FURUNO

Corporate Profile

www.furuno.com

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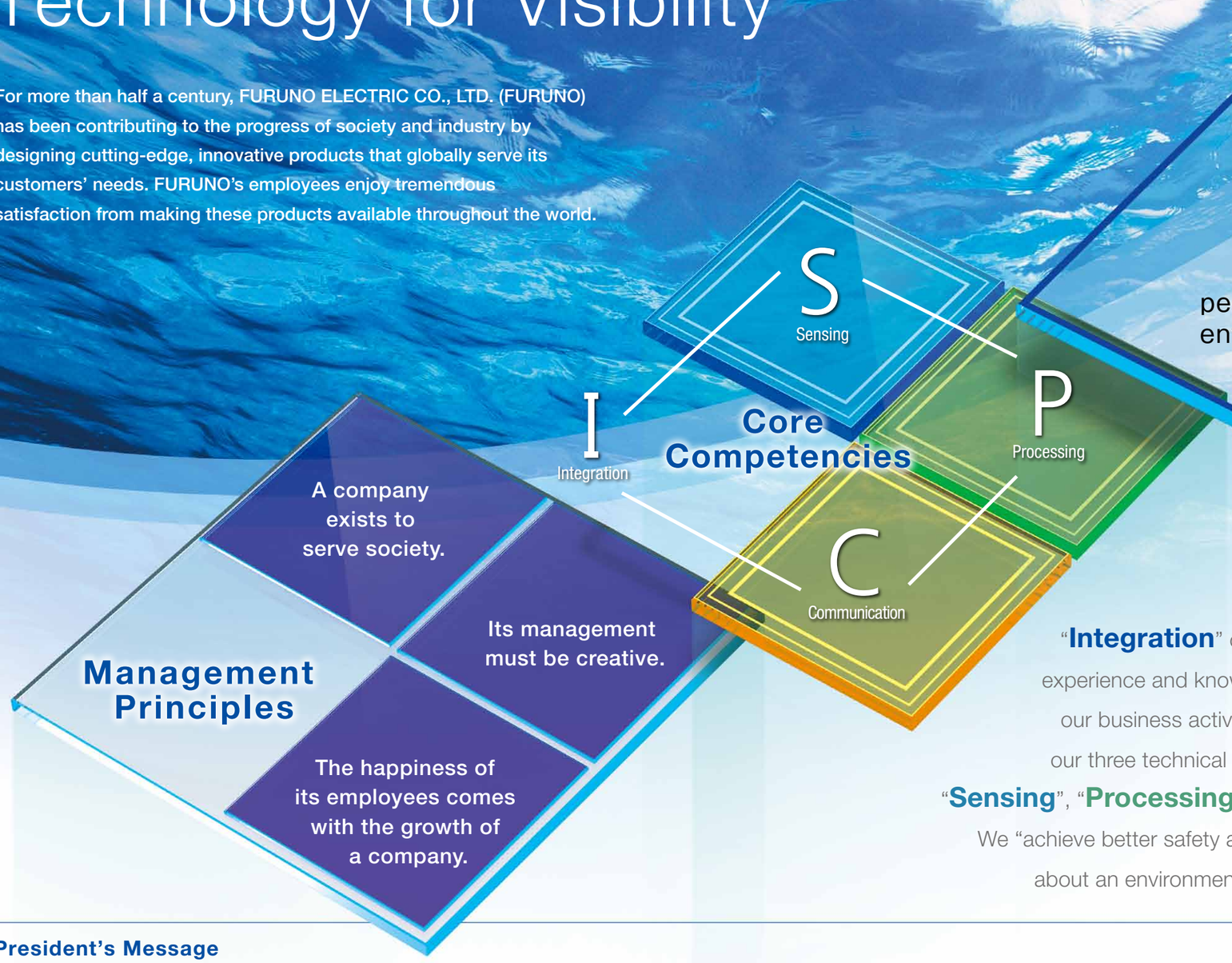
FURUNO ELECTRIC CO., LTD.
9-52 Ashihara-cho, Nishinomiya City Hyogo Pref. 662-8580, Japan
Phone: +81-798-65-2111

FURUNO ELECTRIC CO., LTD.

Technology for Visibility

For more than half a century, FURUNO ELECTRIC CO., LTD. (FURUNO) has been contributing to the progress of society and industry by designing cutting-edge, innovative products that globally serve its customers' needs. FURUNO's employees enjoy tremendous satisfaction from making these products available throughout the world.



"**Integration**" of our knowledge, experience and know-how derived from our business activities together with our three technical core competences "**Sensing**", "**Processing**" and "**Communication**", We "achieve better safety and peace of mind to bring about an environmentally friendly society."

