



**YANMAR**

# **CORPORATE PROFILE**

**YANMAR GROUP**

## **YANMAR CO., LTD.**

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## ENGINEERING A BETTER SOCIETY THROUGH NEW TECHNOLOGY

Since our founding in 1912, we at Yanmar have inherited the will of our founder, who cherished our corporate mission to exist in harmony with society at large. By leveraging our outstanding technology cultivated continuously over the course of our history, from the successful development of the world's first compact diesel engine to our current development efforts, we endeavor to assist our customers in overcoming their unique challenges in various domains, including food production and energy conversion, to create a society in which mankind and the natural world can flourish together.

The world is changing at an ever accelerating pace. As the world's population continues to undergo explosive growth, the number of people employed in the agriculture and fishery industries has declined while the population has aged in developed countries such as Japan, and improving food productivity and energy efficiency have become urgent challenges worldwide.

Additionally, urbanization is proceeding at a breakneck pace all over the world, and the need for infrastructure improvements, including construction equipment and air conditioning / power generation equipment, is also expected to continue to expand going forward.

With the dramatic development of technologies such as IoT and AI against this backdrop of environmental change, it has become possible to provide new value that was beyond reach only a few years ago. Based on our philosophy of realizing maximum prosperity using minimum resources, we at Yanmar are now met with an increasing array of opportunities to contribute in a way that meets our customer's challenges and needs with products, solutions and services that are more customized to each user than ever. On the other hand, this also means that we must constantly temper our existing technologies and services and evolve according to the times while maintaining a healthy sense of urgency.

We believe that the value of our existence here at Yanmar is in enabling people to lead richer lives and ensuring the environment remains a place of abundance, and how to contribute to these two visions of sustainability is of the utmost importance to our company's leadership. Under a changing social landscape and as the range of our company's activity extends from Japan outward to the world at large, we will seize on the above changes as a chance to contribute to a more sustainable future that is both exciting and allows human kind to live in harmony with nature, with a core focus on developing technologies.



Representative  
Director and President  
YANMAR CO., LTD.

Takehito Yamaoka

### Mission Statement

**We strive to provide sustainable solutions for needs which are essential to human life.**

**We focus on the challenges our customers face in food production and harnessing power, thereby enriching people's lives for all our tomorrows.**



# SPIRIT

## "MAXIMUM PROSPERITY WITH MINIMUM RESOURCES"

### World-leading Technology to Reduce People's Burden

"I want to reduce the burden of the common laborer with the power of machines" - that was the conviction of Yanmar's founder Magokichi Yamaoka, who was born to a farming family and witnessed first hand the harsh labor conditions of those around him.

After founding Yanmar, Mr. Yamaoka saw the tremendous potential of the diesel engine as a safe next-generation labor-saving power source that provided a high energy conversion rate, but commercially available diesel engines of the time were large and were not suited to the unique demands of agricultural applications, which required further improvements in portability. Mr. Yamaoka threw himself into the task of reducing the size of the diesel engine for practical use, a feat which was technically difficult and, after many failures, he succeeded in producing the world's first compact diesel engine. This was his first step in bringing his vision to fruition.

### To Conserve Fuel Is to Serve Mankind

After his success in miniaturizing the diesel engine for practical use, Mr. Yamaoka was more convinced than ever of his vision that he should "contribute to the development of society while ensuring that not a single drop of fuel is wasted in resource-poor Japan." He proceeded to expand Yanmar's business to the manufacture of a variety of different industrial machines, focusing on the production of superior engines with the philosophy "to conserve fuel is to serve mankind."

In Japan, Mr. Yamaoka and his associates worked diligently to bring small diesel engines onto the agricultural market and popularize agricultural equipment. During Japan's postwar reconstruction period, as the government implemented fishery industry stimulus policies to deal with an ongoing food crisis, the company was among the first to shift its efforts towards the development of diesel engines used on fishing vessels and during Japan's long period of strong economic growth that followed thereafter, the company further expanded its business into the manufacture and sale of construction equipment designed to meet the needs of rapid urban development and a strained labor force, contributing to the development of society at large.

Looking overseas, the company began exporting diesel engines to primarily Asian customers, including in the Philippines and India, five years after successfully miniaturizing the diesel engine. In the 1950s, the company set up its first overseas subsidiary in Brazil, beginning its shift from a local to a global provider of equipment.

### Striving for a Sustainable Future






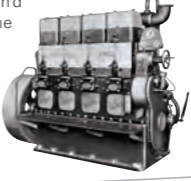


Now, almost 70 years later, as we face various challenges on a global scale, including population, energy, environment and food, Yanmar is now fully engaged in seeking more sustainable solutions for our customers. In order to better respond to the myriad challenges of our current world while keeping with our founder's philosophy of "to conserve fuel is to serve mankind" and contribute to the further development of society, in 2016 we unveiled a new corporate mantra: "A SUSTAINABLE FUTURE."

#### Sustainable Prosperity for All. A Sustainable Natural Environment.

Yanmar aims to balance these two types of sustainability not only through our business, but through all of our actions, including our dedicated contributions to our community. As a company we have tirelessly sought solutions to social problems and the enrichment of people's lives by providing industry leading solutions to our customers. It is precisely this spirit, passed down from our founder unbroken, which forms the bedrock of our philosophy as a company. After more than 100 years, and looking forward to the next 100 years, Yanmar will continue to evolve constantly, with technology as its core development strategy.

Everything for a richer future.

## A SUSTAINABLE FUTURE

<b>1912</b> <b>Founding</b> Magokichi Yamaoka founds the Yamaoka Hatsudoki Kosakusho (Yamaoka Motor Machine Workshop) to repair and sell gas engines. 	<b>1933</b> Industrial Engines <b>World's First Small Diesel Engine Completed</b> World's first small horizontal water-cooled diesel engine, the HB (5 to 6 hp) completed. 	<b>1937</b> Agricultural Business <b>Release of Power Tiller / Tractor</b> Yanmar advances into agricultural equipment. The Rikuogo Tiller and Okada-type Yanmar Tractor are released. 	<b>1947</b> Marine Business <b>Release of Small Diesel Motor for Fishing Boats</b> In a groundbreaking industry development, Japan's smallest vertical diesel engine, the Model LB (5 to 7 hp) is released. 	<b>1947</b> Component Business <b>Establishment of Kanzaki Kokyukoki</b> The Kanzaki Kokyukoki (Kanzaki Advanced Machinery Manufacturing) Co., Ltd., which handles the repair of machine tools and the production of jigs and dedicated machines, is established. 	<b>1952</b> Large Engines <b>Auxiliary Engine for Ocean-Going Vessels Release of Medium and Large Engines</b> With a renewed focus on increasing demand for auxiliary engines for ocean-going vessels, the company manufactures and releases a medium duty (120 horsepower) auxiliary engine which powers generators and pumps inside the ship. 	<b>1953</b> Energy System Business <b>For Use as a Power Supply / Standby Power Supply Commercial Release of Large Diesel Engine Model</b> First manufacture and release of large diesel engines used for emergency power generation for power companies, power plants, buildings and factories. 	<b>1968</b> Construction Equipment Business <b>Self-Propelled Mini Excavator Released</b> To serve the developing civil engineering construction market, a small self-propelled wheel-type mini excavator, the YNB300, equipped with a compact diesel engine, is released. 
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#### Founding Period

Mr. Yamaoka succeeded in miniaturizing the diesel engine after significant effort in order to make farmers' work easier

#### Postwar Reconstruction Period

Demand for diesel engines with superior economic efficiency expands due to deteriorating food conditions and power shortages

#### Business Expansion Period

Due to a labor shortage brought about by rapid industrialization, mechanization was promoted, leading to the development of higher performance engines and machines

#### Enhancement of Environmental Solutions

Pursuing industry-leading environmental technologies as efforts to address global environmental issues become a global mission

#### Towards a Sustainable Society

Providing a richer life through solutions focusing on basic research and a more globalized research infrastructure

**1955**

The German Inventors' Association awards the Gold Diesel Medal to Magokichi Yamaoka



**1956**

Yanmar Technology Institute (now the Research & Development Center) opens

**1957**

West Germany awards the Cross of Merit to Magokichi Yamaoka



**1957**

Establishment of Yanmar's first foreign subsidiary in Brazil



**1984**

Delivery of a cogeneration system to Syowa Station, Antarctica



**2012**

World's first certification under US CARB exhaust gas regulations (4th edition) (19 to 56 kW)



# VISION

## CREATING AN EMPOWERED SOCIETY WHERE PEOPLE AND NATURE CAN COEXIST

What can we do to tackle the multitude of challenges consuming the world, such as overpopulation, environmental issues and global urbanization?

