

Business Strategy Briefing 2025

Mitsubishi Chemical Group Corporation

April 23, 2025

Contents

- 1 MMA & Derivatives Business Strategy**
- 2 Basic Materials & Polymers Business Strategy**
- 3 Advanced Films & Polymers Business Strategy**
- 4 Advanced Solutions Business Strategy**
- 5 Advanced Composites & Shapes Business Strategy**

Contents

1 MMA & Derivatives Business Strategy

**Mitsubishi Chemical Corporation
Managing Executive Officer
Head of MMA & Derivatives
Satoshi Kurokawa**

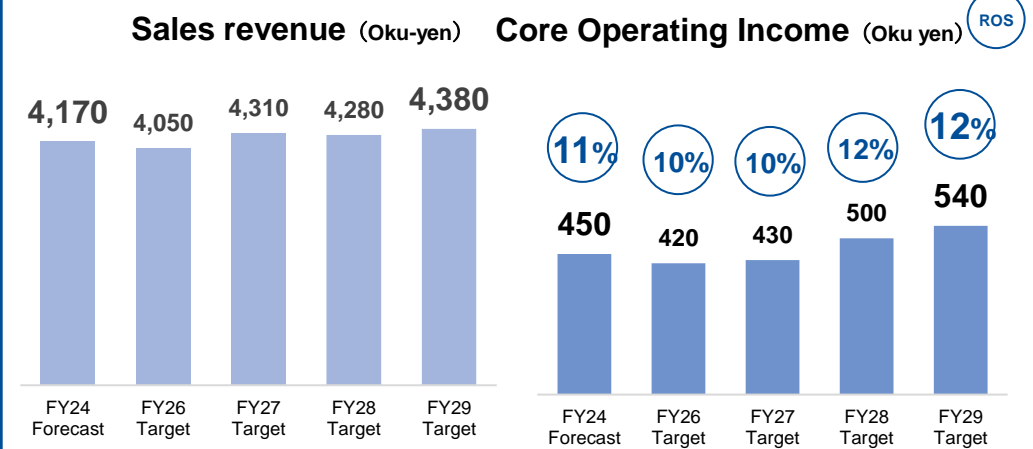
MMA & Derivatives Business Strategy

“Provide solutions through Methacrylates to realize KAITEKI - Become the winning material chosen by customers”

Business Strategy

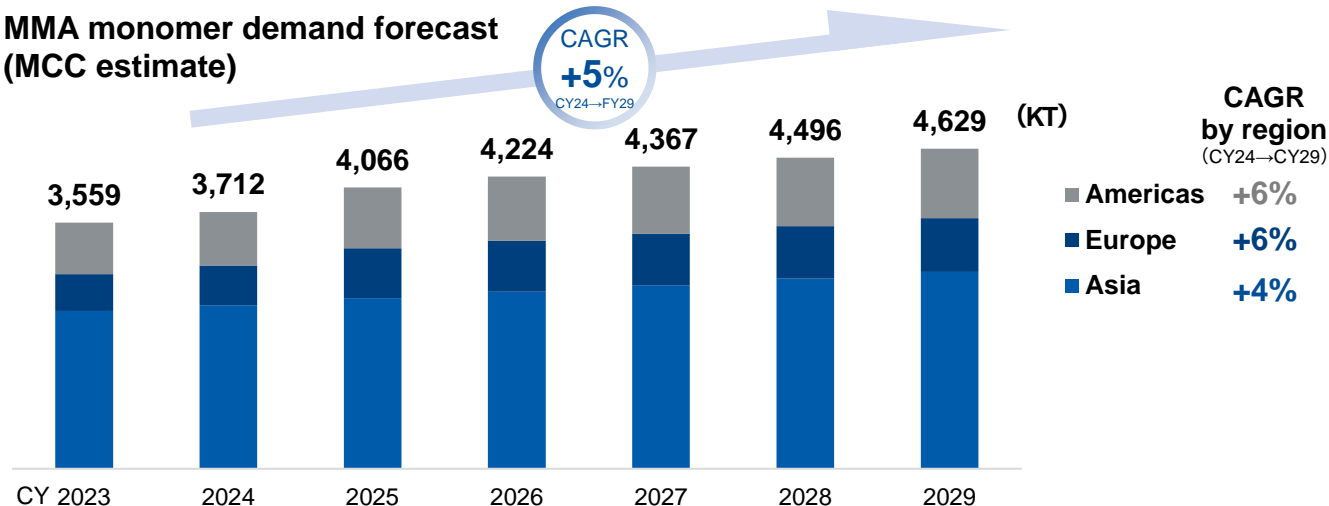
- Reduce volatility and stabilize earnings by creating demand through collaboration with customers to develop new applications and areas, and by promoting pricing policies.
- Improve competitiveness through optimal production and sales allocation utilizing the global production system.
- Reduced volatility through expansion of cost-linked formula (Asia), passing on cost increases to prices
- Focus on strategic customers and high-value-added applications and develop emerging markets (India, others).
- Eliminate unprofitable businesses and production facilities, and promote rationalization.

