# Business Strategy Land Mobility



We are strengthening our foundation for a new era of mobility in the areas of motorcycles, recreational off-highway vehicles (ROVs), and electrically power-assisted bicycles.

**Takuya Kinoshita**Executive Officer
Chief General Manager of Motorcycle Business Operations

# Opportunities

- Expansion of middle-income market in ASEAN and emerging nations
- Evolution of marketing through digital technology

### Risks

- Tighter environmental regulations in each country
- Shift in industrial structure due to innovative technologies and new competition

## Priority initiatives under the new Medium-Term Management Plan

We are propelling the brand by developing new, uniquely Yamaha technologies in the developed market motorcycle business.

Amid high expectations for new technologies and new mobility systems such as electric vehicles and the Internet of Things (IoT), we are expanding globally by tying together our brand and products in the motorcycle market. Given this market environment, there are three missions for the products we develop and sell in developed markets: (1) To update value through new technological development; (2) To pursue new businesses in mature markets; and (3) To create global synergies by demonstrating the Yamaha brand's DNA. Going forward, we will contribute to the future of mobility by proposing uniquely Yamaha solutions in the fields of motorcycles and Leaning Multi-Wheel (LMW) vehicles.

# The ASEAN motorcycle business is building a revenue base in uniquely Yamaha growth sectors.

The ASEAN market is entering a period of mature, and we are building a solid revenue base with the Yamaha brand and products, which are popular among the new middle class. In addition, production in ASEAN countries is contributing to the overall optimization of our production structure through the shift to platform-based production already under

way and increased production of global models in the ASEAN nations.

## We are introducing new platform models to gain share in ROVs.

The ROV business has been made part of Motorcycle Business

Operations to strengthen its product planning, development, and costcompetitiveness. We aim to introduce new platform models that deliver
the value sought by customers to increase our share in the growing
ROV markets in developed markets.

# In the electrically power-assisted bicycle business, we are rolling out the realignment of our brand and revenue base globally.

The electrically power-assisted bicycle segment is expanding into a global business with new products incorporating new technologies and by offering comprehensive value through strategic partnerships. We are focusing on Europe, Japan, and the United States, and, in particular, are starting with business model formulation in the United States, a new market for us.

# Net sales and operating income



## Priority measures and targets

- 1. Current ability update
- 2. Agile management
- 3. Shift to new area

Net sales: ¥1,350.0 billion

Operating income: ¥92.0 billion

Operating income margin: 6.8%

### Land mobility: Status of primary products and main competitors

	Markets and conditions at Yamaha Motor	Main competitors	
Developed market motorcycles and	We will develop new technologies to update value and pursue new	Honda, Suzuki, Kawasaki, Harley-Davidson, BMW, Ducati, Triumph, KTM, Aprilia, Piaggio, Kymco	
commuter vehicles	businesses in mature markets.		
Emerging market motorcycles and commuter vehicles	With emerging markets entering a period of growth, we plan to shift to platform models and increase production of global models.	Honda, Suzuki, Kawasaki, Hero, Bajaj	
ROVs/ATVs	We will introduce new platform models in growing ROV markets in developed markets.	Polaris, BRP, Honda, Kawasaki	
Electrically power-assisted bicycles and power-assisted units	We will expand into a global business with new products incorporating new technologies and through strategic partnerships.	Panasonic, Bridgestone, Bosch, Shimano	

### 2018 results and outlook for 2019

We will shift to create new value by realigning planning, development, and manufacturing capabilities and with agile decision making.

Under the previous Medium-Term Management Plan, although the motorcycle business was weak in developed markets, the ASEAN market overall matured and showed large growth, and scooter products grew in the Philippines, which has entered a growth phase. Net sales for the developed market motorcycle business in 2018 were ¥228.3 billion, with an operating income margin of -8.0%, while the emerging market motorcycle business recorded net sales of ¥775.2 billion, with

an +8.6% operating income margin. For 2019, factoring in a maximum foreign-exchange effect, we are forecasting net sales of ¥224.0 billion, with a -4.9% operating income margin in the developed market motorcycle business, and in the emerging market motorcycle business, net sales of ¥790.0 billion, with an +8.1% operating income margin.

