

Fuji Electric R&D Strategy Kazuya Nakayama

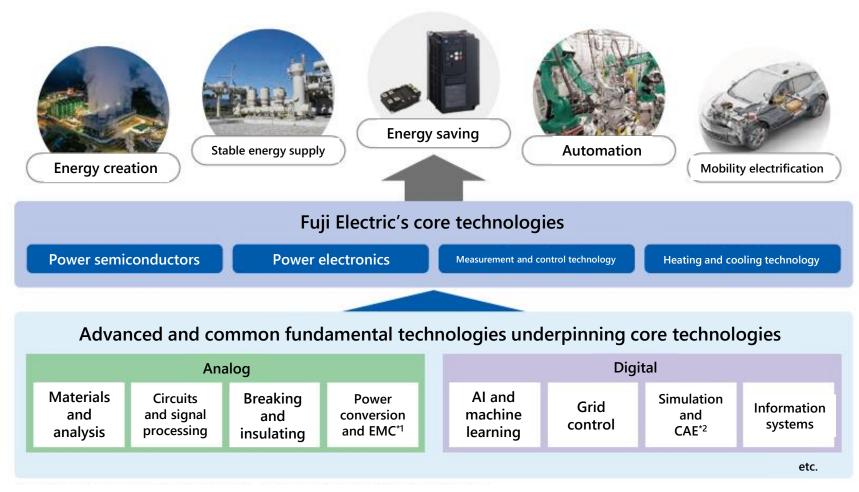
Executive Officer, Corporate General Manager, Corporate R&D Headquarters

July 11th, 2024

Research and Development at Fuji Electric



Creation of customer value and resolution of social issues by integrating power semiconductor and power electronics technologies with advanced digital technologies



^{*1} Electromagnetic Compatibility *2 Compute Aided Engineering

R&D Organization and Bases

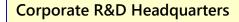




Fundamental Technologies **Advanced and Common**



- Product development
- Product-specific elemental technologies
- Product-specific platforms



New Products Development Office

Advanced Technology Laboratory

Digital Innovation Laboratory



Tokyo Factory area (Fukiage, Chiba)

Production & Procurement Group

Production Technology Center



- Technology marketing
- Advanced technologies

Al, grid control, next-generation semiconductors, heat exchange, sensing, etc.

Common fundamental technologies

Materials, insulation, heat, machinery, analysis, power conversion, EMC, signal processing, equipment automation, processing, etc.

Shared Companywide platforms

IoT system, Information security, CAE, etc.

Overview of Research and Development Under FY2023 Medium-Term Management Plan (FY2019–2023)

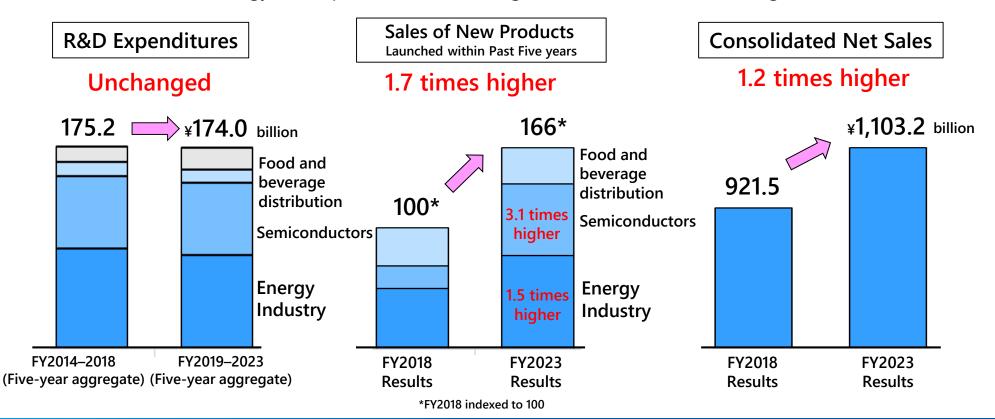


R&D Policy

Promotion of efficient R&D to achieve sales and profit growth while creating customer value

