



**Smart Power Vehicle (SPV) Business
Medium-Term Management Plan (2025–2027)**

March 13, 2025
Yamaha Motor Co., Ltd. (Ticker symbol: 7272)

This document uses AI translation. Please note that it is not always accurate and may differ from the original Japanese text.

I will explain about the SPV business, which is a strategic business for the Land Mobility business.

SPV Business Overview

About the Business



The PAS was the world's electrically power-assisted bicycle (eBike) and was launched by Yamaha Motor in 1993. The "PAS" product name is for its **Power Assist System**, in which an electric motor provides an assistive force to the user's pedaling. It pioneered a new category of personal vehicle that worked just like a normal bicycle and did not require a license. The first Joy Wheel (JW-I) was announced to the world in 1995 as an electric power unit for converting manual wheelchairs into electric ones. 2025 marks 30 years of the JW Series and Yamaha Motor launched its first full redesign of the JW in 10 years—the JWG-1. The company also plans to introduce it to Europe, the U.S., and other markets around the world.

Main Products and Competitors

PAS/YPJ



Competitors

Panasonic, Bridgestone

e-Kit (Drive Unit)



Competitors

Bosch, Shimano

JW (Joy Wheel)*



Competitors

Alber

*Development and manufacture of electric drive units and system components

© Yamaha Motor Co., Ltd.

2

The Smart Power Vehicle (SPV) business started in 1993 when Yamaha Motor invented the "PAS" electric power-assisted bicycle.

From there, the business developed and in 1995, Yamaha Motor launched an electric wheelchair.

In the 30 years since, the business has grown significantly not only in Japan but also in overseas markets, and the drive units that form the core of the electric power-assisted bicycles have achieved a cumulative production volume of 8 million units.

The main products of the SPV business are divided into three categories:

complete electric power-assisted bicycles, OEM products, and electric power units for wheelchairs.

The complete bicycles include the PAS, which is familiar to many of you, and the YPJ series, which has enhanced active functionality.

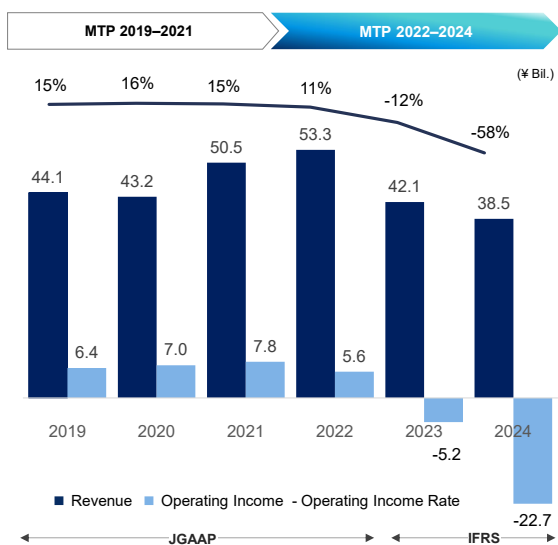
As OEM products, we wholesale drive units and "e-Kits" (components that include batteries and peripheral devices) to complete bicycle manufacturers.

In addition, we develop and manufacture units and system components for electric wheelchairs.

Panasonic and Bridgestone are competitors for complete bicycles, while BOSCH and Shimano are competitors for drive units and e-Kits, and Alba is a competitor for JW.

Review of the Previous Medium-Term Management Plan

■ SPV Business Performance



■ Summary

- The COVID-19 pandemic triggered special demand for personal mobility to avoid crowding and caused a boom in outdoor recreation as well, which revitalized the market. Each company in the space responded by boosting production capacity, but as the pandemic subsided, so did demand and sales declined. Every company's production operations failed to adapt to demand fluctuations and the bicycle industry as a whole has had excess inventory for a prolonged period.
- e-Kit orders—the SPV business' main product line—dropped sharply, resulting in a fall in revenue. Dealing with the excess inventory was prioritized, and in an effort to reduce fixed costs, Yamaha Motor decided to review the business structure for complete Yamaha-brand bicycles for overseas markets, incurring hefty expenses in 2024.