New Medium-Term Management Plan 2029



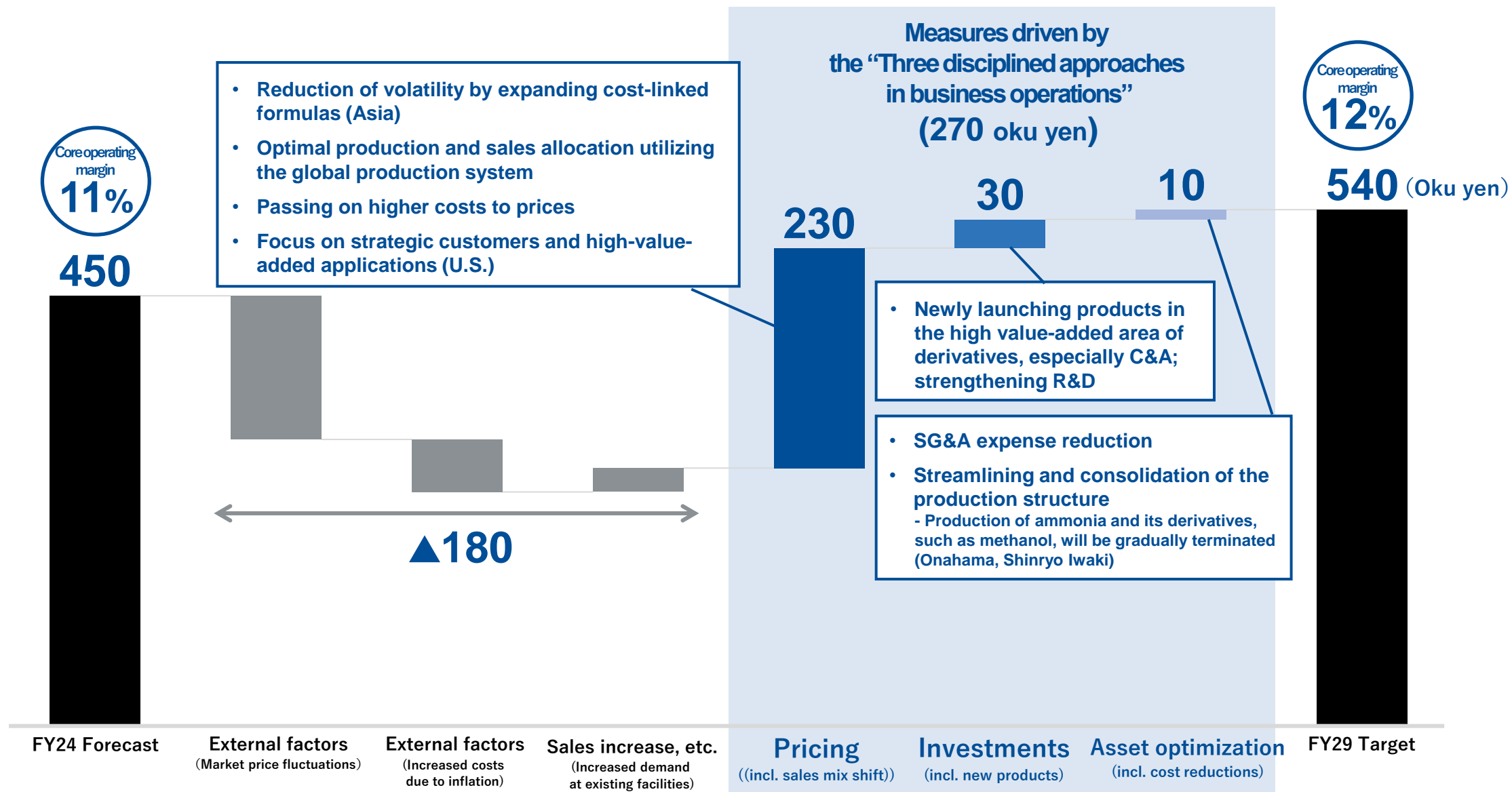
Business Environment

MMA monomer demand forecast (MCC estimate)



- ✓ MMA demand is expected to grow in line with GDP to +α due to growth in transparent resin and paint applications.
- ✓ Excess supply is expected to continue in Asia as new capacity continues to be added in China.
⇒Exports to Europe to continue, global outlook balanced.