We will pursue future growth by realigning our planning, development, and manufacturing capabilities and bringing in strengths from outside the Company, and through management based on a system that promotes agile decision making to shift to create new value.

## Addressing social issues

# Initiatives in providing innovative, smaller forms of mobility and in safety

Yamaha Motor aims to address important social issues, and is pursuing R&D in its fields of technological focus. By integrating the "growing world of personal mobility," "our electric products already in the market," and our "unique style R&D," we aim to offer smaller forms of mobility with a new type of "uniquely Yamaha" innovation. We have also been playing a contributory role by selling various electric products that have less environmental impact. A representative example of this is our introduction of the world's first electrically power-assisted bicycle, aggregate production of which has surpassed five million units.

We will continue to address environmental issues going forward with products such as electric vehicles and electrically power-assisted bicycles, and by developing ways to relieve traffic congestion.

We are also working to promote safety around the world, especially through the Yamaha Riding Academy, which we hold to reduce traffic accidents in emerging and developing countries. We currently have trainers in 15 countries and hold the course 1,400 times annually with 100,000 people participating. We aim to expand the program to 20 countries, with 2,000 courses and 180,000 participants by 2021. We are also working with other manufacturers to create safety communication systems for two-wheeled and four-wheeled vehicles.

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# Business Strategy Marine Products



We are realigning our global production system and pursuing a system supplier strategy to provide fulfilling marine lifestyles.

Hirofumi Usui
Senior Executive Officer
Chief General Manager of Marine Business Operations

# Opportunities

- Growing demand for large outboard motors mainly in developed markets
- Expansion of peripheral equipment business due to enhancement of integrated control technology

#### Risks

- Creation of production/supply system to meet demand for large outboard motors
- Achieving speedy development in integrated control field
- Creation of business structure unaffected by changes in exchange rates and regulations

## Priority initiatives under the new Medium-Term Management Plan

We are realigning our global production system for outboard motors in response to strong sales of large outboard motors.

In North America and Europe, our main markets for outboard motors, demand for large outboard motors of more than 100 or 200 horsepower is showing large growth. This is because propulsion units such as inboard motors and stern drives are being replaced by outboard motors. We see this trend continuing and expect solid growth in demand for large outboard motors.

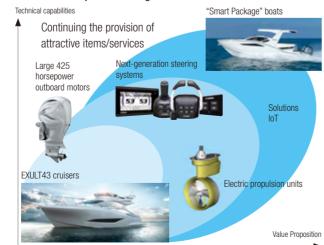
We are, therefore, realigning our global production system for outboard motors. We are working to respond quickly and flexibly to market changes by designating our currently operating Yamaha Motor Iwata Main Factory, Yamaha Kumamoto Products Co., Ltd., and Thai Yamaha Motor Co., Ltd., as our outboard motor plants for large outboard motors, medium-sized outboard motors, and small outboard motors respectively, and by making our production more flexible through parallel production and by making these facilities mutually complementary.

# From engine supplier to system supplier Advancing the business by shifting from products to experiences

Under the previous Medium-Term Management Plan, we pursued an "integrated marine business strategy" by which we transitioned from being an engine supplier to a system supplier. This was an effort to

provide more reliable boats by shifting from an outboard motor-focused business to growing the peripheral systems business, including boat control systems. Under the new Medium-Term Management Plan, along with pursuing a system supplier strategy, over the long term we will introduce products such as highly reliable and high-value-added automated boat control systems to evolve the business from one that provides products to one that provides experiences, with the aim of providing fulfilling marine lifestyles.