■ Achievements and Challenges

MTP (2022–2024) KPI

Volume CAGR 22%

Double revenue

2024 result

Not met

Not met

Achievements

- Started assembly and production of drive units in Europe
- Compact, lightweight, low-noise drive unit developed
- Development and launch of new models for school commuting, carrying children, and sports

Challenges

- Establishing a customer base suitable for B2B operations
 - ▶ Developing/strengthening sales and services suitable for e-Kit business
- Responding to market fluctuations
 - ▶ Manage inventory by optimizing production layouts

© Yamaha Motor Co., Ltd.

3

Next, I will talk about a review of the previous medium-term management plan.

As you can see in the graph on the left, the SPV business was in the red during the previous medium-term management plan, with the exception of the first year. I will explain the background to this.

The pandemic of the new coronavirus that began in 2020 led to a boom in personal mobility and outdoor activities that avoided close contact, and this in turn revitalized the market.

Each company responded by increasing production capacity, but as the coronavirus subsided, demand fell back from its 2022 peak, and sales decreased.

In addition, each company was unable to adjust production to meet demand fluctuations, and the entire bicycle industry experienced an oversupply of inventory, which continues to this day.

Our sales revenue decreased due to a significant decline in orders for our main product, the e-Kit.

In addition, we decided to review the business structure for overseas complete bicycles, and incurred significant expenses due to inventory write-downs and business impairment.

The large increase in losses in 2024 was due to these expenses.

As a result of these factors, we were unable to achieve the targets for the volume CAGR and sales revenue set out in the previous medium-term management plan.

Meanwhile, the assembly and production of drive units in Europe began as planned.

We were also able to develop compact, lightweight drive units and introduce new models within the timeframe of the previous medium-term management plan.

Amidst the large fluctuations in demand, there are also some issues that have come to the fore.

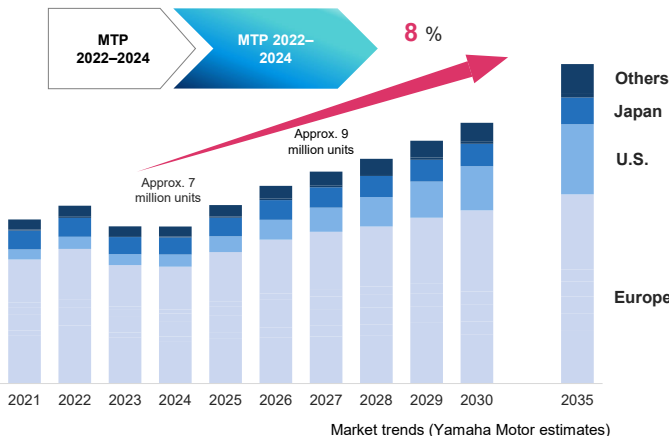
One is the establishment of a customer base suitable for BtoB, and the other is responding to market fluctuations.

In terms of our customer base, we will continue to strengthen our ties with our large existing customers, while also developing new customers, and we will continue to improve and strengthen our sales and services that are suited to the e-Kit business.

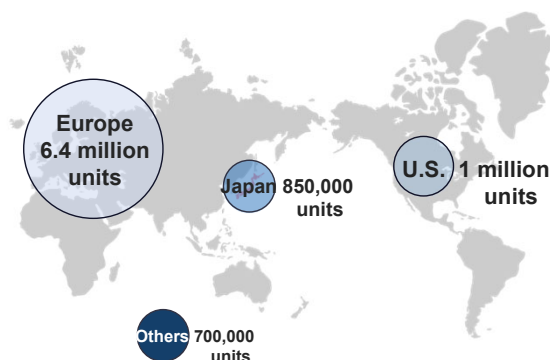
In response to market fluctuations, we will optimize our production layout to centralize inventory management and make improvements to manage products in line with demand.

Business Environment

■ Demand trends (eBike)



■ Total demand forecast for 2027



Opportunities

- eBike market growth from higher awareness of preserving the environment and staying healthy
- Government promotion of environment-centric policies (subsidies, infrastructure development)
- Responding to aging societies (mobility and social participation needs)

Risks

- Current major clients leaving the industry or changing brands
- Emergence of new manufacturers, especially in China (small, lightweight, high output)
- Decline in consumer confidence due to price hikes and economic downturn

© Yamaha Motor Co., Ltd.

4

Next, I will explain the business environment that forms the premise of the new medium-term management plan.

Since there is no registration system for electric power-assisted bicycles like there is for motorcycles, I will talk about them based on data that we have compiled.

After reaching its peak in 2022, the global demand for electric bicycles and e-bikes declined in 2023, and the market remained at a plateau in 2024.