- ✓ The impact of new facilities by other company in the Americas is expected to be balanced by the shutdown of existing plants.
⇒In view of the supply-demand balance in each region, carry out optimal production and sales allocation utilizing the global production system at existing plants.

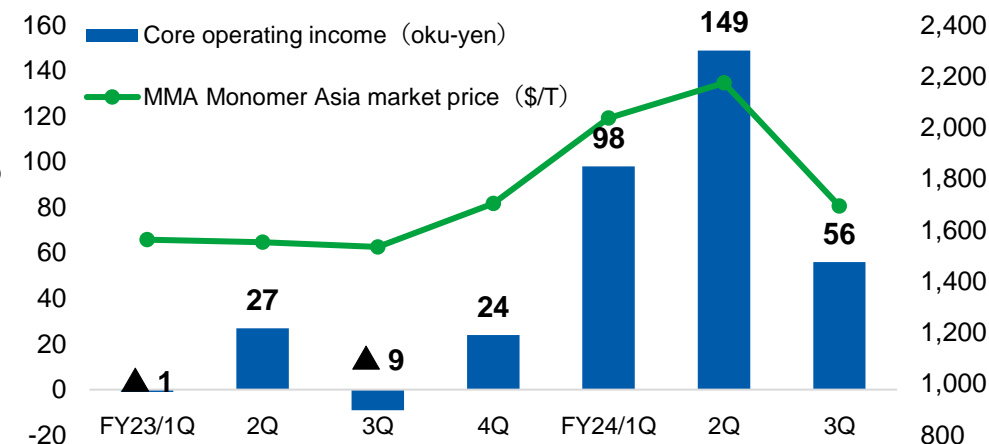
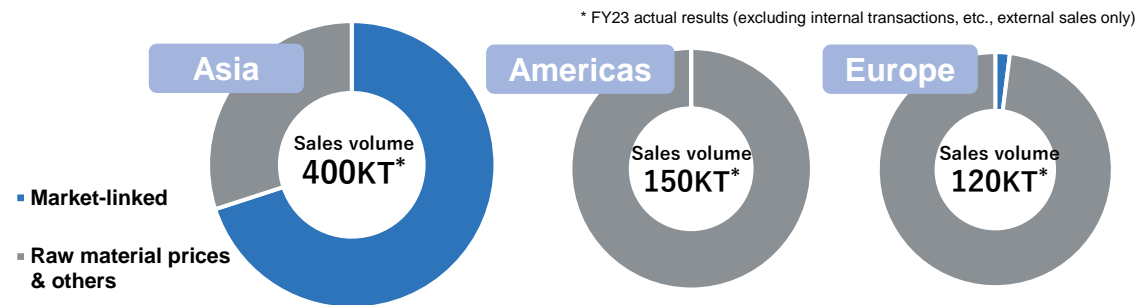
MMA & Derivatives Core Operating Income Growth Plan