Under our slogan of "A SUSTAINABLE FUTURE," we at Yanmar have developed a total of four socially oriented goals as we engage not only in our core business but also contribute to the realization of a more prosperous society through various activities, including cultivation of the next generation, fostering of culture, and more.

### VISION 01 *An Energy-Saving Society*

Greater access to energy. Waste-free, safe and affordable heat, work and power, at any time.

#### Our Solution

Our company strives to realize both a comfortable society and a reduced environmental footprint by developing highly efficient and highly safe engine technologies and systems that optimally leverage different energy sources.



### VISION 02 *A Society Where People Can Work and Live with Peace of Mind*

Relief from harsh working conditions. People earn a secure living in safe and fulfilling work and live rewarding lives in harmony with nature.

#### Our Solution

With mechanization and automation technologies which enhance productivity while reducing worker burden, technologies which improve the safety and operability of machines and vehicles and support infrastructure and urban development, we seek to establish a better environment for all.



### VISION 03 *A Society Where People Can Enjoy Safe and Plentiful Food*

Delicious and nutritious food anytime, anywhere. Healthier living for all.

#### Our Solution

Supporting the entire food value chain from soil remediation, establishing seedlings and harvesting up to the moment produce arrives at your dinner table. We are building a society in which the world's people can enjoy the blessings of good food well into the future.



### VISION 04 *A Society That Offers an Exciting Life Filled with Rich and Fulfilling Experiences*

Get the most out of work and play. A better quality of life for all.

#### Our Solution

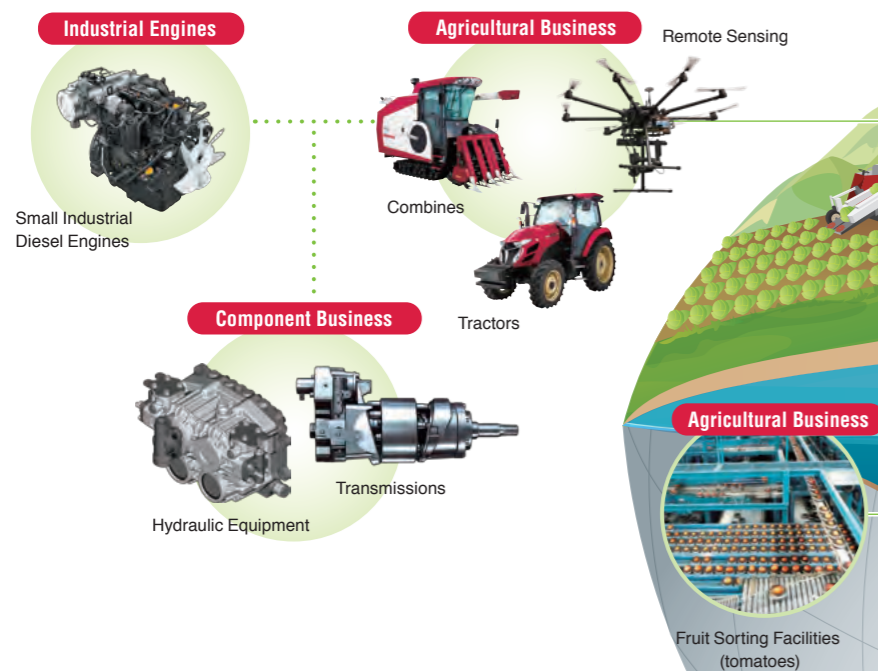
In addition to providing products and services with a flair for comfort and originality, we also engage in community oriented activities, including training of the next generation and cultural development. We will continue to promote and develop activities that allow our community members to lead more fulfilling lives,



# FIELDS

## OUR BUSINESS DOMAINS ARE THE EARTH ITSELF

From sprawling fields to the oceans and our global cities, Yanmar is active in every part of the planet earth that touches our lives. Yanmar maintains an unparalleled reputation for reliability and efficiency based on the strength of its technologies in these domains. We provide innovative and diverse solutions creating new wealth and value for our customers and our community.



# LAND

## Transforming Agriculture Into a Food Value Chain

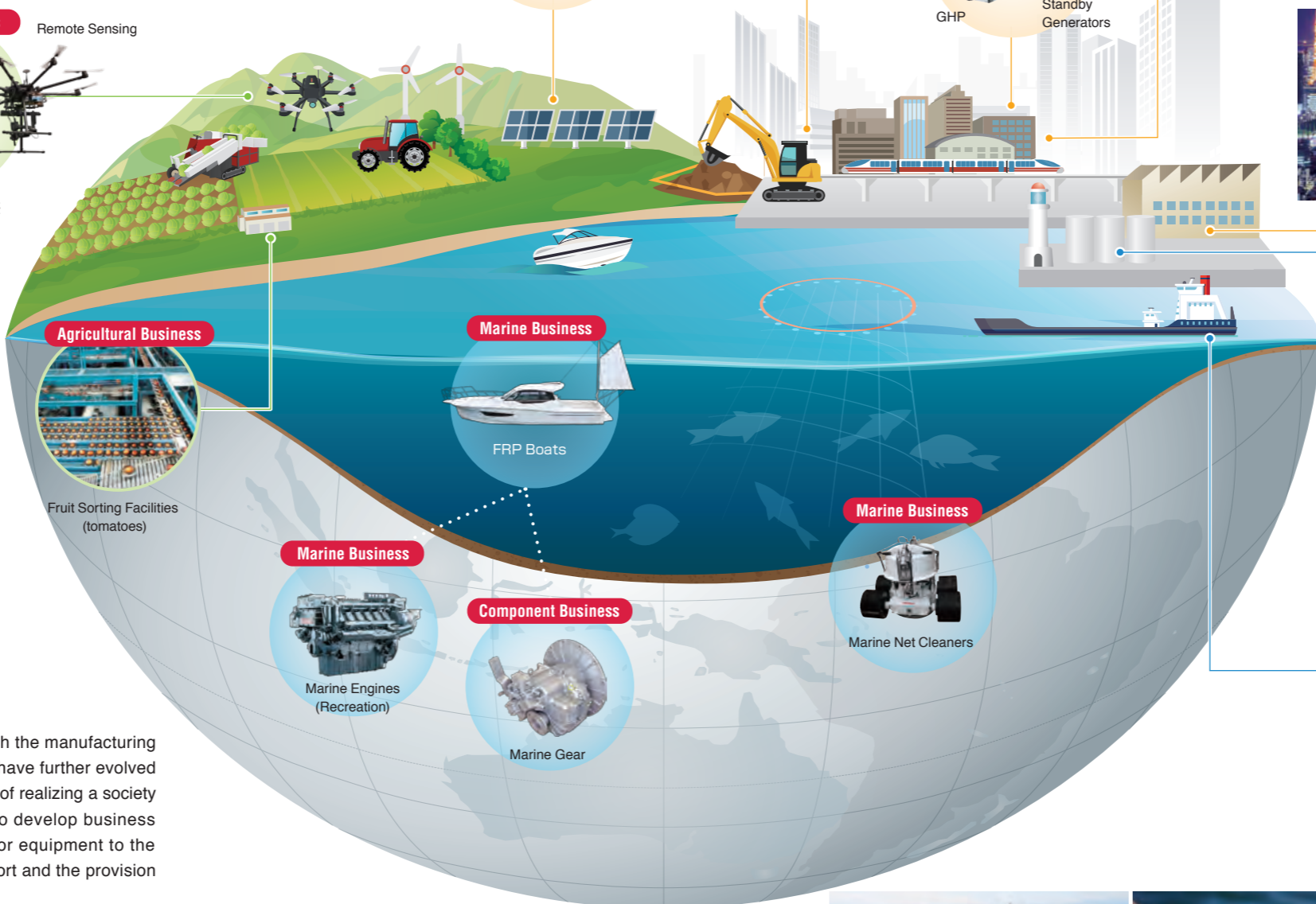
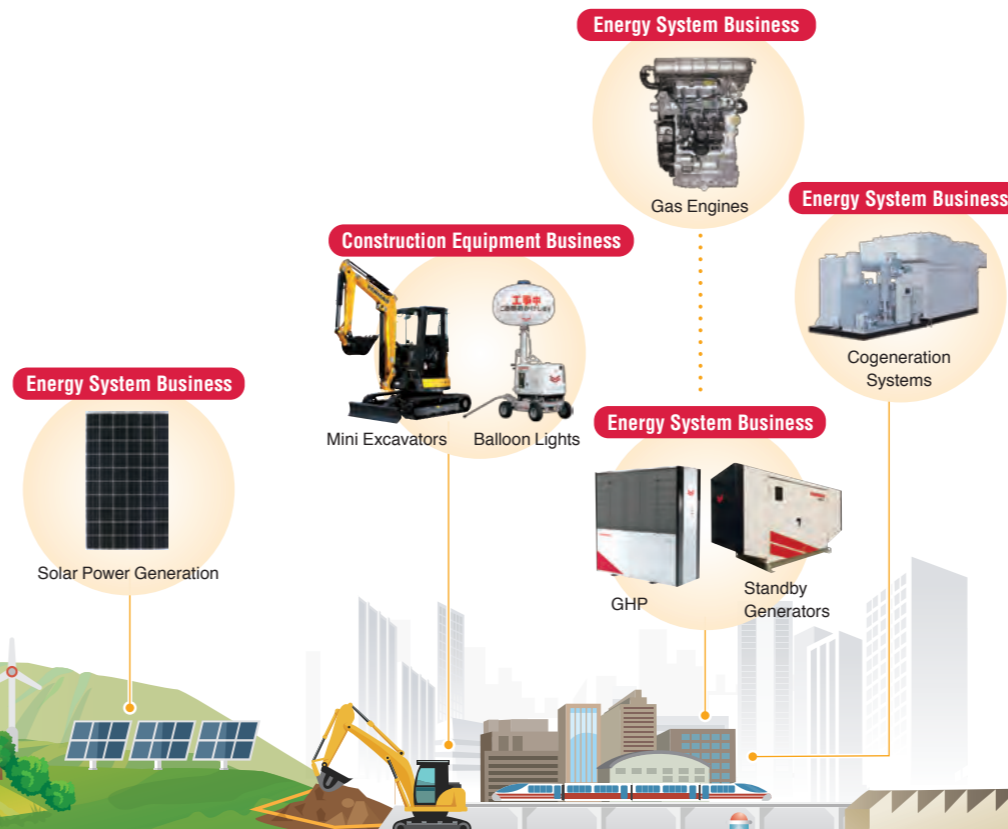
Yanmar has supported core food production industries through the manufacturing and sales of agricultural equipment for many years. Now, we have further evolved from simple "agriculture" to the "food value chain" with the aim of realizing a society rich in the blessings of abundant good food. We continue to develop business across a wide range of food-related industries, from superior equipment to the efficient use of ICT, as well as agricultural management support and the provision of more valuable ingredients and even food experiences.