As the current market inventory moves towards an appropriate level, we expect the market to begin growing again from the second half of 2025.

We expect the growth rate of the market, centered on Europe and the United States, to be 8% CAGR.

First, let's look at the opportunities that are expected in this environment.

In Europe, which is the main market for eBikes, we expect that environmental protection and health awareness will continue to increase, and this will provide a tailwind for market growth.

In addition, if the government-led environmental policies currently being implemented expand and develop, we expect that this will lead to further demand.

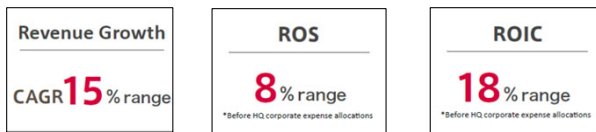
In Japan and some other developed countries, we also expect that demand for electric bicycles will increase further as the population ages.

On the other hand, there are also business risks, such as the possibility that our products and services will no longer be supported in the competitive environment, and customers will leave, or that new manufacturers will emerge from China and other countries, further intensifying the competitive environment, or that consumer sentiment itself will stagnate due to rising prices and economic deterioration.

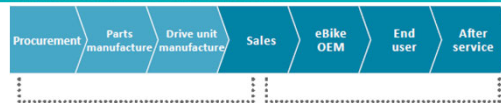
Although these scenarios may have an impact, by 2027, the final year of the current medium-term management plan, we are forecasting demand of approximately 9 million units in total, including 6.4 million units in Europe, 1 million units in the United States, 850,000 units in Japan, and 700,000 units in other regions.

Basic Strategic Policy and Business KPIs

Theme: Grow our business by supporting people's challenges and offering eco-friendly mobility



e-Kits: Capture the upturn in market conditions to recover revenues and ROIC

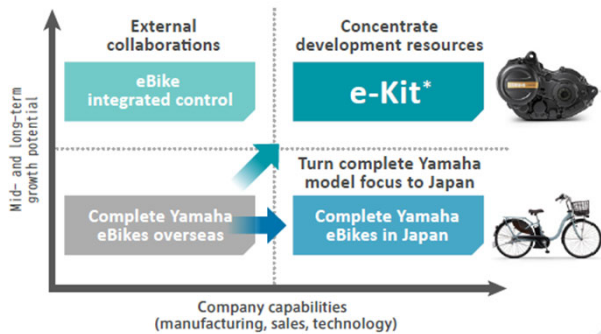


Supply and engineering chain reforms and optimization of scale to improve ROIC

Expand the customer base by strengthening sales and service functions

1. Meticulous customer-oriented approach to establish unique position for competitiveness
 - » Evolve model platforms and develop drive units with industry-beating performance
 - » Bolster integration with peripheral components
 - » Strengthen European key account sales capabilities and direct service functions
2. Supply chain and engineering chain reform
 - » Shorten supply lead times by reviewing production layouts
 - » Integrate electric development departments companywide to raise development capabilities and efficiency
 - » Strengthen operations and structures for customized development and production in Europe
3. Structural reforms via decisive implementation of concentration and selection
 - » Turn focus of complete Yamaha eBike business to Japan
 - » Restructure organizations and reform business processes

Review focus areas and optimize resource allocation



© Yamaha Motor Co., Ltd.

5

This is the strategy for the SPV business in the new medium-term management plan.

With the theme of “Grow our business by supporting people’s challenges and offering eco-friendly mobility”, we will work to transform the business from securing profitability to growth.

As a KPI after 3 years, CAGR is at the 15% level, ROS is at the 8% level, ROIC is targeted at the 18% level. ROS and ROIC are before corporate distribution.

The diagram in the lower left shows the allocation of resources in the current medium-term management plan.

We plotted the current business domain on the graph, with growth potential on the vertical axis and the company’s capabilities and strengths on the horizontal axis.

As announced in the third quarter financial results last year, we will review the business structure of the overseas complete bicycles business and allocate resources to e-Kits and complete bicycles in Japan.

Next, I will give an overview of the e-Kit strategy, which is important for business growth.

The e-Kit business will capture the upturn in market conditions to recover revenue and ROIC.

