

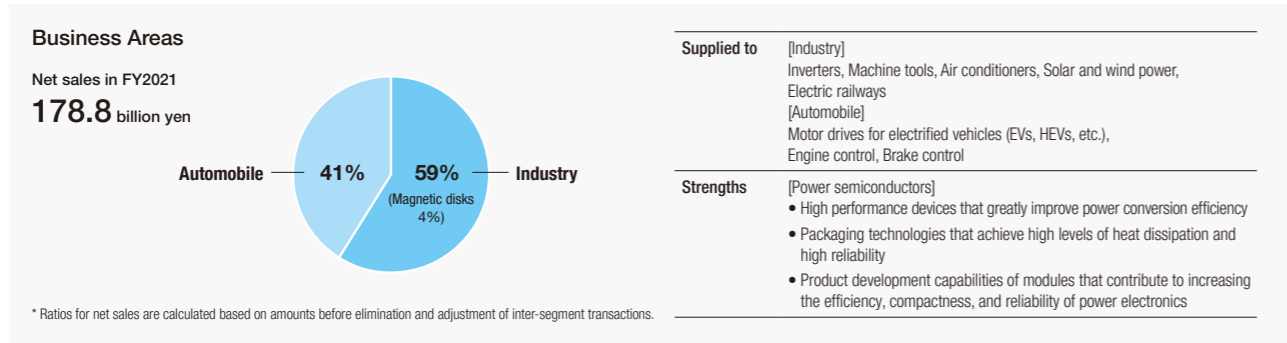
Semiconductors



In response to growing demand for power semiconductors for electrified vehicles, we will steadily increase production capacity and expand sales.

Toru Hosen

Senior Managing Executive Officer
Corporate General Manager, Semiconductors Business Group



Market Trends and Business Opportunities

Power semiconductors help save energy thanks to their high levels of conversion efficiency and power control. Demand for these devices is rising globally, driven by environmental action aimed at decarbonization and increasing investment in automation in the manufacturing industry.

In the automotive field, the shift from gasoline-powered vehicles to electrified vehicles (xEVs) is gaining momentum in various countries around the world, and production of full hybrid and electric vehicles (EVs), which are Fuji Electric's

targets, will grow at an average annual rate of 42%* from 2019 to 2023.

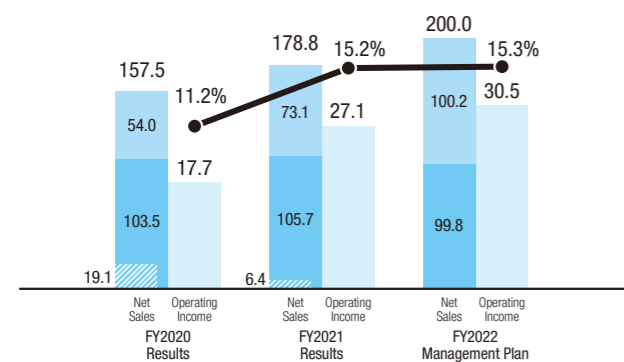
In the industry field, due to growing demand for energy saving and automation, demand is expected to continue to grow for factory automation equipment, such as inverters and machine tools, and applications for renewable energy, including solar and wind.

* Fuji Electric forecast based on research firm forecasts

Fiscal 2021 Results and Fiscal 2022 Plan

Business Performance Trends (Billions of yen)

■ Industry ■ Automobile ■ Magnetic disks (included in industry area) ● Operating margin



* Results for FY2021 reflect the business restructuring in FY2022.

In fiscal 2021, despite the impact of our exit from the magnetic disk operation, increased demand for power semiconductors for automotive and industry applications, as well as accelerated expansion of 8-inch silicon (Si) wafer production capacity, has led to a significant increase in sales and income over the previous fiscal year, with an operating margin of 15.2%, up 4 percentage points from the previous fiscal year.

In fiscal 2022, thanks to sales growth in the growing market for xEVs, we forecast sales of ¥200.0 billion, up ¥21.2 billion year on year, and operating income of ¥30.5 billion, up ¥3.4 billion, with an operating margin of 15.3%.

Priority Measures

Growing sales of power semiconductors for xEVs

Power semiconductors contribute to reducing power loss and improving driving distance, which are major issues for xEVs, and as demand grows rapidly, there is a need for ever higher efficiency.

Fuji Electric's power semiconductor modules incorporate Si RC-IGBT*, which we developed independently ahead of our competitors, and use a direct liquid cooling structure. We have continued their development to meet customers' requirement specifications, more and more manufacturers and models are adopting our modules in Japan and overseas.

In addition, there is a growing need for silicon carbide (SiC) products, which can significantly reduce power loss compared to Si products, and we have decided to work with our customers to develop new SiC products and to invest in increasing production of SiC power semiconductors.