MMA Monomer Pricing Policies

Issue Recognition

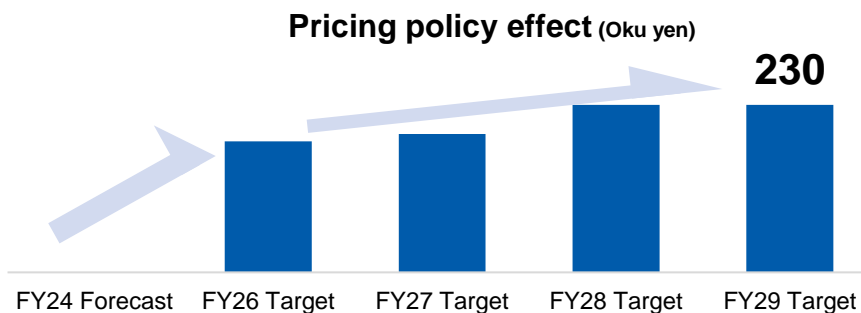
- Large earnings volatility due to a high ratio of Asian market-linked sales
- Approx. 70% market-linked sales ratio based on FY2023 actual results
- Cost increases not yet passed on to prices



Initiative

- Secure spreads by partially introducing raw material linkage to market-linked contract formulas, and passing on fixed and other costs. (Asia)
- Reflect market trends more appropriately by shifting from a fixed formula to a variable formula. (Asia)
- Improve the sales mix by focusing on strategic customers and high-value-added applications, especially paint applications. (Americas)

