost weather radar, which can be installed at multiple locations. The system observes rain clouds, predicts sudden localized heavy downpours, and helps to mitigate damage due to regional disasters.

### Infrastructure / Meteorological Monitoring
### GNSS Automatic Displacement Measurement System
These systems determine displacement of features such as the earth's crust, the ground and man-made structures by using GPS (GNSS) based precision positioning technology. They are used for tasks such as monitoring volcanic activity and landslides, as well as managing safety and determining impact on the surrounding area during construction of high-rise buildings.

### PNT
### GPS (GNSS) Disciplined Oscillator
Receiving GNSS satellite signals, these devices generate a high-precision reference frequency and a 1-second pulse accurately synchronized with UTC (Coordinated Universal Time). They are utilized in mobile phone base stations and broadcast relay stations for terrestrial digital TV.

### PNT
### ETC, Vehicle Management Solution
Installed at a parking lot entrance, construction site entry gate or similar location, these systems enable exchange of vehicle information and other data with ETC systems. The result is smoother access, improved safety and enhanced security.

### Medical
### Clinical Chemistry Analyzer
These analyzers automatically take precise measurements of enzymes, fats, sugars, proteins and other substances in the blood.

### Medical
### Ultrasound Bone Densitometer
Devices that measure bone density by applying ultrasound to the heel bone, enabling quick and safe screening.

### PNT
### Automotive ETC2.0 / ETC System
These terminals allow for toll payment processing on toll roads without the need to bring the vehicle to a halt. Recently, applications have broadened to vehicle access control at parking lots and construction sites.

### Wireless LAN
### Wireless Handheld Terminal
These terminals are for central management of information and work support using a wireless LAN system. They make various kinds of work quicker and more efficient through real-time management of work status and product data at distribution warehouses, shopping centers, production sites and elsewhere.

### Wireless LAN
### Wireless LAN Access Point
These devices create an environment enabling wireless use of the Internet, at locations such as train stations, cafés and hotels. They allow connection to the Internet regardless of mobile carrier, resulting in growing demand at educational facilities, such as schools and private tutoring schools, as well as at hotels, tourist spots and other areas that attract tourists.

### PNT
### GPS (GNSS) Receiver
These high-precision position sensors can accurately pinpoint their current position anywhere on earth by receiving and processing signals from GPS (GNSS) satellites. These units are incorporated into automotive devices such as navigation systems, operation management terminals and car-to-car communication terminals. They are also used in mobile devices including mobile phones.

## PNT

### Time Synchronization

In digital terrestrial broadcasting, the equipment for 5G mobile base stations, firefighting, police, and other commercial radio, electric power, and stock exchanges is controlled and operated with time accuracy on the order of nanoseconds to microseconds. FURUNO's high-precision time synchronization technology contributes to the operation and maintenance of this critical infrastructure, which is not allowed to be interrupted at any time.

(5G Mobile Base Station)

### Vehicle Management Solutions FLOWVIS*

This system uses ETC onboard equipment and vehicle number authentication to manage vehicle entry and exit, improving security at offices and logistics centers and reducing labor and staffing needs through automatic reception. This approach also contributes to the digital transformation of logistics by providing expandability, such as linking with gates, electronic bulletin boards, and other systems.

(Vehicle Entry / Exit System)

### For a safer and more convenient society

We focus on Positioning, Navigation and Time Synchronization, and provide products and services that are essential for social infrastructures, vehicle traffic, and other areas, adding creative value to the location and time of people, things, and mobility.

*Japanese market only

## Healthcare

(Model CA-800)

(Model CA-400)          (Model CA-270)

Clinical Chemistry Analyzer Line-up

### For a support of healthy life

We are expanding our business into the healthcare field, especially medical care, and are providing products for the early prevention of disease and monitoring treatment, utilizing the sensing technology which we have cultivated in the maritime field. Our medical products contribute to people staying healthy by minimizing healthcare costs.