President's Message

Since its inception in 1948, when the world's first fish finder was commercialized, FURUNO has been responding to the needs of the maritime industry through developing various types of navigation and communications equipment.

"Contributing to the society by creating new values" is what we consider as our role in the society and this spirit is regarded as the most important value to be borne by all of our employees and is clearly stated in our management principles.

"SPC & I" embodies the basis upon which we create new values. By "Integrating" our knowledge, experience and know-how derived from our business activities together with our three technical core competencies, "Sensing", "Processing" and "Communication", we shall strive to continually provide solutions that are of value to our customers on a globe scale.

Our fields of business have extended from our main business field of the maritime industry to medical, as well as, ICT industries. It is our mission in our business activities to continually contribute to the society by "achieving better safety and peace of mind to bring about an environmentally friendly society", and we shall continue to strive to achieve that end.

We respectfully appreciate your thorough understanding and support.

President
Yukio Furuno

Achieving better safety and peace of mind to bring about an environmentally friendly society

At sea, in space, in cities…,
FURUNO's technologies are at work
in every part of daily life.

◎ Marine Business
- Merchant For Merchant Marine
- Fishing For Fishing Vessels
- Recreational For Recreational Boats
- Work-Govt For Workboats & Government Vessels

◎ Industrial Business
- GPS GPS Products
- Medical Medical Equipment
- ITS ITS Products

Navigation Systems for Aircraft
These systems, which incorporate GPS receivers, show an aircraft's position on a digital map. They help aircraft to operate safely such as by displaying altitude warnings with reference to elevation data. GPS

Satellite Communications Equipment & Service
We offer communication equipment and services using communications satellites, facilitating not only ship-to-shore communications, telecommunications, and FAX, but also onboard connectivity to the Internet.
Merchant Fishing Recreational Work-Govt

Automatic Identification System (AIS)
AIS is the system by which ships' information, i.e., their ID, position, heading direction, etc., can be exchanged amongst ocean-going ships, useful in facilitating collision avoidance and better situational awareness, hence contributing to safer vessel traffic.
Merchant Fishing Recreational Work-Govt

GPS-Steered Time & Frequency Generator
GPS-steered Time & Frequency Generator emits a pulse every second that is accurately synchronized with highly precise reference frequencies and UTC (universal time coordinated) by synchronizing an internal oscillator with GPS. The system is employed in mobile phone base stations and terrestrial digital TV broadcasting stations. GPS

GPS Fixed-Point Observation System
This system uses GPS technology to measure the position of mountains and ground features by the millimeter level. It is used to monitor volcanic activities, landslides and construction. GPS

Radar
Radar acts as the eyes of a ship, sending out radio waves as a means of detecting other vessels and obstructions around the ship. Radar allows ships to operate safely, even when dense fog reduces visibility.
Merchant Fishing Recreational Work-Govt

Voyage Data Recorder (VDR)
VDR records and stores navigation data and events that happen on a ship. The recorded data is analyzed in the event of maritime casualty to pinpoint the cause as well as to prevent reoccurrences. Merchant

GPS Plotter
Navigating in the open seas requires accurate assessment of one's current position. A GPS plotter pinpoints a vessel's position based on radio waves sent from a GPS satellite. The position is displayed on a simplified nautical chart.
Merchant Fishing Recreational Work-Govt

Multi Beam Sonar
This system uses ultrasound technology to display three-dimensional color images of the seabed topography. It is used to search sunken ships as well as for offshore engineering surveys and other surveys to validate the feasibility of various structures. Work-Govt

Fish Finder/Sonar
This system detects fish schools using ultrasound waves, which penetrate the water and bounce back to the original source when they hit fish, the seabed or other objects. The depth of fish can be calculated based on the time it takes for the ultrasound waves to rebound. Fishing Recreational

Wireless Handheld Terminal
Creating and managing information using a wireless LAN system, this terminal yields gains in terms of efficiency and time by allowing work progress and product data to be managed in real-time in distribution warehouses, shopping centers, factories and other business activities.

Clinical Chemistry Analyzer
This analyzer takes precise readings of enzymes, cholesterol, protein and other substances in the blood stream. Medical

Ultrasound Bone Densitometer
Measuring bone density by measuring speed of ultrasound transmitted through bone of the heel, ultrasound bone densitometers facilitate safer and faster screening than X-ray equipment. Medical

ETC (Electronic Toll Collection System)
Terminals that give automatic passage to vehicles on tolled motorways. They are a type of ITS (Intelligent Transport System) for facilitating the smooth flow of traffic. ITS

GPS Receiver for Car Navigation System
This automotive position sensor receives and digitally processes signals from GPS satellites enabling a vehicle's current position to be accurately pinpointed anywhere in the world. GPS

Strive for further growth, using our proprietary technology

Based upon sensor technologies, utilizing ultra sound and radio waves, FURUNO develops and distributes marine electronics as well as industrial electronics products and systems around the globe.