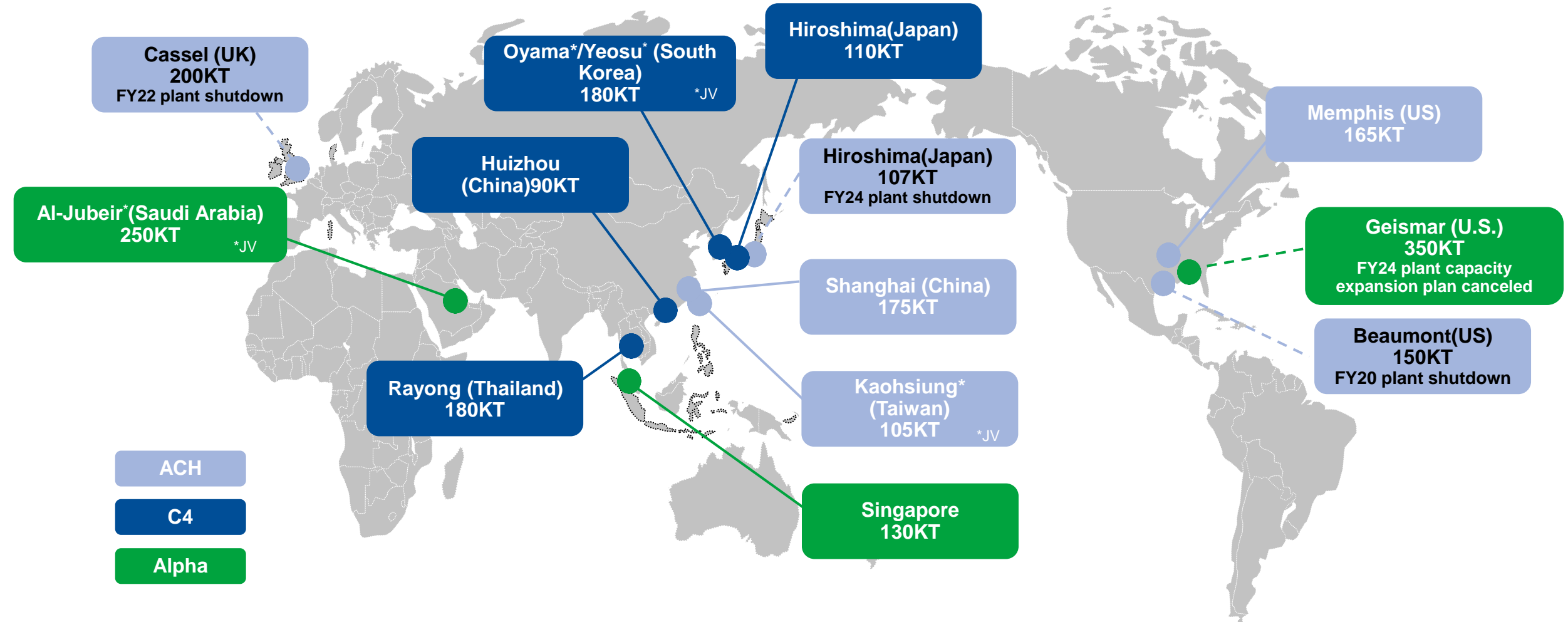
Effect



- Strive to realize 230 oku yen in pricing policy effects by FY2028.
- Market-linked ratio reduced to less than 50%, stabilizing earnings.

MMA Monomer Production Site

- Continue to promote asset strategy from the perspectives of product carbon footprint, cost competitiveness, and market growth potential.
- Continue to consider new design plans by refining the Alpha method.



Contents

2 Basic Materials & Polymers Business Strategy

**Mitsubishi Chemical Corporation
Managing Executive Officer
Yasuo Shimodaira**

Basic Materials & Polymers Business Strategy

“Improve profitability, restructure the petrochemical business, and review technologies and business models to move toward greener operations.”

Business Strategy

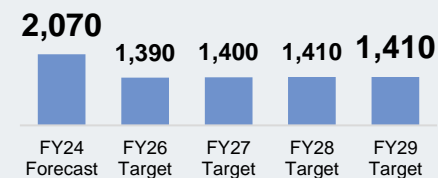
New Medium-Term Management Plan 2029



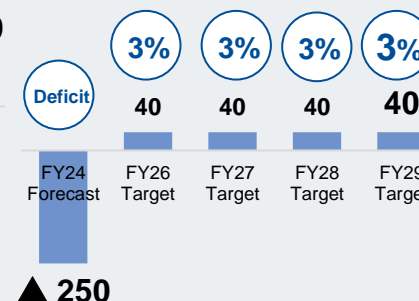
Return the carbon business to profitability as soon as possible.

- Reduce production capacity.
- Shift to a sales portfolio that is independent of market conditions.
- Thoroughly reduce costs.

Sales Revenue (Oku yen)



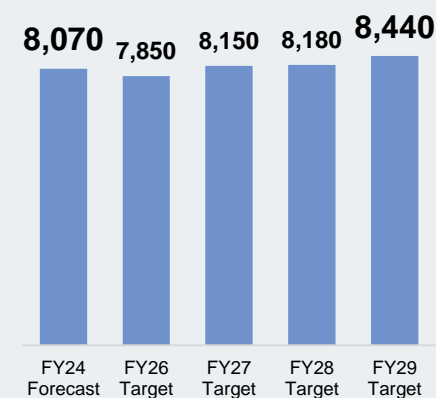
Core Operating Income (oku yen)



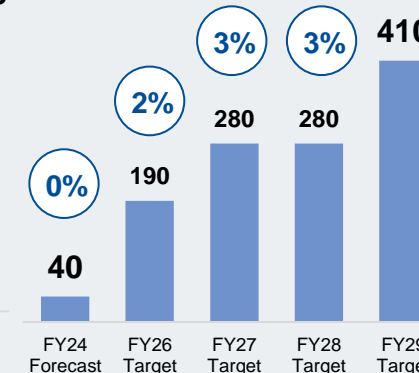
Improve profitability and promote greening of the petrochemical business

- Switch to a business model focused on domestic demand for derivatives, optimize capacity, and shift to high-value-added products.
- Reduce costs and pass costs onto prices.
- Restructure West Japan cracker: Establish a new olefin supply structure based on demand for derivatives and promote GX.
- Launch of a chemical recycling plant, a closed loop demonstration, and promotion of biomass and CCUS policy plans.