# CITY

## Contributing to the Development of Infrastructure that Supports Comfortable Urban Living

As urban development progresses on a global scale, we offer a variety of machines essential to building urban infrastructure, including compact construction equipment ideal for small urban development. Additionally, Yanmar has developed an ultra-efficient gas heat pump (GHP) air conditioner that contributes to energy savings and cogeneration as well as energy management systems that optimally control electricity and heat in urban environments where various facilities and housing developments are concentrated. Furthermore, our company promotes the use of renewable energy, contributing to the next generation in urban comfort and energy-savings.



# SEA

## Sustainable Practices on our Oceans

We have developed marine engine / propulsion systems that provide safe and comfortable navigation with unparalleled performance and dependability while maintaining harmony with the surrounding environment. Furthermore, we continue to develop and support aquaculture technologies and related marine equipment. Our goal is an ideal coexistence between humanity and the sea, from industries supporting the foundation of our modern lifestyle such as shipping and fisheries to pleasure boats.



## Agricultural Business

# Transforming Agriculture Into a Food Value Chain Devoted to Sustainable Agriculture



### We Also Allow Our Clients to Focus on the Food Value Chain, Including Processing and Distribution, Which Exists Downstream from Agricultural Production

Yanmar is committed to enhancing productivity, lowering environmental burdens, and increasing economic efficiency in order to solve labor shortages as well as productivity and stability issues in the agricultural sector. In addition, we provide total food value chain support solutions for farmers and the farming industry that span the gamut from operational planning, soil remediation, raising of seedlings, transplantation and harvesting to the development of sales channels. By leveraging our tried and tested technology and services we seek to promote the development of sustainable agriculture and a society where people can enjoy safe and plentiful food.



Check from Here for More Details Regarding Our Agribusiness Projects



### Agricultural Equipment Providing Labor Savings and Reduced Worker Burden

Our Robot Tractor capable of unmanned agricultural work, our Auto Rice Transplanter which provides extreme labor savings thanks to automatic steering, and our newly developed "Mitsunae" dense seedling cultivation technology are ideal for minimizing agricultural labor and achieving large-scale production.



### Enhancing Agricultural Management Efficiency

Our support systems, including SMARTASSIST, which achieves minimization of agricultural management overhead, and remote sensing, which allows for drone-based visualization of crop growth contribute to improved efficiency and economy.



### Solutions to Further Improve Added Value

Our customers can increase the added value of their crops and achieve a high level of profitability thanks to our proprietary solutions, including our new Rice Gelée product that unlocks new uses for rice crops as well as our Crop Rotation Support which can stabilize agricultural operations. Our products contribute to economic improvement.

## Technology for the Future

### Designing the Future of Agriculture with World-Leading ICT Technology

Yanmar provides smart agricultural solutions designed to realize a future in which state-of-the-art robot technology and ICT technology are used to promote efficient, high quality production while saving on labor costs. Visualization, aggregation and analysis of information embodied by our remote sensing and SMARTASSIST technologies can be used to enhance ICT-supported farming operations. Our products enable "precision agriculture" for a higher level of quality and productivity. Additionally costs and labor can be drastically reduced in ICT-based agricultural enterprises by making full use of information and communication technologies, such as our SMARTPILOT series, which can be used to perform high precision work without the need for a human operator. Yanmar's technologies are changing the way we do farming.



### SMARTPILOT (Automatic Driving Farming Equipment Series)

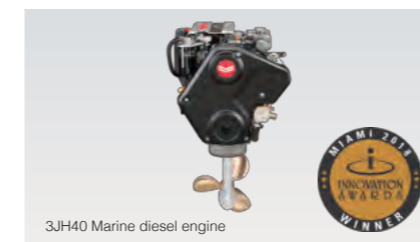
Automatic driving technology utilizing ICT reduces worker fatigue caused by long hours. Our products also make high-precision work possible, enhancing the value of our client's work. In addition to providing significant labor savings, our company supports large-scale management via agricultural land consolidation and provides related solutions for managing farmers.

## Marine Business

# Bringing Excitement and Safety to Oceans Around the World with the Latest Cutting-Edge Technology

### By Leveraging Knowledge and Experience Cultivated Over Many Years, Our Company Seeks to Develop an Ideal Symbiosis Between Human Kind and Our Marine Environment with Products Featuring Excellent Environmental Performance

From the fisheries industry which supports food security, to the marine transportation industry which supports the transportation of resources and people, to leisure activities such as fishing and yachting, Yanmar remains at the forefront. With a wealth of experience and know-how accumulated over many years, Yanmar is devoted to developing high-power, energy efficient marine engines that provide an unparalleled level of performance for different environments, fishing boats and pleasure boats featuring excellent comfort and operability, as well as a wide range of other products and systems, such as marine equipment indispensable to the fishing industry, promoting an ideal symbiosis between human kind and the marine environment.



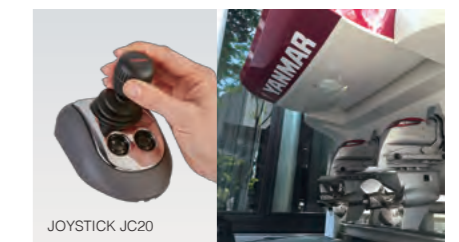
### Specially Designed Marine Engines

Our specialized engines designed exclusively for marine use provide rock solid reliability, durability and environmental performance and are used extensively in a variety of applications from fishing boats and merchant ships to pleasure boats.