Marine Business

Fishing Equipment

Sonar

Fish Finder

Current Indicator

Radio Communication Equipment

Radiotelephone

Inmarsat

AIS
(Automatic Identification System)

Navigation Equipment

Radar

GPS Plotter

INS
(Integrated Navigation System)

For Merchant Marine

For Fishing Vessels

For Recreational Boats

For Workboats & Government Vessels

Industrial Business

GPS Products

GPS Receiver

GPS-Steered Time & Frequency Generators

GPS Fixed-Point Observation System

GPS Products

Medical Equipment

Ultrasound Bone Densitometer

Clinical Chemistry Analyzer

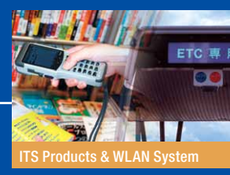
Medical Equipment

ITS Products & WLAN System

ETC
(Electronic Toll Collection System)

Handheld Terminal / WLAN products

WLAN Access Point



ITS Products & WLAN System

1938~

Establishment and commercialization of practical fish finders

In 1938, Kiyotaka Furuno founded FURUNO ELECTRIC SHOKAI LTD., the predecessor of FURUNO ELECTRIC CO., LTD.
While handling the works of outfitting electronics onboard vessels, he felt a strong urge to modernize fisheries, which led to his venture into developing fish finders. He successfully commercialized the world's first practical fish finder in 1948.

Commercialized the world's first fish finder

1970s

Global recognition of FURUNO

In 1972, FURUNO was awarded the NMEA (National Marine Electronics Association) Best Product Award in the fish finder category in the US.

FURUNO established its first overseas subsidiary in Norway in 1974, which was followed by the establishment of subsidiaries in the US (1978) and the UK (1979), foreshadowing its full-scale entry into the international business arena.

Expansion of the distribution network from domestic to international market

Venturing from fishery market sector into merchant marine and recreational marine market sectors

1980s

Great leap forward as a total marine electronics manufacturer

FURUNO became listed on the Osaka Securities Exchange in 1982. Based upon technological proficiency gained through its involvement in the fisheries industry, FURUNO ventured into other maritime market sectors such as merchant marine and recreational marine sectors, truly becoming a total marine electronics manufacturer.

Up to present

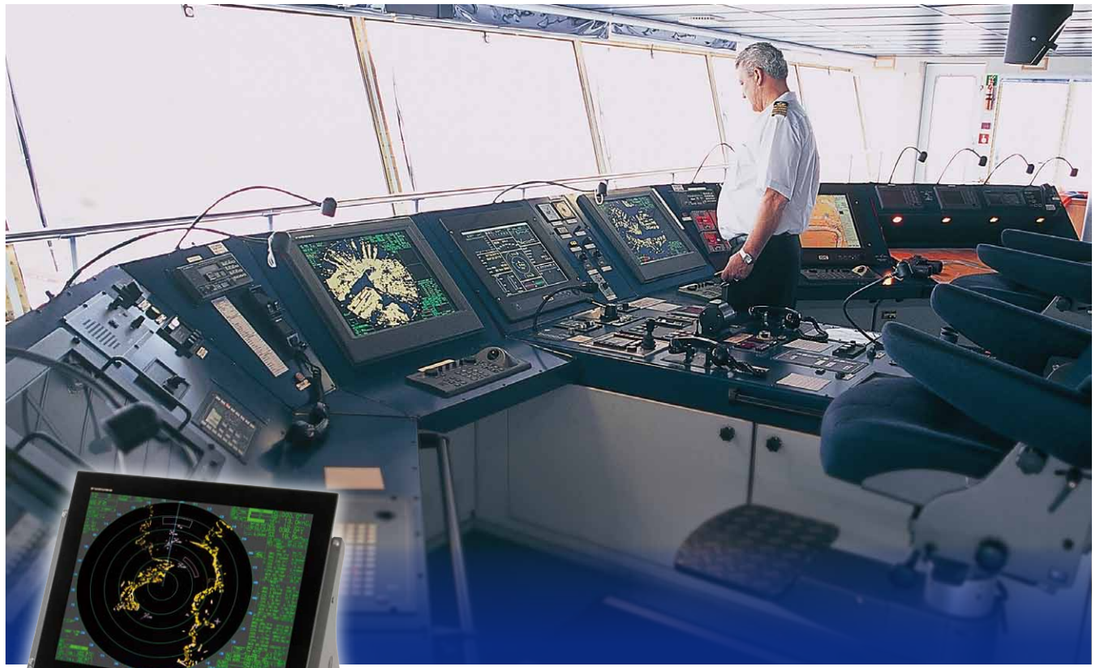
Challenge to the new fields of business

Utilizing its own ultrasound and radio wave technologies, FURUNO started making inroads into the fields of healthcare as well as Intelligent Transport System (ITS). For maritime market, FURUNO has developed navigation system products, such as Integrated Navigation Systems as well as network-compatible NavNet. Recently, FURUNO entered into solution business utilizing satellite communications services and others.