## Product Development Strategies



# Net sales and operating income



# Priority measures and targets Reinforce high profitability and establish base of sustainable growth

- Global production layout for outboard motors Improving production capacity and flexibility
- Expansion of integrated marine business strategy Evolving as a system supplier
- Product Development Strategies
  Providing attractive items and services
- Marine Long-Term Vision
   Reliable and rich marine lifestyles
   Toward further increasing the value of the ocean

## Marine products: Status of primary products and main competitors

	Markets and conditions at Yamaha Motor	Main competitors
Outboard motors	Given growing demand for pleasure-use boats, primarily in North America and Europe, we will build a global production system that can flexibly keep up with growth in demand for outboard motors.	Mercury Marine, Suzuki, Honda, Tohatsu, Evinrude
Boats	In the relatively stable domestic boat market, we will continue to offer pleasure-use boats with significant added value. In service businesses like "Sea-Style," we will strengthen our development of services in line with customer preferences.	Yanmar, Toyota, Suzuki, Tohatsu
Personal watercraft	We will work to strengthen our competitiveness by building a manufacturing center in North America, the region with the greatest demand, and by introducing models with high added value.	BRP, Kawasaki

# 2018 results and outlook for 2019

### Aiming to provide smart package boats

In 2018, we introduced a 425-horsepower model as our most powerful conventional outboard motor. We also began selling the EXULT43, a large salon cruiser serving as our flagship model in the boat segment.

As a result, net sales totaled ¥338.2 billion, with an operating income margin of 18.0%. Our forecast for 2019, factoring in a maximum

foreign-exchange effect, is for net sales of ¥338.0 billion with a 16.0% operating income margin.

Going forward, we will develop next-generation boat control systems and electric propulsion units, and working with cooperating boatbuilders, we will aim to offer smart package boats that are easier to operate and more environmentally friendly.

## Addressing social issues

### Reliable and rich marine lifestyles

We are pursuing a marine products business that "provides reliable and rich marine lifestyles" and further increasing the value of the ocean.

Specific measures are outlined below.

"Changing marine culture, changing everyday life"

- We will create exciting times, spaces, and experiences for people to instill joy in their daily lives.
- "Connecting the sea, people, and society"
- A platform that connects people around the world with the value of the ocean will become essential to society.
- "Toward a future with a more pristine ocean than the present one of today"
- Ensuring that the blessings of an "abundant ocean," which all people associated with marine recreation desire, continue forever

"Releasing the secret potential of the sea"

 Using the thorough knowledge of the world's oceans, we will create value that contributes to human development.

Yamaha Motor works to ensure stable food supplies and support economic development by introducing fishing methods in the fishery industry in developing countries, and by providing technologies such as outboard motors and FRP boats. We also carry out activities like "Team Tyura Sango" (a public-private joint project to restore coral reefs in Okinawa) to exist in harmony with the natural environment. By providing new technologies to alleviate these types of social issues, and working together with stakeholders in other sectors on environmental protection activities that will lead to abundant and beautiful oceans in the future, we are working to achieve a sustainable society.

Yamaha Motor Co., Ltd. | Integrated Report 2018

# Business Strategy Robotics



We will contribute to labor savings and autonomization in fields including *Monozukuri*, agriculture, and medical research by researching and developing robotics and strengthening our production system.

Hiroyuki Ota **Executive Officer** Chief General Manager of Solution Business Operations

# **Opportunities**

- Growing need for automation due to labor shortages in Japan and rising labor costs in emerging nations
- Pursuing more advanced automation in line with the development of new fields like the Internet of Things (IoT) and "Connected, Autonomous, Shared & Services, Electric" (CASE) vehicles

### Risks

- Deterioration of demand due to changes in the global situation
- Intensifying competition resulting from new forces entering the

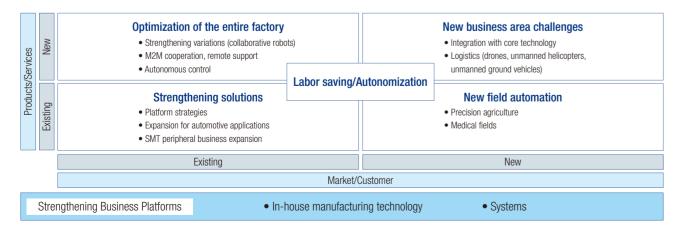
### Priority initiatives under the new Medium-Term Management Plan

solutions for the broad customer base in our existing markets. In our existing markets, we will pursue both tangible and intangible commonalities under our platform strategy while also refining equipment functionality to strengthen Monozukuri. We will also contribute to reducing equipment upkeep costs for customers, installing common operations, and enhancing Cost Performance Index (CPI), to expand the scope of our business and strengthen profitability.