### Pleasure Boats That Don't Skimp of Comfort

We provide reliable and highly functional boats which leverage our proprietary FRP ship manufacturing technology and the latest molding technology developed over many years. Our products focus on creating a comfortable interior space, producing a level of comfort that enhances the joy of cruising.



### The "Total Package Supplier" for All of Your Maritime Needs

We provide enhanced value-added solutions such as control systems that allow anyone to perform highly accurate maneuvers with ease. By bringing together technologies that we have cultivated, our company is able to provide our customers with a total package that meets their specific needs.

## Technology for the Future

### Automation Technology Providing Safe, Cutting Edge Maritime Solutions for Better Peace of Mind

Our company is proactively engaged in the development of unmanned robotic ships and other maritime automation technology to achieve further labor savings and improve efficiency. By combining our exclusive shipbuilding technology (hardware) developed for fishing boats and pleasure boats with our core technologies (software) developed by our Research & Development Center, we have succeeded in developing a fully operational prototype unmanned robotic ship, the Robotic Boat. We expect this technology will be used for the autonomous navigation of dangerous waters and other areas as well as the performance of automated sea surveys and development of smart fishing solutions. In addition, our Automatic Pier Docking System makes it a snap to accurately dock any craft, for a more comfortable boating experience. Going forward, we hope to ultimately develop a completely unmanned robotic ship.



### Robotic Boat

Our products have been used as autonomous surface vehicles (ASVs) to aid autonomous underwater vehicles (AUVs) in the conduction of marine resource surveys carried out by the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) as part of Japan's "Zipangu in the Ocean" strategic innovation program (SIP). We are in the process of aggressively expanding usage of our technologies in universities and research institutes as well as practical industry applications.

# As a Pioneer in Distributed Generation and Air Conditioning, We Provide Safe and Economical Infrastructure Solutions

## By Leveraging the Strengths of Our Engine Technologies, We Build Highly Efficient and Secure Energy Management Systems

Yanmar makes the most of basic technologies, such as diesel engines and gas engines, in mobile power sources such as generators, as Japan and the rest of the world shift to a more on-site (distributed) energy infrastructure that can satisfy end-user's electricity needs even in the event of major power grid disruptions.

We provide cogeneration systems featuring a high energy conversion rate as well as emergency backup generators for hospitals. Our company also boasts a proven track record in the development of gas heat pump (GHP) air conditioners featuring reduced electricity consumption and supports the development of a energy-sustainable and energy-secure society.



Cogeneration systems Yanmar Flying-Y Building

**Power Generation Systems That Provide Peace of Mind**

We supply hospitals and other large-scale facilities with highly efficient and durable emergency power generation systems. Cogeneration systems that generate electricity using gas as fuel while effectively utilizing heat generated provide our customers with enhanced peace of mind in their daily lives.



GHP Technology Promoting Energy Conservation

We are the only manufacturer of natural gas-based GHP air conditioning solutions which are equipped with an in-house engine. We develop high efficiency equipment that contributes to energy conservation.



Biomass Power Generation for a More Localized and Distributed Power Infrastructure

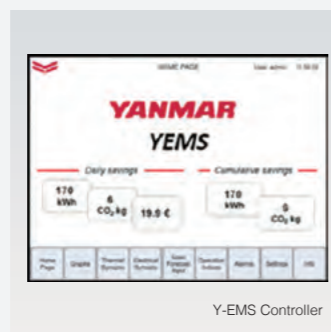
Our systems effectively utilize chaff, sewage sludge, waste oils, etc. Renewable energy sources not only move us closer toward a more recycling-oriented society, they also facilitate the provision of distributed power in areas suffering from power shortages.

### Technology for the Future

#### Lighting up the Future with Clean Energy Featuring Optimized Utilization Efficiency

In order to realize a society where people around the world can use as much energy as they need where they need it, our company has committed itself to research and development of solutions that efficiently generate and optimally distribute energy.

We support the building of an energy-saving society with technologies such as energy management systems designed to optimally control electricity and heat and reduce energy losses, and biomass power generation which utilizes various energy sources.



#### Y-EMS (Yanmar Energy Management System)

Our company is engaged in the research and development of systems designed to optimally control various types of energy-related equipment used in large construction projects including office buildings and factories. Our products facilitate optimal control of heat and electricity expenditure and enable complete visualization of energy operations. By combining multiple power sources into an optimal configuration, our solutions contribute to the more effective use of energy resources.

# Creating the Foundation for Richer Urban Living

## By Leveraging the Best Performance We Provide New Value for the Development of Cities Around the World

As a pioneer of smaller construction equipment, Yanmar has been setting the industry standard for construction equipment for more than 50 years. We build construction equipment and services that provide our customers with the best possible performance so that construction site work can be performed safely and comfortably.

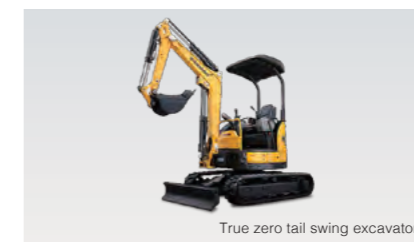
Our construction equipment, which combines high-performance engines with proprietary hydraulic systems, achieves high levels of efficiency, economy and operability.

Our company's production, sales and development are concentrated in Fukuoka, and it's from our base in Fukuoka that we support the development of cities throughout the world.



A Fully Integrated Development, Production and Sales System

We are able to more efficiently develop products which incorporate our clients' feedback, thanks to our fully integrated system in Fukuoka. We also maintain production bases in France and Germany and provide our products to customers all over the world. We are committed to the improvement and construction of cities throughout the world.



Safety Prioritized: The ViO Series

Even when turning, the rear part of the vehicle body does not protrude beyond the vehicle's width, making it possible to work safely and securely even in narrow spaces. We revolutionized the market 25 years ago with a highly optimized excavator which is now actively used around the world as a mainstay of small construction equipment.



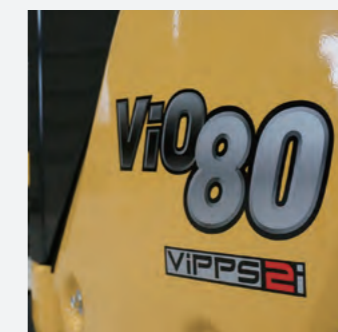
Developing New Functionality to Unleash Our Clients' Potential

We have developed and deployed a myriad of proprietary technologies to meet our customers' needs, including the hydraulic Quick Coupler which allows for easy re-attachment by a single operator, our Spring Steel Cylinder Rod Guards designed to reduce damage to hydraulic cylinders and ICT technologies to ensure safety and precision.

### Technology for the Future

#### Supporting the Future of Urban Development with Advanced Technology That Makes Work More Efficient

We have developed proprietary technologies to achieve higher levels of safety and efficiency along with lower fuel consumption, including a mechanism that automatically stops a boom or arm at a preset position in narrow spaces as well as a novel hydraulic system, the ViO 2 Pump automation expected to characterize the world renovation market going forward, we have designed concept construction equipment which imagines what the future of the industry may look like in 2035. The concept was exhibited at our open showroom in March 2018 where members of the public were able to experience the future of construction and renovation work via a simulator.



#### Novel Hydraulic System (ViPPS2i)

Equipped to the ViO80-1B hydraulic excavator. Two independent pumps, a first in class, are separately controlled based on the load, making it possible provide the optimum amount of oil were needed. As a result, the operation of equipment is not affected by complex operation, improving both fuel efficiency and work efficiency.

# We Enhance People's Lives with Power Source Solutions Supporting Both the Economy and the Environment

## COMMERCIAL MARINE ENGINES

### Yanmar Provides Engines and Services That Offer a High Level of Performance for Long-Haul Operation in Severe Marine Environments

Our large-scale marine engines, which are used as power sources and energy sources for large tankers and other ships which navigate the open ocean, achieve the high level of power, fuel economy, and higher-dimensional durability required for harsh operating environments. Yanmar maintains an integrated system spanning development to production of major parts, responding to a wide range of customer needs with large engines that offer high performance and a significantly reduced environmental impact. We also globally deploy services that support safe navigation, ensuring safe and economical ocean logistics and transportation.



Main engine for commercial marine applications, 18 kW to 4500 kW

Auxiliary engine for commercial marine applications, 180 kW to 4600 kW

Main engines are used as a power source for ship propulsion while auxiliary engines are used as a power generation source for onboard power in tankers, etc.