For Merchant Marine

Improving Safety and Efficiency of Navigation

FURUNO manufactures INS (Integrated Navigation System), ARPA Radar, satellite communication system and other products for Merchant Marine to contribute to safe and efficient navigation and ensures to provide after sales services for those products.



RADAR

Radar

Radars detect objects such as other ships, buoys, sea birds and others around the ship by transmitting electric wave and receiving returned wave. Radars act as an eye for navigator and contribute to the safe navigation.

ECDIS
Electronic Chart Display and Information System

Electronic Chart Display and Information System (ECDIS)

ECDIS is a system which displays information based on electronic nautical charts (ENCs) to aid the safe and efficient navigation. ECDIS displays navigational information such as one's position, course and speed by integrating information from ARPA radars, AIS and other systems.

AIS
Automatic Identification System

Automatic Identification System (AIS)

AIS is a system to obtain detailed information and movement of other vessels from a distance to provide safe maritime traffic and efficient navigation.

inmarsat
FleetBroadband
Inmarsat FleetBroadband

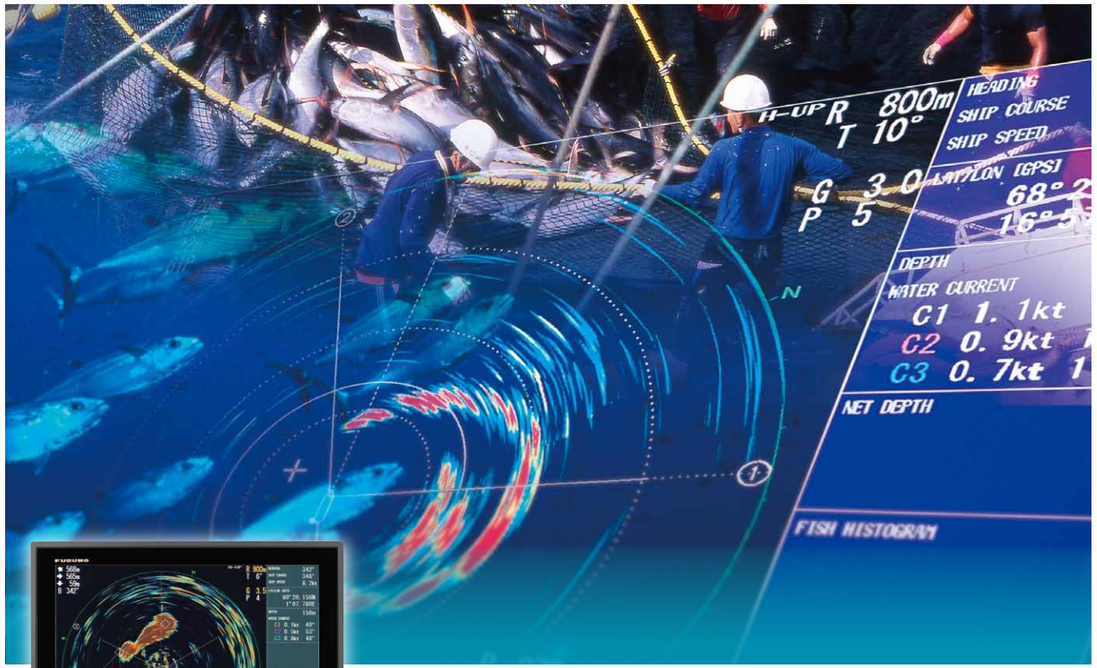
Inmarsat FleetBroadband

Facilitates ship-to-shore as well as ship-to-ship communication using the communication link delivered by communication satellites.

For Fishing Vessels

Ensuring Safe Fishing Operations and Sustainable Use of Fishery Resources

FURUNO has been contributing to efficient fishing operations of the world's commercial fishermen by delivering a wide variety of marine electronics, such as fish finder, sonar, current indicator and many others. Now Scientific Sounder and Split Beam Sounder are used by research organizations and fishermen to realize marine resource management scheme.



Scanning Sonar

Scanning sonar is advanced fishing equipment that enables undersea data to be obtained extremely efficiently.

Fish Finder

Fish finder detects fish schools and seabed topography by receiving reflected ultrasound.

Bird Radar

Bird radar is specialized radar for detecting birds that hunt small fish. The bird radar can easily spot birds that are too far away to be seen with binoculars. The equipment can also be used as conventional radar.