We will continue to work to increase sales beyond the growth of the xEV market.

* RC-IGBT: Reverse-conducting IGBT

Expanding sales of 7th-generation IGBT modules for industrial applications

We are expanding our product lineup of 7th-generation IGBT modules—which feature high heat dissipation and high reliability—and increasing sales of products for the renewable energy and FA markets.

Going forward, we will continue to capture the strong demand in these markets to boost sales.

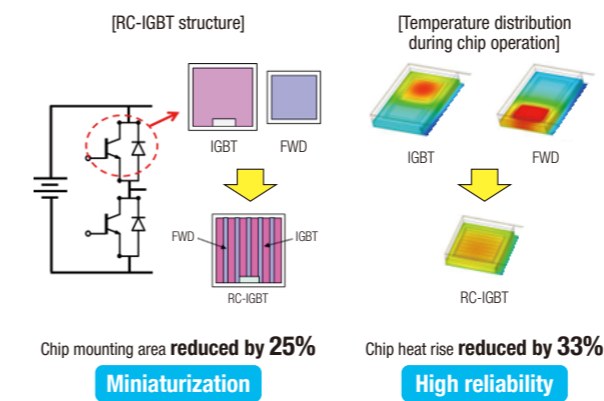
Steadily implementing production capacity augmentation

In order to respond to strong demand for power semiconductors, we have decided to increase our cumulative plant and equipment investment for the five years up to fiscal 2023 from ¥120 billion in our initial plan to ¥190 billion.

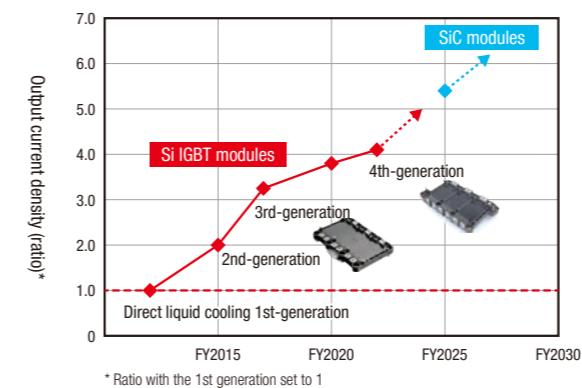
For the manufacturing process of power semiconductor chips, we are accelerating investments to increase the production capacity for 8-inch Si wafers and plan to increase production capacity in fiscal 2022 by about 2.4 times the level of fiscal 2019. For the assembly process, we are continuing investments to increase the production capacity for automotive and industrial products.

For SiC products, as the SiC module market is expected to grow from fiscal 2024 onward, mainly for EV applications, we are preparing for the start of mass production at Fuji Electric Tsugaru Semiconductor in fiscal 2024.

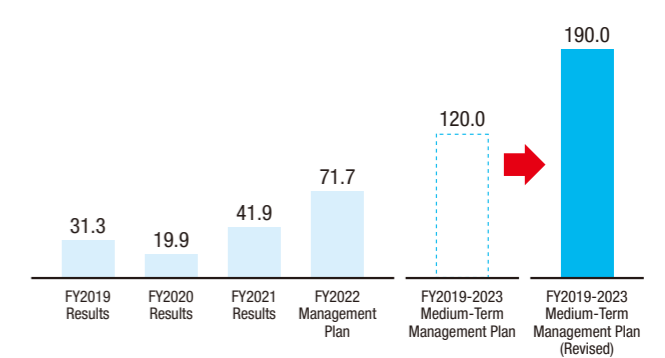
RC-IGBT Features



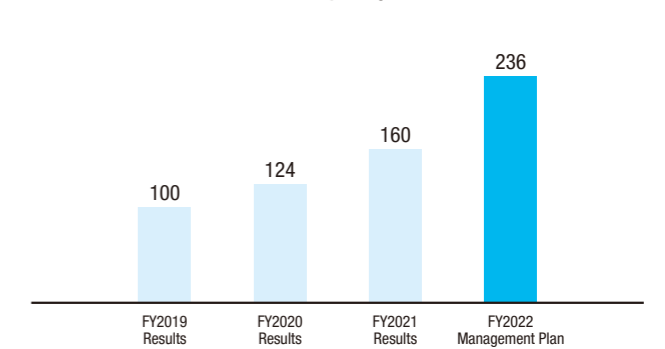
Changes in Performance of Power Semiconductor Modules for xEVs



Plant and Equipment Investment (Whole Segment) (Billions of yen)



8-Inch Si Wafer Production Capacity



* For production capacity (year-end comparison), FY2019 (benchmark year) is assigned 100 for comparison purposes.