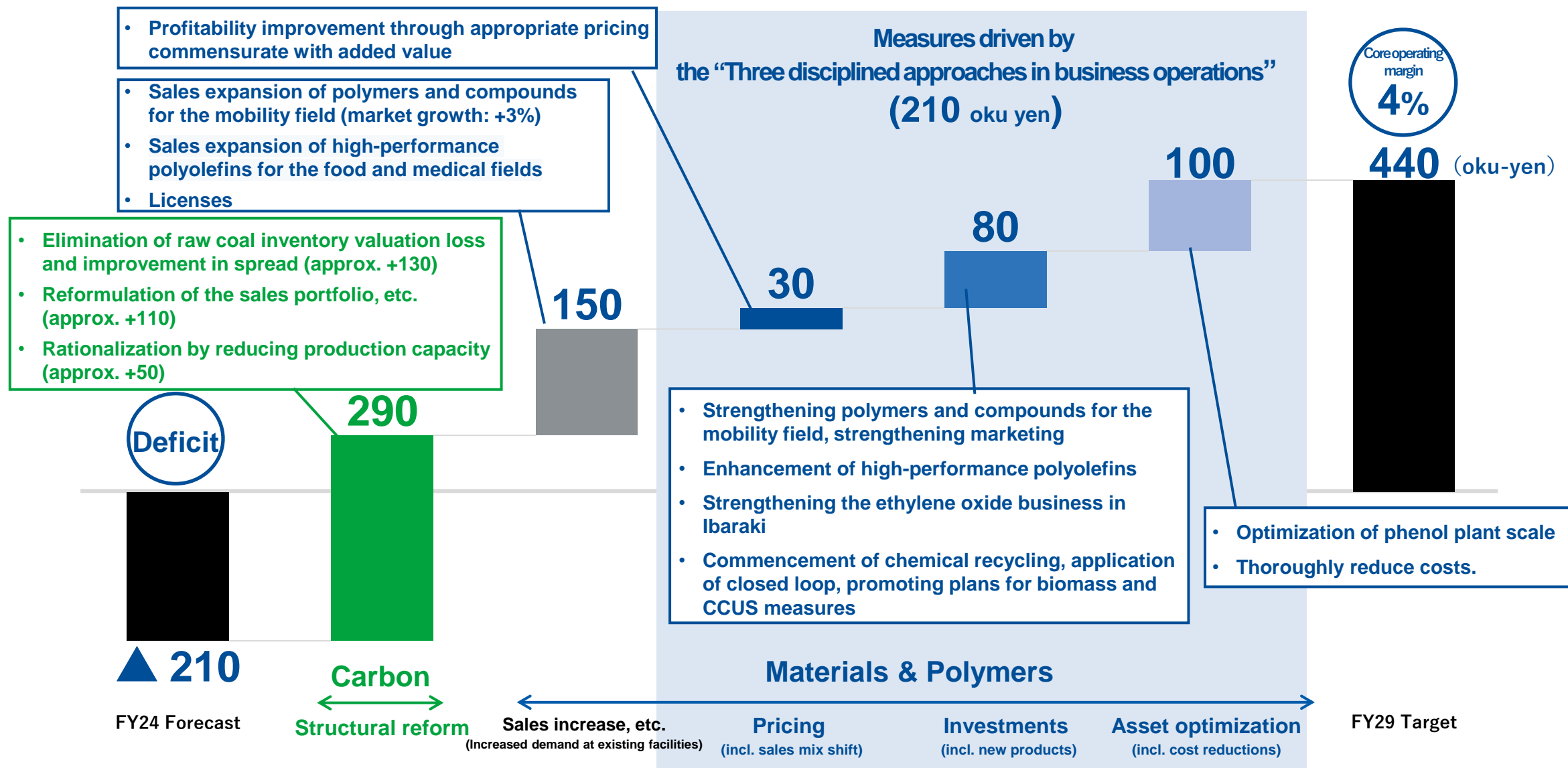
Sales Revenue (Oku yen)



Core Operating Income (oku yen)