Current Indicator

Current indicator uses the Doppler effect of ultrasound to measure the direction and speed of underwater currents and display information about the currents of upper-, mid- and lower-layer to help fishermen to decide when to deploy nets.

For Recreational Boats

Reliable technology ensures carefree leisure time

FURUNO's marine electronics products have been widely used for all kinds of recreational craft and appreciated for their high quality and flexible user interface.

Integrated Navigation Network

The NavNet system is an integrated navigation network composed of multi-function displays with a chart plotter feature as its core system and sensors including radar, fish finder, AIS and GPS being able to be added on later.

GPS Plotter

GPS plotter is navigational equipment that facilitates safe vessel operation by indicating own ship's position derived from GPS satellites on the electronic chart, just like car navigation systems for automobiles.

Compact Radar

Radar informs operators of obstacles around the boat. In addition to preventing collisions and other accidents, radar enables operators to track the movement of other boats.

For Workboats & Government Vessels

Superior performance supports marine safety as well as ocean resource management

FURUNO provides a variety of navigation and communication equipment for various workboats operating in rivers and bay areas, such as off-shore oil drilling platforms, tug boats at port area, offshore supply vessels off oil drilling platform etc.

Radar

Radars for offshore workboats are dedicated to river application and have high performance in detection within close range.

Satellite Compass

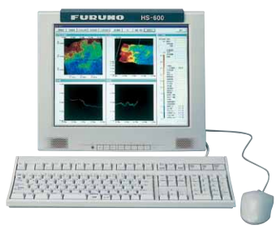
The satellite compass can be used to determine heading without the influence of ship's speed, latitude or geomagnetism. Radar, AIS, ECDIS, scanning sonar and Autopilots can utilize the functions of this compass.

Marine VHF Radiotelephone

Marine VHF radiotelephones are useful for exchanging information between workboats and/or the harbor authorities and they can be used as intercom for onboard communication between crewmembers also.

Color Video Sounder

This system demonstrates powerful performance for surveying ocean or fishery resources. Based on its sharp, split-beam technology, the system can perform high precision investigations of fishery surveys.



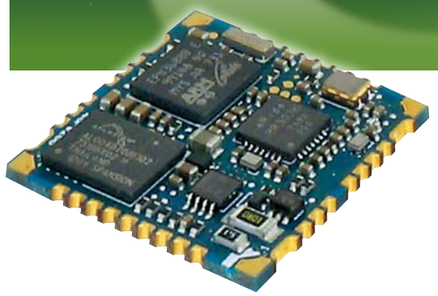
Multi Beam Sonar

This system is three-dimensional display sonar that scans seabed topography. The system is able to efficiently collect seabed data over a wide area and present the data in an easy-to-observe format.

GPS Products

Constantly developing FURUNO's GPS technology

In addition to GPS modules for car navigation systems and mobile phones, we supply GPS-steered Time & Frequency Generators for mobile phone stations and terrestrial digital TV broadcasting stations. Our product line also includes Remote Monitoring Systems utilizing GPS.



eRideOPUS 5
(ePV5800B)

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GPS Receiver

Our light weight, compact GPS receivers achieves high sensitivity. We offer the chipset suitable for compact devices, and we develop modules suitable for automotive, shipboard applications and others by the combination of chipsets and various devices.

Time Transfer GPS Receiver

This receiver emits a highly accurate 1 second pulse and a Universal Time Coordinated (UTC) signal. Compact, light, and energy efficient, this receiver can be installed in compact terminals.

GPS-Steered Time & Frequency Generators

These units are capable of generating a maintenance free 10 MHz frequency with as high as 10-12 accuracy as well as an accurate 1 PPS (pulse per second) synchronized with UTC (Universal Time Coordinated).

GPS Fixed-Point Observation System

This System is used to monitor volcanoes, predict landslides and check many other items. This technology is certain to attract more interest worldwide as a means of protecting people and property from natural disasters.

Medical Equipment

Our refined technologies are creating the future of medical treatment and healthcare

FURUNO developed an ultrasound bone densitometer and other compact and high-performance analyzers by making full use of technical expertise in ultrasound, mechanical control, signal sensing and processing.

Clinical Chemistry Analyzer

This is a clinical testing device to measure components within blood and urine samples. It is used for blood test during regular medical examinations as well as examinations for metabolic syndrome. Since it generates laboratory results with a small amount of samples, testing can be done very quickly, requiring only about 10 seconds.

Ultrasound Bone Densitometer

The bone densitometer uses ultrasound to determine bone density that comes with onboard printer. The equipment is compact enough to be carried easily. Testing can be done very quickly, requiring only about 10 seconds.