Major Measures

- ·Launch of new products based on business strategies
- Acceleration of development of new products for overseas markets
- •Enhancement of technology developments for addressing new social issues and creating customer value



Overview of Research and Development Under FY2023 Medium-Term Management Plan (FY2019–2023)



Introduction of industry-first and industry-leading products through development focused on customer value





Large-capacity geothermal power generation plants Turbine with world's largest singleunit capacity



FR3 oil-immersed transformers World's smallest FR3 product



SC-NEXT magnetic switches Among world's most compact



PCSs for 1,500 V DC storage batteries Industry-leading efficiency



UPS7500WX large-capacity UPSs Among world's most space-



Ф16 command switches

Among world's highest optical uniformity

Industry



Global induction furnaces Industry-leading efficiency



Industrial inverter Industry-leading singleunit capacity



S-Flow compact ultrasonic flowmeter Industry-leading accuracy



OnePackEdge data collection system Industry's fastest data collection capabilities

Food and beverage distribution



Sustainable vending machines Industry-leading energy efficiency



Convenience store coffee machines Industry's first cup identification function



Frozen food vending machines Industry-leading

energy efficiency and stocking capacity



Flat ice cream cases Industry-leading energy efficiency

Industry's first to use low **GWP** coolant

Semiconductors



M660 automotive module Industry-leading power cycle resistance



7th-generation industrial IGBTs Industry-leading output current



SIC MOSFET World's lowest on resistance

Advanced technologies



Exhaust heat recovery heat pump Industry-leading efficiency



120kW demonstration equipment

Hydrogen fuel cells Industry-leading lifespan



Operating site diagnosis systems

One of the industry's first Al explanation functions



FY2026 Medium-Term Management Plan R&D Strategy (FY2024~FY2026)



Operating Environment Changes

Accelerated decarbonization trend Goals of halving emissions by 2030 and achieving carbon neutrality by 2050

Evolution of digital technologies Rapid spread of use of digital technologies to improve productivity and create value

Promotion of circular economies

Fuji Electric's Opportunities

- Growth of green transformation market
- Promotion of new value and business models to facilitate customers' digital transformation
- Massive improvements to productivity through digital transformation



Basic Policy

Improvement of corporate value through management emphasizing profit

Important Management **Targets**

- Profit: Operating margin above 11%, ratio of profit attributable to owners of parent to net sales above 7%
- Financial indicators: ROE of more than 12%, ROIC of more than 10%
- Reduction of 30% in greenhouse gas emissions from production
- **■**Employee satisfaction score of more than 3.8 points

Priority Strategies

Improvement of **Profitability**

- Business operation emphasizing cost of capital
- Improvement of productivity using digital technologies

R&D Strategies Promotion of Growth Strategies

Concentrated investment in growth fields

- Introduction of new products to expand operations
- Expansion of overseas businesses
- Creation of new businesses to grow sales after 2027



Strengthening of **Management Foundations**

Employees first Well-being

Environment

Environmental Vision 2050

Governance

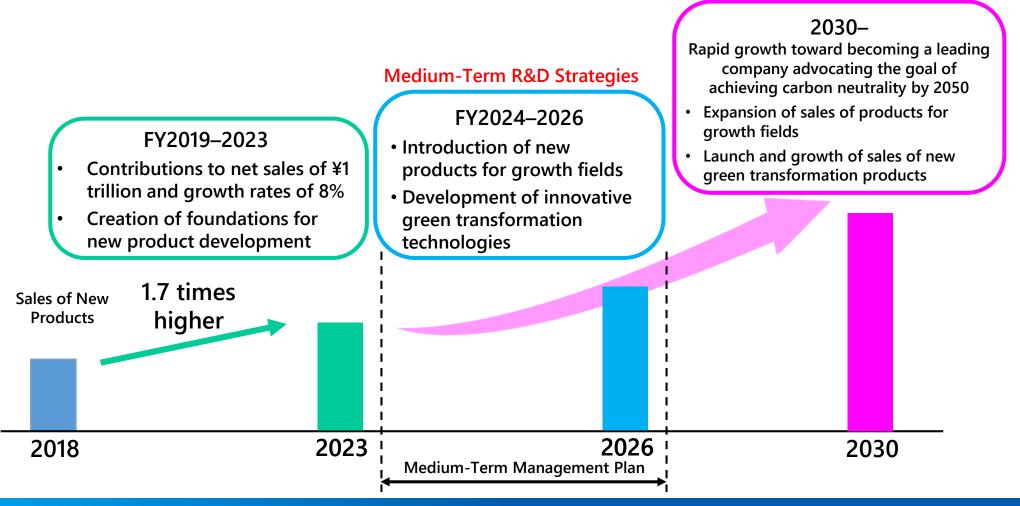
Thorough compliance Stronger risk management