We are increasing value to customers by strengthening our

Our surface mount technology (SMT) business has a broad customer base, and with a focus on the automotive applications segment, we are providing the strengths that we have acquired at customer sites in the form of "variable type, variable quantity production" and "guarantees of quality and traceability" while at the same time focusing on expanding our SMT peripheral business, where new growth can be expected. At the industrial robot (factory automation (FA)) business, which is growing significantly and has a wide range of applications, we are working to strengthen variations, including using collaborative robots, to provide total solutions similar to the SMT business.

In addition, we are incorporating functions like machine-to-machine (M2M) cooperation, remote support, and autonomous control to contribute to overall factory optimization.







# **Priority measures and targets**

Business scale and area expansion and reinforcement of high profitability (Net sales over ¥100.0 billion, Return on sales 26%)

2021 Target (vs. 2018)

- SMT: 128%
- FA: 196%
- Unmanned Systems: 160%

Accelerating automation within plants + Contributing to labor saving in new fields

### Robotics: Status of primary products and main competitors

	Markets and conditions at Yamaha Motor	Main competitors	
SMT	We will pursue both tangible and intangible commonalities under our platform strategy to	Panasonic, Fuji, ASM, Juki	
	expand our business scope and strengthen our profitability.		
Industrial robots	We will strengthen model variations while also pursuing both tangible and intangible	Epson, Mitsubishi, Denso, IAI	
	commonalities to expand our business scope and strengthen our profitability.		
Unmanned quaterns and drange	We will introduce multi-rotor drones in addition to our proven unmanned helicopters. We will	DJI	
Unmanned systems and drones	achieve precision agriculture.		

# Contributing to new markets, including agriculture, medical research, and logistics, with robotics technologies

In new markets, we are making an increasing contribution to the field of precision agriculture using our agricultural expertise and networks gained from industrial-use unmanned helicopters. In the medical research segment, we are introducing robotics with products like the CELL HANDLER™ (a cell picking & imaging system), and we are emphasizing solutions for the logistics segment with unmanned ground vehicles and other products.

Strengthening development personnel, procurement and production systems to contribute to a wide range of fields

We are strengthening our in-house manufacturing technologies and

organizational structures to introduce unique products and services quickly to both existing and new markets.

Examples of how we are strengthening our in-house manufacturing technologies include artificial intelligence (Al) picking, which combines Al and machine vision, improved linear motors and control technologies, and applications including drones, unmanned ground vehicles, and unmanned surface vehicles using autonomous flight technologies developed in unmanned helicopters.

We are strengthening our organizational structures by expanding R&D centers, in particular with the Yamaha Motor Advanced Technology Center (YMAT) that opened in Shin-Yokohama, and by reinforcing our human resources. In addition, along with strengthening our procurement and production systems, we are proactively pursuing external alliances.

### 2018 results and outlook for 2019

# Enhancing productivity with labor savings and autonomization as core values

Both sales and operating income showed steady growth over the three years covered by the previous Medium-Term Management Plan, and net sales for 2018 were ¥74.9 billion with an operating income margin of 22.3%. For 2019, factoring in a maximum foreign-exchange effect, we

are forecasting net sales of ¥81.0 billion, and an operating income margin of 19.1% after investments in research and development.

Going forward, we will contribute to raising productivity in sectors where labor shortages are appearing, based on the core values of labor savings and autonomization.

## Addressing social issues

### Providing solutions for issues facing society

We are applying robotics to provide solutions to issues in sectors that include *Monozukuri*, agriculture, and medical research, with the

aim of achieving our Long-Term Vision by freeing up new time for customers

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