ITS Products & WLAN System

Always seeking to improve, we are applying our technology to new fields

FURUNO contributes to improve user's operational efficiency and productivity by developing and providing ITS (intelligent transport system) equipment utilizing DSRC (dedicated short range communication) technology, the wireless handy terminal and access points of wireless LAN used in logistics and others.

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ETC(Electronic Toll Collection System)

FURUNO develops and provides ETC terminal for automobiles which processes payment of toll fare without stopping the vehicle by communicating with the antenna installed at the toll station.

Dedicated Short Range Communication

This is the roadside communication device for civilian use which enables road-to-vehicle communication with existing ETC in-car unit or DSRC in-car unit and can be applied to vehicle entry-exit control, information display by connecting to the gate device and other control system.

Handheld Terminal / Wireless LAN products

FURUNO provides a real-time data communication system for various operations on logistics. The application between our high performance handheld terminal and innovative middleware system fits right into the market needs.

* These products are manufactured by FURUNO systems.

R&D base

Rising to the Challenge with Three Core Competencies in a Business Domain Covering from the Ocean Floor to Outer Space

The R&D department is creating dependable products by using the Sensing, Processing, and Communication technologies. R&D department seeks to create more valuable intellectual properties for the business activities in the future in cooperation with Technology Management & Patent Office.

Testing Vessels

FURUNO has two testing vessels, “the Spirit of FURUNO” and “PEGASUS”.

Technology Development and Researching Laboratory

While refining core technologies from a long-term perspective, this laboratory also conducts research into new business domains and innovative, advanced R&D activities. It covers technology related to devices, sensing (radio waves, sound and optical), signal processing and so forth.

FURUNO INT Center

FURUNO INT center accommodates a computerized anechoic chamber and other environmental test chambers. Our staff at the INT center concentrates mainly on industrial electronic products.

Production base

A Trusted Brand Derived from the Dedication of All Employees

To provide customers with reliable products in time, FURUNO actively promotes automation and labor saving in its production processes, and it employs the Cell Production Method, which makes individuals’ capabilities and frontline wisdom a drive for creativity. These approaches are all part of an ongoing drive for greater efficiency.

Miki Factory (Miki, Hyogo Prefecture)

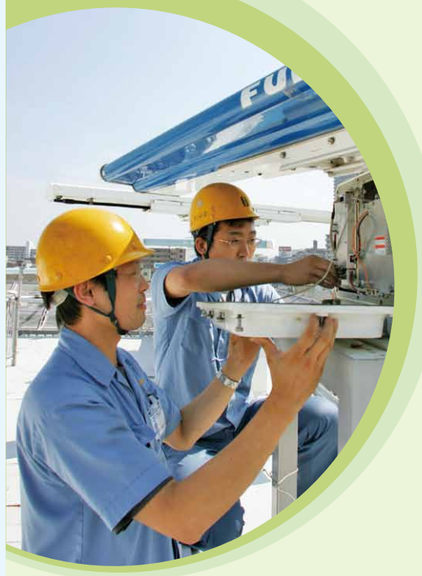
Located on a 67,000m^2 site, the Miki Factory is FURUNO’s main production facility in Japan and one of the largest plants in the world producing marine electronic equipment. From Navigation Equipment, to Fishing Equipment, the Miki Factory accounts for around 80% of FURUNO’s total production.

FURUNO DONG GUAN FACTORY (Guangdong, China)

In 2005, in order to enhance the competitiveness and global operation, FURUNO constructed a new factory in China. The factory is located on a 14,000 m^2 site and mainly operates assembly production of maritime radar display units and scanning sonar transducers.

Quality Activities

Responding to Customer Trust with an Unwavering Commitment to High Quality



The quality of products depends on the quality of processes. Guided by this policy, FURUNO works to raise quality to earn the trust and satisfaction of customers. One example is the acquisition by all business units of ISO9001 certification, an international standard for quality management system.

Stance on Quality Assurance

Maritime electronic equipment is used in particularly harsh environments. To meet any environmental conditions, FURUNO employs various types of testing equipment to conduct various testing against: temperature and humidity, severe shocks and vibrations as well as package drop and waterproofing testing.

Environmental Activities

FURUNO Has and Will Always Work to Coexist with the Environment

Based on the motto: “Let us protect our earth! Let us seek the 21st century characterized by ecological sensitivity! FURUNO continues to do our utmost to generate environmentally friendly products.”, FURUNO seeks to conduct environmentally friendly business activities. Having obtained ISO14001 environmental management system, we will make continuous efforts for betterment.

Promoting the Creation of Environmentally Friendly Products

In order for us to seek sustainability, we shall place “Protection of global environment”, “Endorsement of recycling-oriented society” and “Conservation of biodiversity” as the core mainstay of our environmental policy. Subsequently, we shall strive to conduct environmentally friendly management and to deliver the products that contribute to the preservation of the environment.