### Technology That Improves Fuel Economy and Reduces Environmental Impact

Our company is committed to the development of high performance, high efficiency, environmentally friendly solutions such as our Two-stage Turbocharging System and Dual Fuel Engine. We believe that it is important to follow the increasingly global call to protect our environment, even as we develop higher performance systems.



### A High Quality and High Efficiency Production Network

From castings such as cylinder blocks to fuel injection systems, our company specializes in the in-house production of major components responsible for engine performance, thereby achieving a proprietary integrated production chain and establishing our company as a high reliability manufacturer.



### Maintenance Service That Always Ides Our Clients with Maximum Value

We maintain and manage databases covering each individual engine using ICT. Throughout the extended life cycle of each and every ship, we provide global services to ensure consistent high performance from our engines.

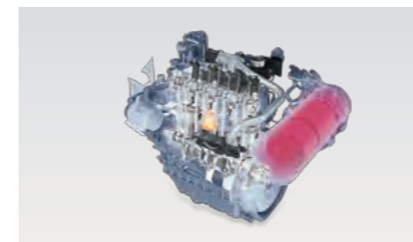
## COMPACT INDUSTRIAL ENGINES

### From Agriculture to Construction and Power Generation, Our Engines Achieve High Output, Low Fuel Consumption and Excellent Environmental Performance

Yanmar was the first company in the industry to succeed in the commercialization of smaller diesel engines and we continue to contribute through the mechanization of diverse industries and the provision of power solutions for the further development of society. With the need to comply with strict exhaust emission regulations our company is pursuing low fuel consumption and high output solutions with industry-leading technology to further reduce product emissions. We lead the world in environmental performance and seek to achieve increased engine value while reducing the corresponding environmental burden.



Compact industrial engines are used as power sources for agricultural equipment, construction equipment and industrial equipment such as air conditioning.



### World-Class Solutions for Environmental Regulations

Our 24-series engines have already been certified under newly enhanced EU Stage V regulations, which have come into effect as of the start of 2019. We constantly strive to establish and improve technologies to deal with various global emissions regulations at the earliest stage possible.



### Engine Designs That Meet Our Customers' Needs

Starting with the development stage, we have created base engines that meet our customers' needs, and contributing to improving the value of industrial equipment by leveraging an application design philosophy which meets each customer's preferred specifications.



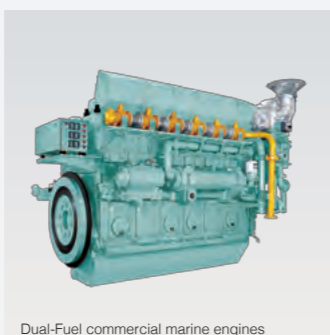
### The Yanmar Production System: Achieving Unparalleled Quality

We have increased our factories' rate of automation to achieve consistent mixed production of a variety of products from casting to assembly. We provide high quality engines specially tailored to our customers' preferences.

## Technology for the Future

### Building the Future with High-Performance Engine Solutions

Yanmar promotes the development of engines that minimize their environmental impact thanks to our proprietary technology. We are engaged in the research and development of highly environmentally friendly power sources such as our Dual Fuel Engine which can use both diesel and gas fuel at the same time as well as fuel cell-powered boats which make full use of energy conversion technologies and do not rely on fossil fuels for their operation. Our company provides solutions designed to achieve a recycling-oriented society.



Dual-Fuel commercial marine engines

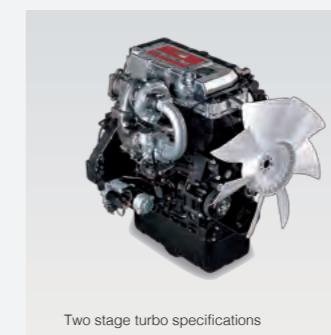
### Dual Fuel Engine

This newly developed engine is capable of using both diesel fuel and gas fuel and is fully compliant with recently strengthened environmental regulations. The engine ensures a high level of safety and redundancy even under single axle operation, employing readily available natural gas with no output limit. The future of shipping is here with our next-generation engines.

## Technology for the Future

### Power Sources that Combine the Cross-Industry Engine Technologies for a Brighter Future

In order to maximize engine value, we are engaged in the fundamental research and development efforts including the development of low fuel consumption and high output systems which do not waste a single drop of fuel as well as low emissions systems which work in tandem with, and support, the natural environment. Additionally, we are a proud pioneer of new solutions in the form of next generation engines which combine the best of the cross-industry technologies which we have developed, including high-output industrial engines which incorporate both compact industrial engine as well as heavy ship engine technologies and gas engines for off-road equipment which combine technology developed for our GHP gas engines and industrial diesel engines and employ a proprietary gas combustion system.



Two stage turbo specifications 4TN107 industrial diesel engine

### High Output Industrial Engines (4TN101/107)

Engines belonging to this series provide a maximum power output of 155 kW as well as best-in-class power density and low fuel consumption, while still complying with national emissions regulations around the world. With a compact engine design and ideal torque characteristics for off-road work, this series constitutes a power solution destined to support the industry well into the future.

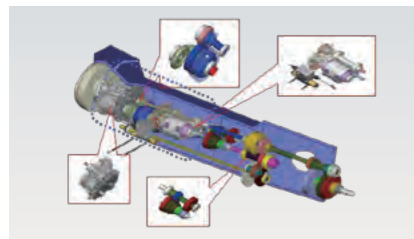
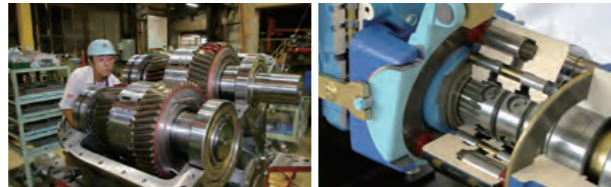
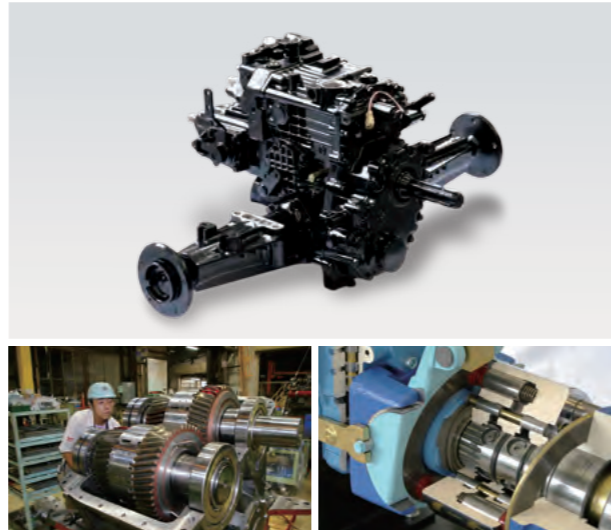


## Component Business

# Highly Systematized and Hybridized Drive System Solutions Provide Labor Savings and Reduce the User's Environmental Footprint

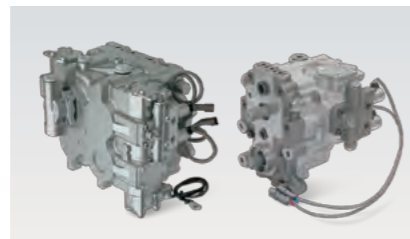
### We Have Maximized the Operation Performance and Environmental Performance of Our Units Thanks to the Use of Advanced Control Technology

In order to realize the best possible performance of agricultural equipment, construction equipment, ships, as so on, a power transmission and control system, such as a transmission that is capable of enabling maximum drive performance, is just as important as the engine itself. Yanmar started its tradition of in-house manufacturing from the earliest stages of its development as a business and has developed and manufactured various driving systems based on sophisticated gear and hydraulics technology for over 70 years. Our company has also sought to develop hybrid technologies that combine new electric components into gears and hydraulic elements, contributing to labor savings and reducing the corresponding environmental footprint.



#### Developing a Wide range of Outstanding Power Transmission System Solutions

How to transmit and control power depends on the application of the equipment used whether said equipment is agricultural equipment or a marine engine. By incorporating basic gear and hydraulic technologies, we are able to provide highly functional product solutions suited to our customers' needs.



#### Hydraulic Constant Speed Transmission with Optimized Electronic Control

By optimally controlling engine rotation and the flow rate of the hydraulic pump, sufficient power performance is realized along with low fuel consumption. The design also contributes to the improvement of device operability to meets customer requirements.