R&D Strategies of FY2026 Medium-Term Management Plan (Goals Leading Up to 2030)



Research and development aimed at ongoing creation of new products for growth fields (green transformation, digital transformation, global markets)

- •Growth of domestic and overseas operations through introduction of new products
- ·Creation of new businesses to contribute to sales growth in FY2027 and beyond



R&D Strategies of FY2026 Medium-Term Management Plan (Portfolio)



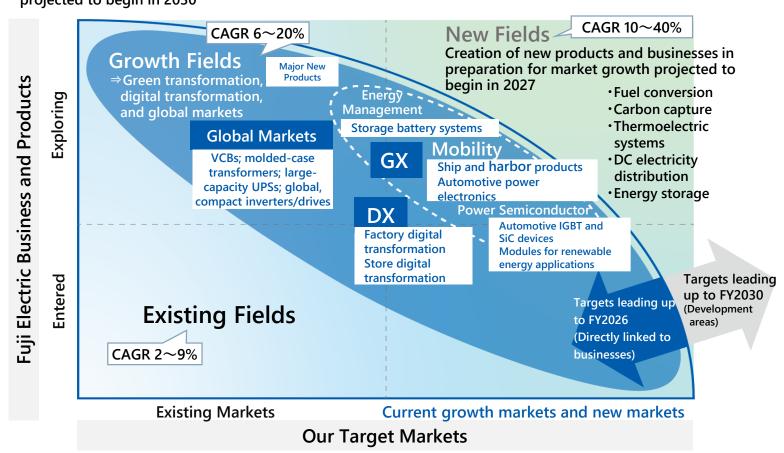
R&D Policy

Contribute to ongoing growth through research and development for supporting businesses and shaping the future

Major Measures

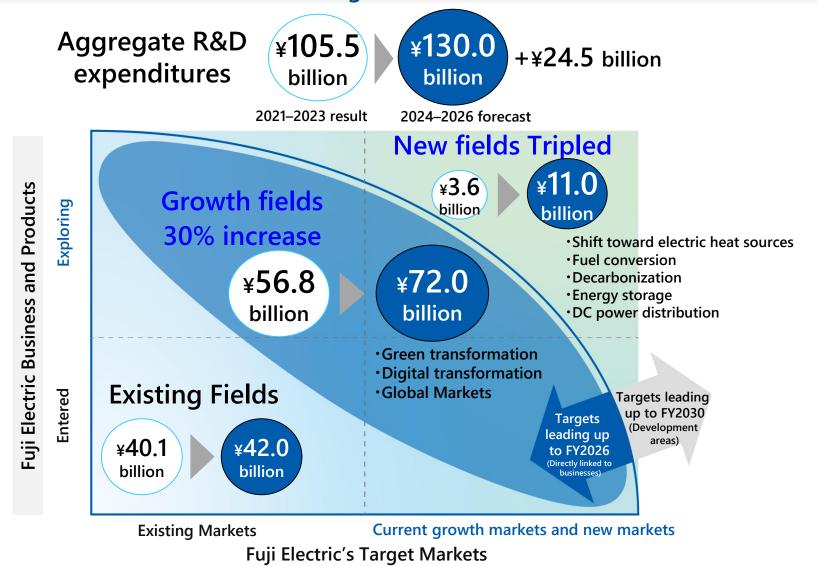
Existing fields: Advance next-generation development projects, bolster competitiveness, and enhance platform development to help continue and grow existing businesses