Corporate Outline

Outline

As of February 28, 2014

Company Name	FURUNO ELECTRIC CO., LTD.
Headquarters	9-52 Ashihara-cho, Nishinomiya City Hyogo Pref. 662-8580, Japan Phone: +81 798-65-2111
Incorporated	May 23, 1951
Business	Manufacturing and sale of marine and industrial electronic products
Paid-in Capital	¥7,534 million
Number of Employees (Consolidated)	2,836
Net sales	¥75,666 million
Website	http://www.furuno.com

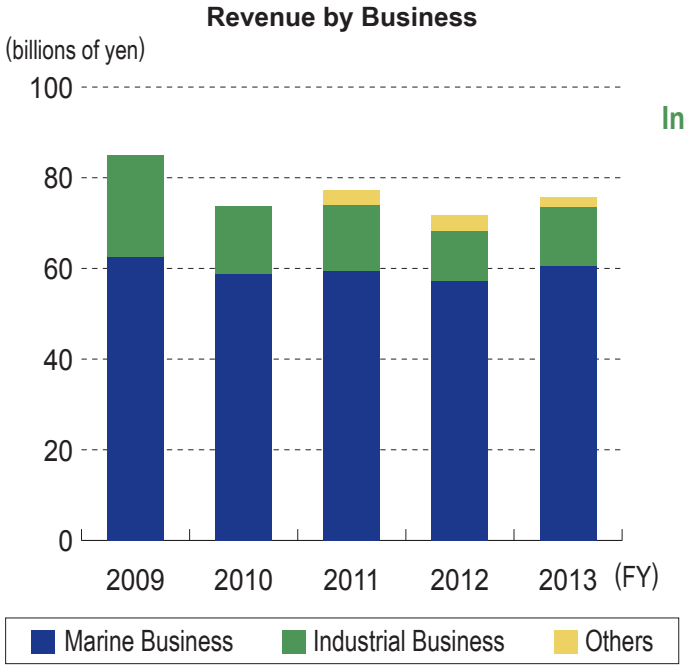
Board of Directors

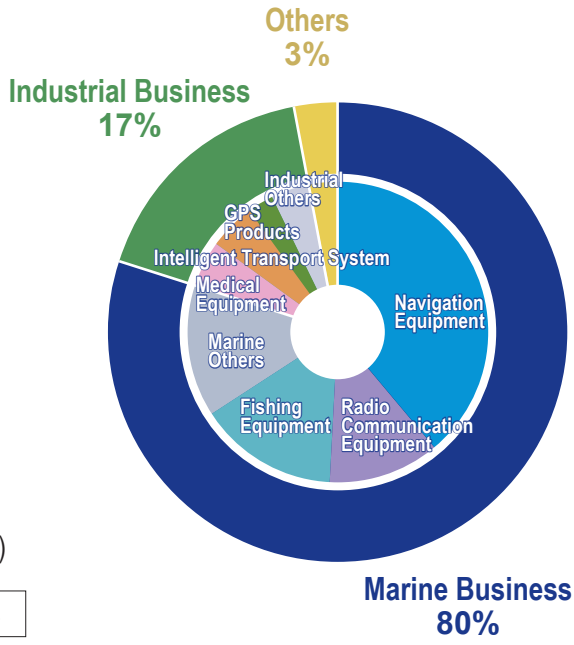
As of May 22, 2014

President	Yukio Furuno
Senior Managing Director	Hiroyuki Mori
Managing Director	Muneyuki Koike
Managing Director	Ryozo Izawa
Director	Yutaka Wada
Director	Shinji Ishihara
Director	Kazuma Waimatsu
Director	Tatsuyuki Okamoto
Director	Yasushi Nishimori
Director	Satoshi Ooya
Audit & Supervisory Board Member	Yuzuru Sakai
Audit & Supervisory Board Member	Hiroyuki Komino
Audit & Supervisory Board Member	Toru Muranaka

Business Segment Information (Consolidated)