### Clinical Chemistry Analyzer & Reagent

This analyzer is combined with various reagents to measure components in specimens such as blood and urine. Measuring items such as blood glucose, neutral fat, and $\gamma$-GTP, which can trace elements such as tumor markers, the analyzer contributes to early detection and prevention as well as diagnosis and follow-up treatment of diseases.

(Academic Activities in Southeast Asia)

FURUNO develops, manufactures, and sells small to medium-sized analyzers to help medical institutions reduce the burden of installation and provide high-quality medical care. In Southeast Asia, we also contribute to improving the medical environment by providing local services and academic activities in equipment and reagents close to the medical field.

(Clinical Chemistry Analyzer installed at Chayapmuram Hospital, Thailand)

## Wireless LAN Systems

### Wireless LAN Access Point*

The Nishinomiya City Board of Education has established a "Simultaneous Broadcasting System" that can broadcast all morning assemblies, student council activities, graduation ceremonies, and other ceremonies.
By deploying video transmission access points in each classroom, staff room, and school gymnasium, we can accomplish a wireless LAN environment that enables the use of one learning terminal per student.
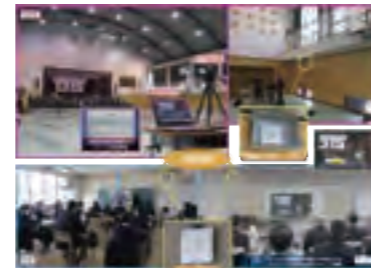
(Broadcasting system of Nishinomiya City Board of Education)

### Wireless Handheld Terminal*

A wireless handheld terminal is effective for efficiency-oriented center management, progress management, and productivity monitoring through the effective use of human resources.
Work performance data is collected for each worker in picking operations using wireless handheld terminals. If a worker makes a mistake, the system immediately points out the details, thereby contributing to improved work productivity.

Note: These products are handled by FURUNO SYSTEMS CO., LTD.

finpad

(finpad 900f)

### For greater comfort and safety in society

Using wireless technology, we provide wireless LAN access points and product management systems that enhance the convenience of Internet access. With "Comfortable Wireless," we aim to realize a connected and expanding society.

*Japanese market only

## Infrastructure Maintenance / Management and Meteorological Monitoring and Analysing System

### For a safe, worry-free society

We are developing businesses globally that contribute to the maintenance of the environment in our daily lives by integrating the knowledge, experience, skills, and know-how we have cultivated in our business activities with technologies that "challenge the invisible" and FURUNO's core technologies of sensing, processing, and communication.

### Water Resources Management

To secure stable water resources, we need to improve water treatment technologies, prevent water-related disasters, and manage water resources by protecting and restoring forests, mountains, and rivers.
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.

(Compact Weather Radar installed at PUB, Singapore)

### Wave Guide LAN System™*

Even on high-rise floors or underground where there is no cellular phone connection, we can easily create a Wi-Fi environment by installing our system using single-tube pipes. For example, it is useful when you want to hold a videoconference with an external party using a smartphone or tablet while working on a high-rise floor or when you want to remotely monitor a cloud-based camera installed in the basement.

*Japanese market only

# CSR Activities

## FURUNO Contributes to Society by Creating New Value

## Quality and Safety Initiatives

### Thorough Quality Management

Based on the principle that "the quality of our products is created by the quality of our approach to work," we provide products and services that satisfy our customers and continue to be a company that is trusted by society. We maintain and manage quality at every stage of our operations, from design and development to procurement and production, based on our quality management system (ISO 9001) and by incorporating our own "appropriate quality standards" and "reliability evaluation methods for each stage of development" to ensure that our products are suitable even in harsh environments.

In addition, in order to accurately evaluate the safety of our products, we have established an environment within our company where we can conduct environmental tests based on temperature, humidity, vibration, etc., as well as tests and evaluations based on EMC* standards of various countries.

*: Testing for electromagnetic interference that can affect other equipment and the human body.