Growth fields: Launch green transformation, digital transformation, and global products by 2026 to propel growth strategies New fields: Acquire new green transformation technologies and create new products in preparation for market growth projected to begin in 2030



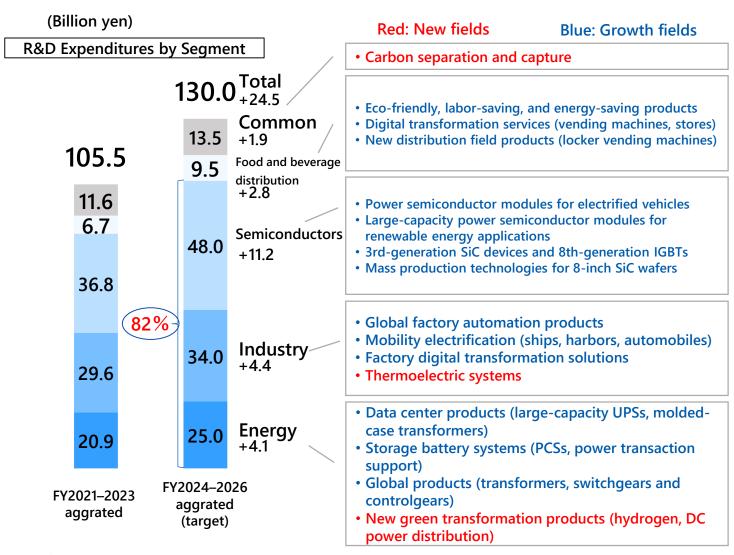


Priority investment in development of new products for growth fields and development of technologies for new fields



[Reference] R&D Expenditures by Segment





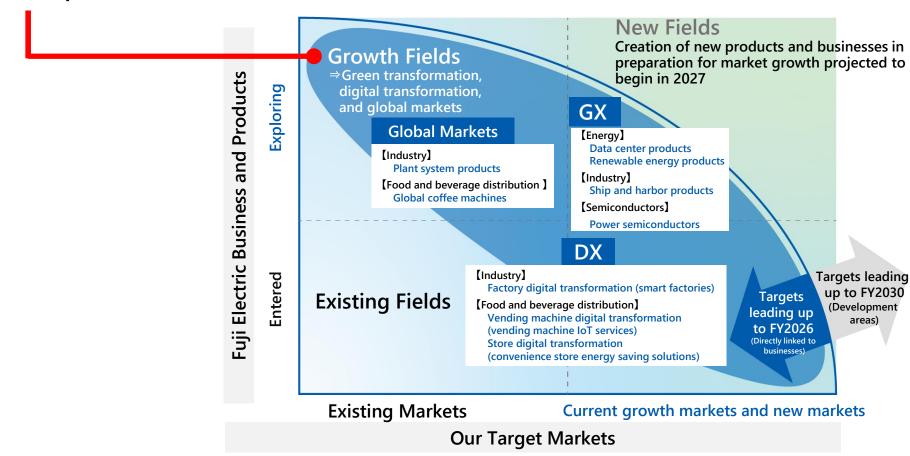
Note: The R&D expenditure figures above represent expenditures that have been allocated to segments based on theme and may therefore differ from figures contained in consolidated financial reports.

Later explanations



[Research and Development looking toward FY2026 for each business group]

- Business Overview
- Operating Environment and Business Opportunities
- Market Outlook and Technical Requirements
- Key Development Themes (Growth Fields)



- 1. Statements made in this documents or in the presentation to which they pertain regarding estimates or projections are forward-looking statements based on the company's judgments and assumptions in light of information currently available. Actual results may differ materially from those projected as a result of uncertainties inherent in such judgments and assumptions, as well as changes in business operations or other internal or external conditions. Accordingly, the company gives no guarantee regarding the reliability of any information contained in these forward-looking statements.
- 2. These documents are for information purpose only, and do not constitute an inducement by the company to make investments.
- 3. Unauthorized reproduction of these documents, in part or in whole, is prohibited.