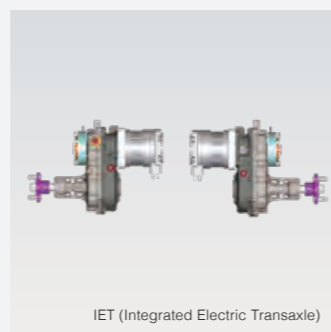
#### State-of-the-Art Machine Tool Technology

We offer total solutions according to our customer's requirements, leveraging the latest gear production-related processing technology and an extensive product line up. Our company provides a one-stop solution for manufacturing process optimization.

## Technology for the Future

### Ideal Solutions to Achieve Labor Savings and a Reduced Environmental Footprint

With an increasing level of awareness of the fragility of our global environment, we began developing electric traveling systems in 2007 in addition to electric actuators that are capable of saving energy and providing improved operability when interfacing with engines. Our hardware IET employs gear-integration technology in an electric motor to provide a series of products that match our customers' needs with a series that accommodates different travel styles. In addition, we have developed our own electric drive systems and software in house, mounting them on prototype vehicles such as mowers, etc. to gather additional knowledge and know-how through extensive evaluation and testing. We can flexibly and rapidly accommodate the diverse needs of our manufacturer clients, contributing to new electromotive solutions both on land and at sea.



IET (Integrated Electric Transaxle)



Electric mower main unit

## Service & Support

# Site Monitoring Through ICT Supports Our Customers' Operations and Peace of Mind

As a pioneer in the ICT field, Yanmar started monitoring generators on remote islands as part of our energy business in 1984, and since then we have ceaselessly promoted the development of ICT services in a wide range of domains and fields. With the arrival of the IoT era, in 2015 we set up a Remote Support Center to provide comprehensive support for customers of all Yanmar's businesses. We are engaged in the building of preventive maintenance services and services that unleash the potential of our customers and at the same time support improved management via the use of collected data.

### SMARTASSIST

We provide services to collect and utilize operational and status information from agricultural machines and construction equipment equipped with GPS and communication terminals. We offer not only peace of mind, but also enhanced management thanks to our products that allow direct visualization of operating conditions.

Since 1984, we have performed 24-hour monitoring of both regular and emergency generators, reporting cases of abnormal operation to our customers for over 30 years. We also provide energy management support by assessing our customer's usage situation and drafting optimum operational plans.

### Remote Support Center

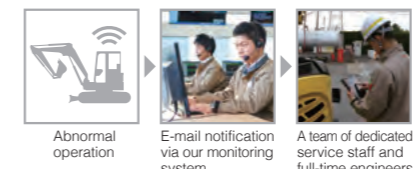
We monitor our customers' products and worksites 24 hours a day, 365 days a year. By centrally monitoring the operational status of our machines, we are able to respond quickly to cases of failure or theft, providing even more peace of mind.

### SHIPS SUPPORTER

We provide periodic performance analysis and diagnostic services for commercial marine engines. We support awareness and response capabilities among our customers to prevent engine accidents before they happen and offer operational support.

#### Machine Trouble Notification

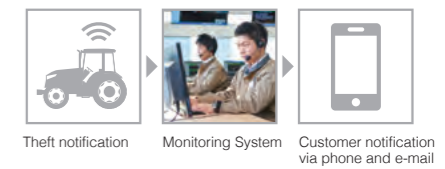
In the event of machine trouble, our monitoring system immediately alerts our customer service and technical staff. This system allows us to respond quickly and accurately, ensuring that machine downtime is reduced.



\*Excludes SHIPS SUPPORTER.

#### Theft Prevention (SMARTASSIST equipped machines)

Our theft prevention system sends you an immediate alert if your machine is operating outside of predefined areas and times, giving you a head start to act in the case of theft, in addition to acting as a deterrent. Our devices support theft deterrence and early detection.



# TECHNOLOGY CONCEPT

## MAXIMUM PROSPERITY WITH MINIMUM RESOURCES

- Maximum power with minimum energy.
- Maximum harvest with minimum labour.
- Maximum comfort with minimum stress.
- Maximum happiness with minimum environmental impact.

At Yanmar, we continue to develop and pursue technologies in the fields of food production and energy conversion which provide the best possible results with minimal resources. Looking ahead to the next 100 years, we will strive to provide our customers with solutions through technology, providing a more prosperous future to our future society.

### Research Facilities

Our company maintains research facilities focusing on basic research around the world, supporting our more practical businesses.



#### Research & Development Center (Maibara, Shiga Prefecture)

At Yanmar, we emphasize basic technical research and been conducting comprehensive research efforts since 1956. As the core center of the Yanmar Group's research and development efforts, our Research and Development Center is engaged in a range of research projects including efforts pertaining to automatic driving, robotics, energy technologies, etc.

#### Yanmar R&D Europe (Tuscany, Italy)



As Yanmar Group's R&D center for Europe, Yanmar R&D Europe is working collectively with local universities, research institutes, and enterprises to create technology that leverages next-generation energy.

- Local Energy Network Technology
- Advanced Simulation Technology
- Robot Control Technology

#### Yanmar Kota Kinabalu R&D Center (Kota Kinabalu, Malaysia)



As a research base in Southeast Asia, our R&D Center in Kota Kinabalu is accelerating efforts towards a sustainable society by producing and analyzing biofuels currently being introduced to Asian markets as well as researching and developing agriculture and aquaculture by leveraging biotechnology.

- Engine / Biofuel Research
- Aquaponics Research

#### Bio Innovation Center Kurashiki Laboratory (Kurashiki, Okayama Prefecture)



With a state-of-the-art biotechnology base, we aim to create stable crop cultivation and production systems as well as sustainable food production systems and our company is engaged in the creation of solutions business opportunities by leveraging a research system based on open innovation in cooperation with domestic and overseas research institutions.

- Genetics and breeding research
- Cultivation / environment visualization
- Effective Utilization of Microorganisms

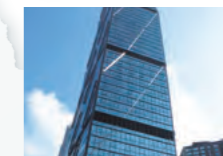
#### Bio Innovation Center Marine Farm (Kunisaki, Oita Prefecture)



As a specialized research base for development of the fishery industry, the Marine Farm aims to build a sustainable and safe aquaculture production systems through the development of aquaculture facilities, feeds and seeds that incorporate cutting-edge technologies to expand fish and shellfish production.

- Aquaculture Technology
- Breeding Technology
- Feed Culture Technology

#### Yanmar (Shandong) R&D Center (Shandong, China)



Our R&D center in Shandong is collaborates with leading Chinese enterprises and research institutes to tackle a wide range of issues relating to energy conservation, safe food production and the creation of clean energy.

- Informatics Agriculture Technology
- Resource Recycling Technology
- Clean Energy Technology

## YANMAR TECHNOLOGY

Yanmar Conducts Research In Five Areas as Part of its Efforts to Provide Solutions for Realizing a Better World

### Y-Energy *Optimum Energy Supply with Minimum Environmental Impact*

Our company is actively pursuing the technologies to combine high efficiency and high performance and environmental friendliness by engaging in research and development of next generation power trains that makes effective use of various energy sources, with a view towards hybridization and electric motorization.

- Engine Technology
- Hybrid Technology
- Power Electronics / Power Transmission Technology
- Electrical and Heat Storage Technology
- Hydrogen / Heat Utilization Technology
- Energy Management Technology

### Y-Cultivation *Energy Efficient Production of the Tastiest and Safest Food*

We are engaged in the research and development of biotechnologies applicable to the agriculture and fishery industries as a means of furthering sustainable modes of food production. By establishing technology that greatly improves product yield and quality we hope to contribute to the provision of great tasting, safe food.

- Breeding and Propagation Technology
- Biological Monitoring Technology
- Environmental Control Technology
- Biological Evaluation Technology



### Y-Robotics *Maximum Work with Minimum Labor*

Our R&D team is engaged in the establishment of field robotics technologies to perform work autonomously and automatically in a complex environment. Technologies currently under development will contribute to the realization of a society where people care able to work with greater precision and safety with less effort.

- Measurement Recognition Technology
- Intelligent Control Technology
- Mechanization and Mechanical Technology
- System Control Technology

### Y-Quality *Maximum Comfort and Safety with Minimum Stress*

Our researchers are building and establishing basic technologies that can be used to design, manufacture and evaluate high quality products. Our products are designed to provide the greatest possible peace of mind while ensuring a high level of capacity utilization so that our customers can operate effectively without interruption.