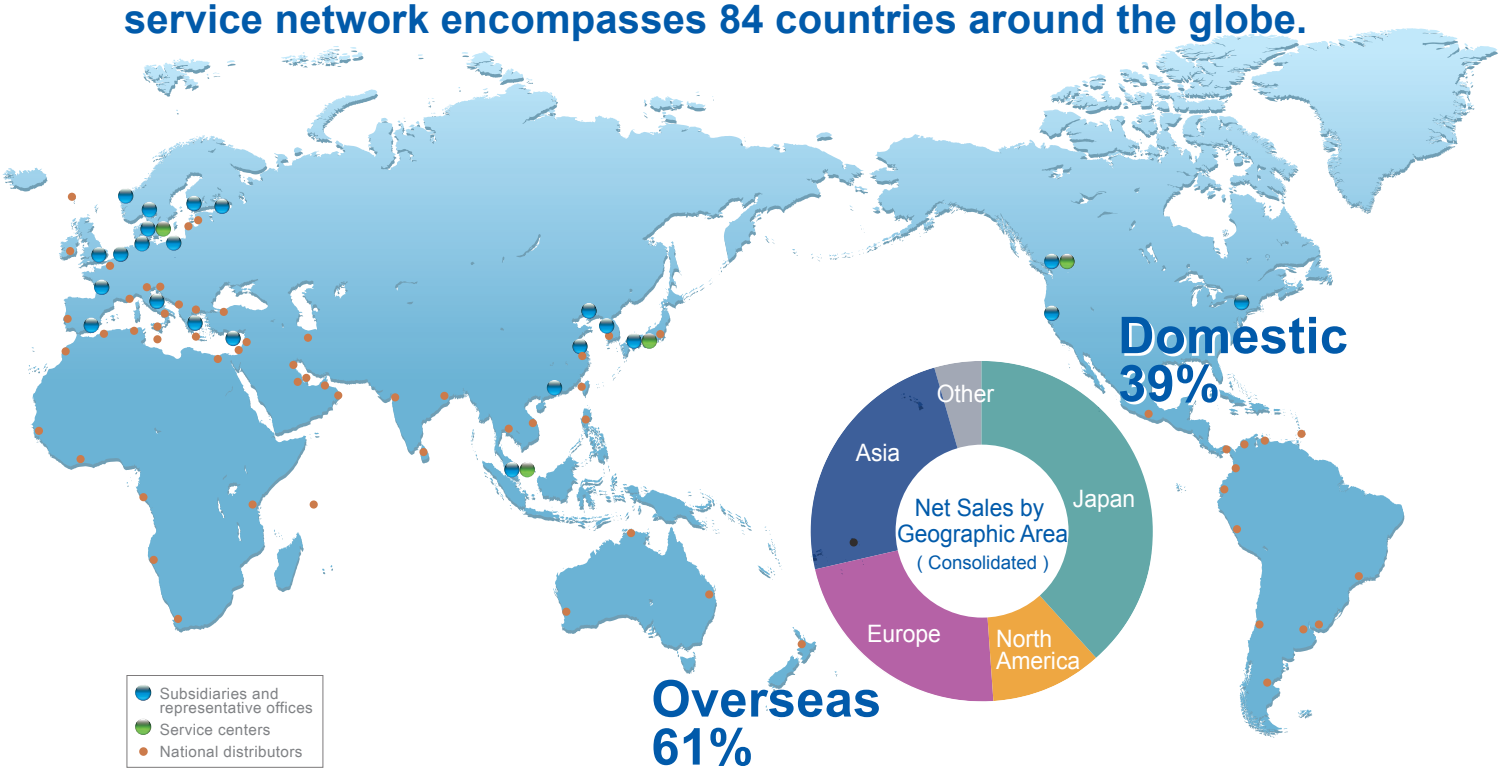
As of February 28, 2014





FURUNO'S Global Network

FURUNO's sales/distribution and service network encompasses 84 countries around the globe.



JAPAN

Headquarters
9-52 Ashihara-cho, Nishinomiya City, Hyogo.
662-8580, Japan
Phone: +81 798-65-2111 Fax: +81 798-63-1020

Tokyo Regional Head Office
Imagawa Building, 2-6 Kanda Izumi-cho, Chiyoda-ku, Tokyo.
101-0024, Japan
Phone: +81 3-5687-0411 Fax: +81 3-5687-0381

Miki Factory
1 Tomoe, Bessho-cho, Miki City, Hyogo. 673-0443 Japan
Phone: +81 794-82-9211 Fax: +81 794-83-4743

FURUNO INT Center
2-20 Nishinomiyahama, Nishinomiya City, Hyogo.
662-0934, Japan
Phone: +81 798-33-7500 Fax: +81 798-33-7506

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

NORTH AMERICA

FURUNO U.S.A., INC.
eRide, INC.

EUROPE

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FURUNO DANMARK A/S
FURUNO BROADBAND SERVICE CENTER ApS
FURUNO SVERIGE AB
FURUNO FINLAND OY
FURUNO POLSKA Sp. Zo.o.
FURUNO DEUTSCHLAND GmbH
FURUNO EUROPE B.V.
FURUNO FRANCE S.A.S.
FURUNO ELECTRIC HOLDING ESPAÑA S.A.
(FURUNO ESPAÑA, S.A.)
FURUNO ITALIA S.R.L.
FURUNO HELLAS S.A.
FURUNO (CYPRUS) LTD
FURUNO EURUS LLC

ASIA

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FUNOTEC (DALIAN) CO., LTD.
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