EMC testing of a radar antenna

### Maintain and Improve Manufacturing Quality

The Miki Factory (Hyogo, JAPAN) has established a traceability system that clearly defines manufacturing methods and inspection standards for each manufacturing process, managing production and manufacturing facility inspection histories. Quality records such as the manufacturer's production base and timing of parts used, as well as pass / fail decisions in the manufacturing process, are necessary data for the operation of this system and are managed as essential items in production activities.

At the Miki Factory, where more than 80% of parts are procured domestically, all new parts used in new products, including those made overseas, are subjected to inspection. Strict quality checks are conducted in advance by examining the quality control systems of local manufacturers and locally produced products. In our manufacturing processes, we ensure a high level of reliability by conducting a 100% quality inspection.

## A Global Service System for Safety and Security

The Merchant Marine Division, which has customers all over the world, has implemented an online system called "SMS (Service Management System)" in order to provide efficient services. SMS is a web-based database that stocks information such as product support history, failure prevention measures, and service progress and result reports. Any problems or findings are fed back to the sales, service, development, and quality departments to help improve quality and enhance the quality of operations. The database is shared among all service sites worldwide, and the company has prepared a system to respond to service demands with spare parts kits optimized for each country so that repair work can be carried out quickly when equipment repair is requested.
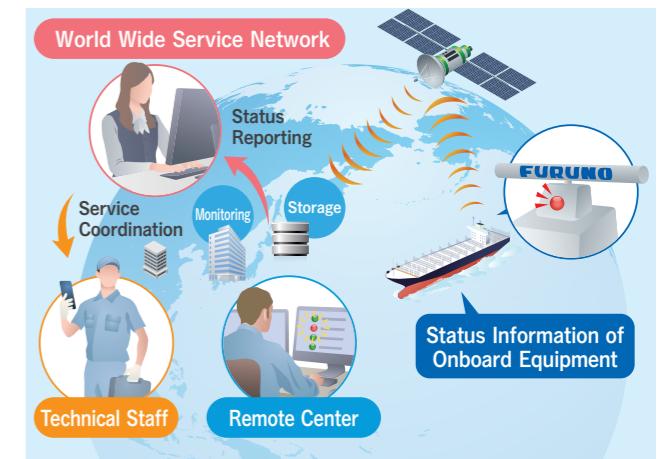
## Environmental Consciousness

With global environmental issues becoming more serious, FURUNO considers the environment to be one of our vital management issues. The core mainstays of our environmental policy are protection of the global environment, the creation of a recycling-oriented society, and conservation of biodiversity. We are working to manufacture products that have low environmental impact and to reduce impact in our business activities in the effort to achieve sustainability in society.

### Sustainable Society

- Risk management for chemicals
- Compliance with chemical substance regulations
- Contribution to sustainable fishing and preservation of the marine environment through provision of products and systems that contribute to marine resource management

- Conservation of Biodiversity
- Protection of the Global Environment
- Creation of a Recycling-Oriented Society

- Energy conservation
- Resource conservation
- Reduction of greenhouse gas emission

- Waste reduction
- Reuse of resources
- Promotion of recycling

## Risk Management

### Security Trade Control

In order to ensure the proper implementation of security export controls aimed at maintaining international peace and security, FURUNO's President is the chief executive responsible for setting up the control system. Regarding all goods, software and technologies for export, we determine if anything is on a list subject to control and strictly implement screening of the prospective end user and end uses involved in each trade.

### Information Security Measures

Because system-wide measures are unable to completely prevent increasingly sophisticated cyberattacks, FURUNO publishes an in-house newsletter on security and conducts drills simulating a cyberattack to raise awareness of and attentiveness to security among employees. We aslo built a CSIRT(Computer Security Incident Response Team) system to carry out an initial response should a cyberattack get through our defensive systems, which reduces risk, and quickly mitigate any damage.

System-wide measures (multi-step defense)

Information Security Measures

Early discovery / limitation of damage through the CSIRT system

Raise awareness and attentiveness to security among employees through web-based training