- Ergonomic Technology
- Material / Design Technology
- Evaluation / Prediction Technology
- Diagnostic Technology
- Security Technology

### Y-Experience *Maximum Excitement Through Advanced Solutions*

As a company, we develop technologies to enhance and improve how our customers use their precious time. We strive to realize a society full of exciting and rich experiences.

- Remote Technology
- Cognitive Technology
- Automatic Driving Technology
- Automatic Response Technology
- IoT Technology



## WHAT WE CAN DO OVER THE NEXT 100 YEARS

In addition to pursuing a range of business activities, Yanmar is engaged in next-generation development activities and the fostering of cultural growth beyond the basic framework of our businesses both in Japan and abroad. We seek to develop a healthy and robust society through a variety of experiences and exchange programs.

### Developing Next Generations



■ **Students on Scholarships (as of March 2018)**

Graduate school students: 32	Thailand: 103
International students: 11	Indonesia: 83
High school students: 25	
<b>Domestic: 68</b>	<b>International: 186</b>

#### Yamaoka Scholarship Foundation

Established in 1950 by the company's founder, Mr. Magokichi Yamaoka, to train talent capable of contributing to world peace, prosperity and cultural enrichment. A total of 5,500 high school, university and foreign students within Japan have so far completed their studies and are now active in different sectors in society. Scholarship programs for Thai and Indonesian students were also introduced starting in 2013. Although the program started with only junior high school students, it has now expanded to include senior high school students.



#### Yamaoka Memorial Foundation

Established in 2016 to succeed Yamakai Magokichi's Doctor of Diesel distinction and as an expression of thanks to Germany. The foundation strives to provide the gift of a more sustainable society to the next generation through academic and cultural exchange between Japan and Germany, and plays a part in the realization of SDGs.



#### Yanmar Museum (Reopen on October 5<sup>th</sup>, 2019)

Building on the previous success of the museum, the renewal transforms the space into a hands-on experience where the younger generation that bear society's hopes for the future can learn through new exhibits built on the concept of "Challenges towards an exciting future."



#### Yanmar School Essay

Since 1990, Yanmar has invited students to submit theses and essays for the Yanmar School Essay. The contest is aimed at promoting the free discussion of ideas amongst the younger generation, who will lead our future in regards to the future of farming.

### Realizing A SUSTAINABLE FUTURE and Contributing to SDGs



SDGs (Sustainable Development Goals) are goals to be achieved by 2030 which were adopted by the United Nations in 2015. Population problems, energy problems, environmental problems, food problems, etc. have all been raised as issues of global import. The above goals overlap significantly with Yanmar's business, and by advancing efforts toward a more sustainable future we hope to contribute to the achievement of the above SDGs.



### Fostering Cultures

#### ■ Soccer Sponsorships

In 1957, as the company sought overseas expansion and business expansion opportunities, Yanmar was one of the first companies in the industry to focus on soccer as an organized global phenomenon, giving birth to the Yanmar Diesel Soccer Club. Cerezo Osaka was later established in 1993 based on this legacy organization. Football is now loved all over the world and attracts a plethora fans. Yanmar is accordingly itself a single team that transcends different nations and languages, contributing to the realization of a society filled with exciting and rich experiences.



Major League Soccer (MLS)  
New York Red Bulls  
Official Marketing Partner



Thai Premier League  
BG Pathum United  
Official Top Partner



Official Top Star Partner  
of the Vietnam National  
Football Team



**Cerezo**  
OSAKA

© 2018 CERESO OSAKA

Cerezo Osaka Top Partner  
Cerezo Osaka Sakai Ladies and Girls Sponsor

#### ■ Marine Sports Sponsorships

Yanmar has been deeply involved in ocean-related industry for many years since launching its marine engines in 1947. While seeking to realize a society where people can enjoy the blessings of the sea and live abundantly, we also promote a variety of sponsorships in marine sports which have large global fanbases so that as many people as possible can share in the splendor and pleasure of the sea.



Yanmar Racing

#### 36th America's Cup

The America's Cup is the world's premier yacht race with almost 170 years of rich history. As an Official Marine Supplier, Yanmar supports the cup, in which state-of-the-art yachts from all over the world compete, by providing our company's marine products and technologies.

#### Yanmar Racing

Our company has organized our own sailing team in the International Dragon Class to compete with other keel boats that feature some of the world's most beautiful vessels with the longest history.

#### Red Bull Foiling Generation

In this high-speed catamaran race, young sailors representing the next generation of their craft engage in intense competition. At Yanmar, we firmly believe in the event's mission to expand the depth and breadth of the sailing world through the training of young sailors and supports the competition as an official partner.

### Enriching Life Through the Blessings of Good Food

Yanmar Premium Marché provides guests with exciting culinary experiences that focus on "knowing, touching, cooking and tasting." By connecting food with nature and people, we hope to renew our guests' passion for eating. We aim to establish a primary production industry that will benefit producers, and create a prosperous future that allows anyone to enjoy the blessings of good food at any time.



#### Premium Marché Osaka

The Company Cafeteria on the top floor of the Yanmar Head Office opens to the general public on weekends. Diners enjoy fresh ingredients provided by top producers in a "one soup, three side dishes" format and are provided with a places to discover and encounter new cuisine.

Location: Yanmar Head Office, 12th Floor  
Date and Time: Every Saturday and Sunday,  
11:00 AM to 3:00 PM (no orders accepted after 2:30 PM)



#### Premiummarche.com

Our e-commerce site is packed with information on Yanmar's food-related efforts. We also publish stories and recipes related to various food ingredients and producers in addition to conducting mail-order sales of safe foods such as low-pesticide and no-additive produce. Our exclusive Rice Gelée as well as other rice and honey products sold by the Yanmar Group are also available for purchase.



## YANMAR HOLDINGS

**Head Office** 1-32, Chayamachi, Kita-ku, Osaka  
YANMAR FLYING-Y BUILDING

**Established** April 2013

**Capita** 90 million JPY

**Representative Director and President** Takehito Yamaoka

## YANMAR CO., LTD.

**Head Office** 1-32, Chayamachi, Kita-ku, Osaka  
YANMAR FLYING-Y BUILDING

**Founded** March 22, 1912

**Established** January 28, 1936

**Capital** 6.3 Billion JPY

**Representative Director, Chairman and President** Takehito Yamaoka

**Number of Employees** 20,135 employees (As of March 31, 2019)  
Domestic: 67.1% Overseas: 32.9%  
All employees of Yanmar Group



Yanmar Flying-Y Building

## Affiliate Companies in Japan

### Corporate Function, Research and Development, Engine / Commercial Marine Engines

- YANMAR CO., LTD.

### Agricultural Businesses

- YANMAR AGRIBUSINESS CO., LTD.
- YANMAR AGRICULTURAL MACHINERY MANUFACTURING CO., LTD.
- NEW DELTA INDUSTRIAL CO., LTD.
- YANMAR AGRI JAPAN CO., LTD.
- YANMAR GREEN SYSTEM CO., LTD.
- YANMAR HELI & AGRI CO., LTD.
- YANMAR AGRI INNOVATION CO., LTD.
- RICE TECHNOLOGY KAWACHI CO., LTD.
- FARM EYE CO., LTD.
- SEIREI TOTAL SERVICE CO., LTD.
- BUNMEI NOKI CO., LTD.

### Construction Business

- YANMAR CONSTRUCTION EQUIPMENT CO., LTD.

### Energy System Business

- YANMAR ENERGY SYSTEM CO., LTD.
- YANMAR ENERGY SYSTEM MFG. CO., LTD.
- YANMAR POWER GENERATING SYSTEM MANUFACTURING CO., LTD.

### Engine Businesses

- YANMAR CASTING TECHNOLOGY CO., LTD.
- YANMAR ENGINEERING CO., LTD.
- YANMAR PRODUCTION SUPPORT CO., LTD.
- YANMAR MARINE SYSTEM CO., LTD.
- YANMAR SHIPBUILDING & ENGINEERING CO., LTD.
- GENKAI YANMAR CO., LTD.

### Component Business

- KANZAKI KOKYUKOKI MFG. CO., LTD.