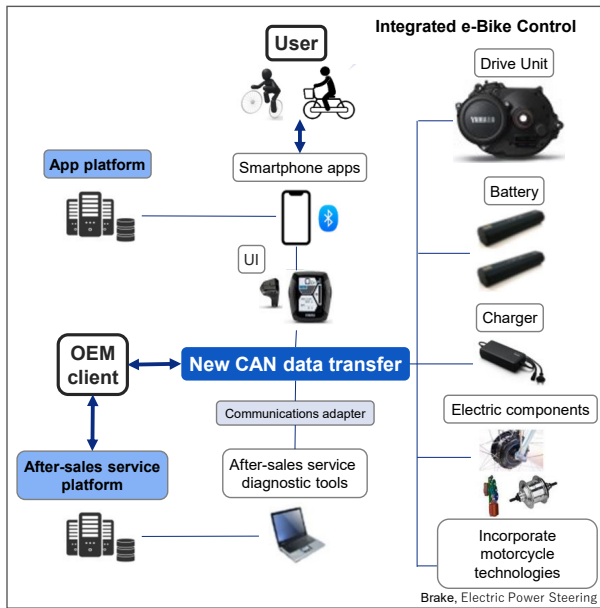
In order to expand our customer base, which was an issue during the previous medium-term management plan, we will first improve the competitive advantage of our products from the customer’s perspective and gain the trust of OEM customers.

In addition, in order to promote business reform, we will review the supply chain and engineering chain, aiming to shorten supply lead times and improve development capabilities.

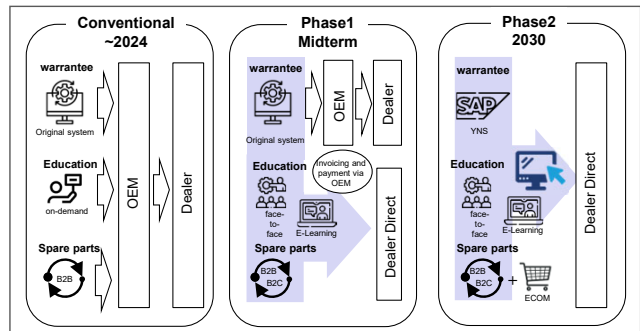
We began implementing the business structure reforms that form the basis for these initiatives last year, and we will continue to review our structure and processes as we move forward with our strategies.

e-Kit Strategy

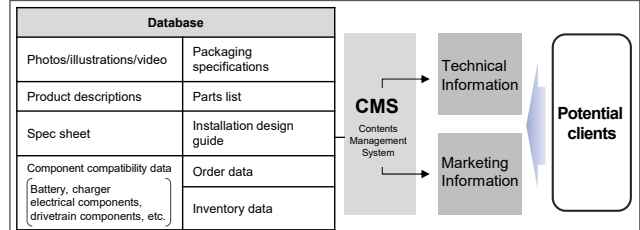
1. Next-Generation System Improve e-Kit products through connected value



2. Dealer Direct Service Increase customer convenience + OEM client support



3. Customer Portal Website Extensive reach to acquire new customers



© Yamaha Motor Co., Ltd. 6

Finally, we would like to introduce three specific initiatives of e-Kit.

The first is the Next Generation System “PW-LINK”.

We will develop a system that integrates control of eBikes, including the drive unit, battery, charger, and other electric components that are the individual components of our e-Kit, as well as MC technology such as EPS (Electric Power Steering) and ABS. Using new CAN communication, we will provide new value to end users through smartphone apps on the upstream side, and on the downstream side, we will create a platform for after-sales service that communicates with OEM customers, realizing a next-generation system that is a joy for both end users and OEM customers.

The second is the “Dealer Direct Service”.

By receiving warranty support directly from eBike dealers, we can improve the speed of service response to end users and reduce the workload of OEM customers. Until now, we have provided services via OEM contact points for warranty reception, dealer education, and the sending of repair parts in response to this, but from the current mid-term, we will provide services directly to dealers in line with industry business practices. By 2030, we will expand our services throughout Europe.

The third is “Tech Cloud”.

We have set up a portal site for OEM customers, so that they can immediately check technical information, including product specifications and compatibility with peripheral components. This system makes it easier for customers to consider adopting our products, and also provides information such as parts lists and inventory status. We will continue to promote sales activities suitable for B2B, while ensuring the conclusion of NDAs and the management of confidential information.

Based on these initiatives, we will firmly establish our business foundation and work to achieve growth under this medium-term management plan.

This concludes the explanation of the medium-term management plan for the SPV business. Thank you for listening.