### Others

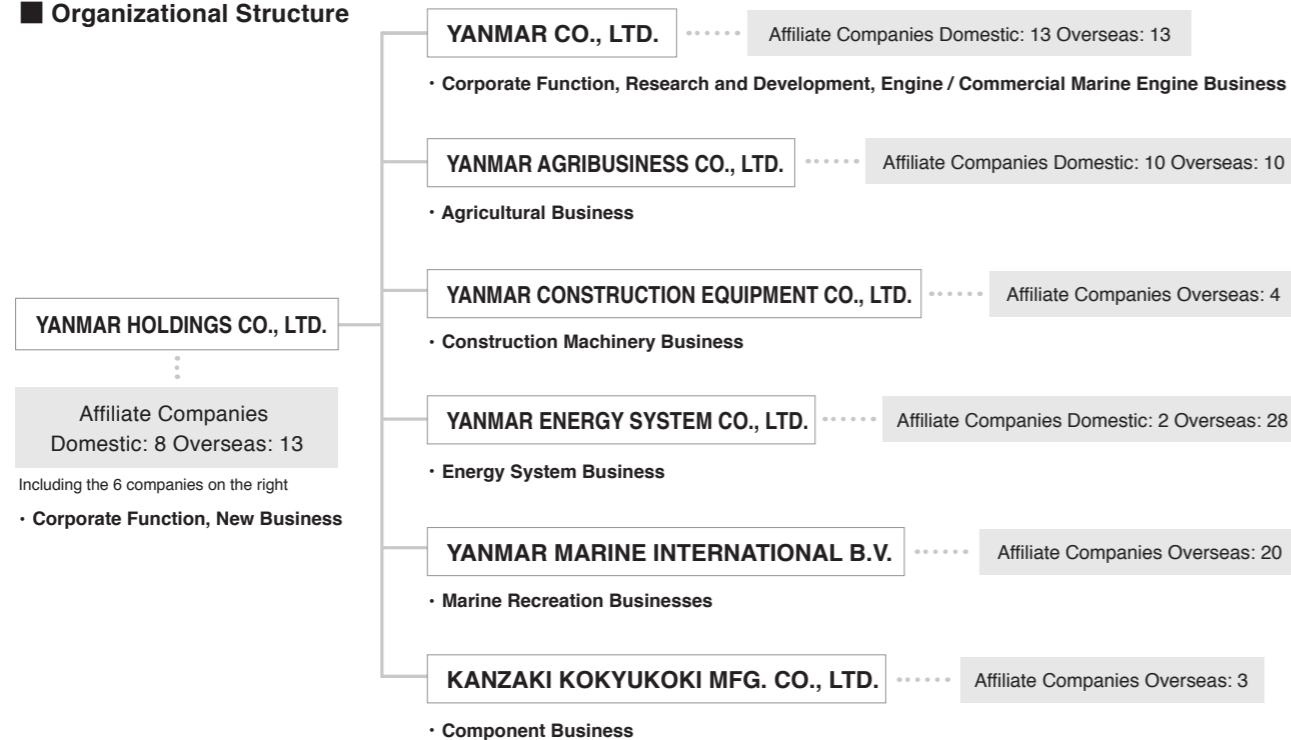
- YANMAR OKINAWA CO., LTD.
- YANMAR SANGYO CO., LTD.
- YANMAR CREDIT SERVICE CO., LTD.
- YANMAR INFORMATION SYSTEM SERVICE CO., LTD.
- YANMAR BUSINESS SERVICE CO., LTD.
- YANMAR TECHNICAL SERVICE CO., LTD.
- CEREZO OSAKA CO.,LTD.
- YANMAR SYMBIOSIS CO., LTD.
- ESTIR CO., LTD.
- KOWA COMPANY, LTD.
- YAESU SHOPPING MALL CO., LTD.
- SEIREI KOSAN CO., LTD.
- YANMAR ENVIRONMENTAL SUSTAINABILITY SUPPORT ASSOCIATION
- YAMAOKA SCHOLARSHIP FOUNDATION
- YAMAOKA MEMORIAL FOUNDATION
- YANMAR HEALTH INSURANCE SOCIETY
- YANMAR CORPORATE PENSION FUND
- YANMAR AGRI JAPAN CORPORATE PENSION FUND

## Group Companies (July 1, 2019)

All **125** companies including Yanmar Holdings Domestic: **34** Companies International: **91** Companies

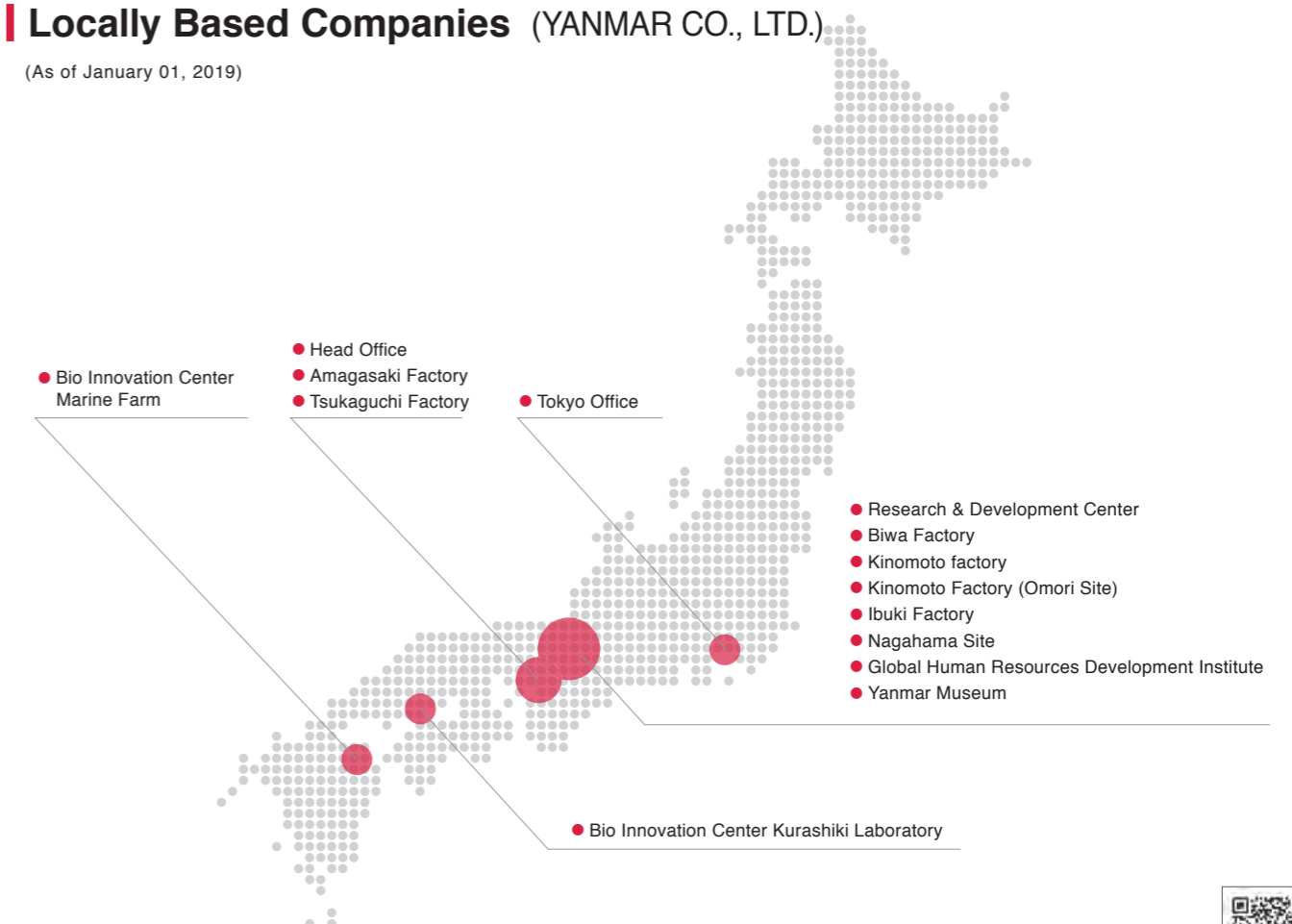
Group and affiliate companies are described in a separate sheet.

### Organizational Structure



## Locally Based Companies (YANMAR CO., LTD.)

(As of January 01, 2019)



For Detailed and Updated Information About Yanmar, Please Visit Our Website.