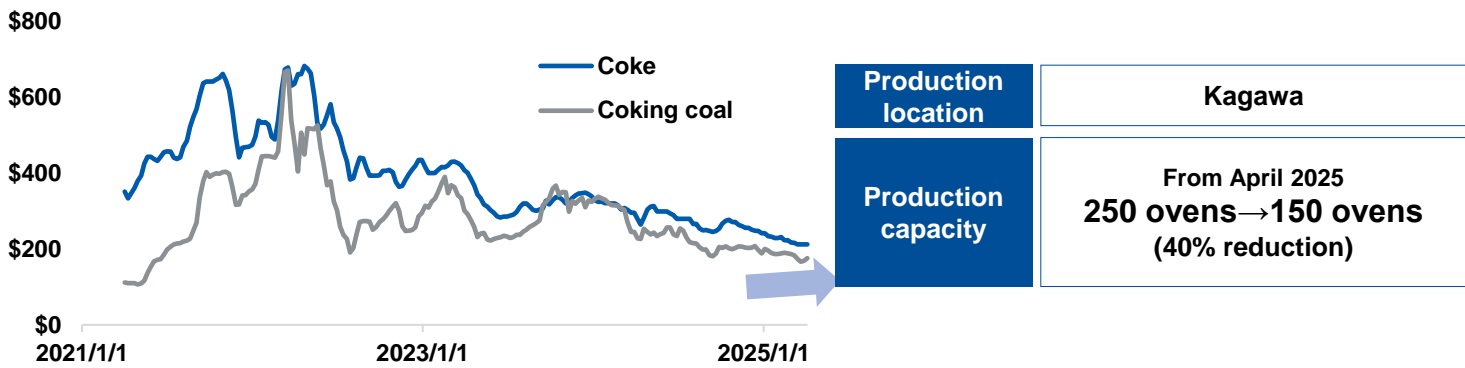
Basic Materials & Polymers Core Operating Income Growth Plan



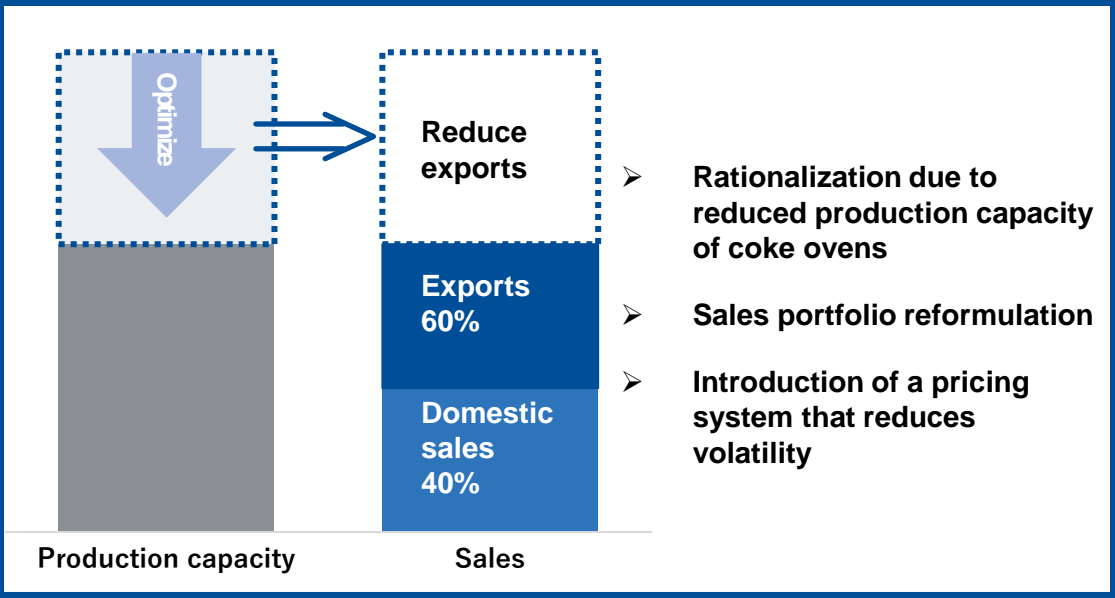
Priority measure ① Structural Reform of the Carbon Business

Current Status & Issue Recognition

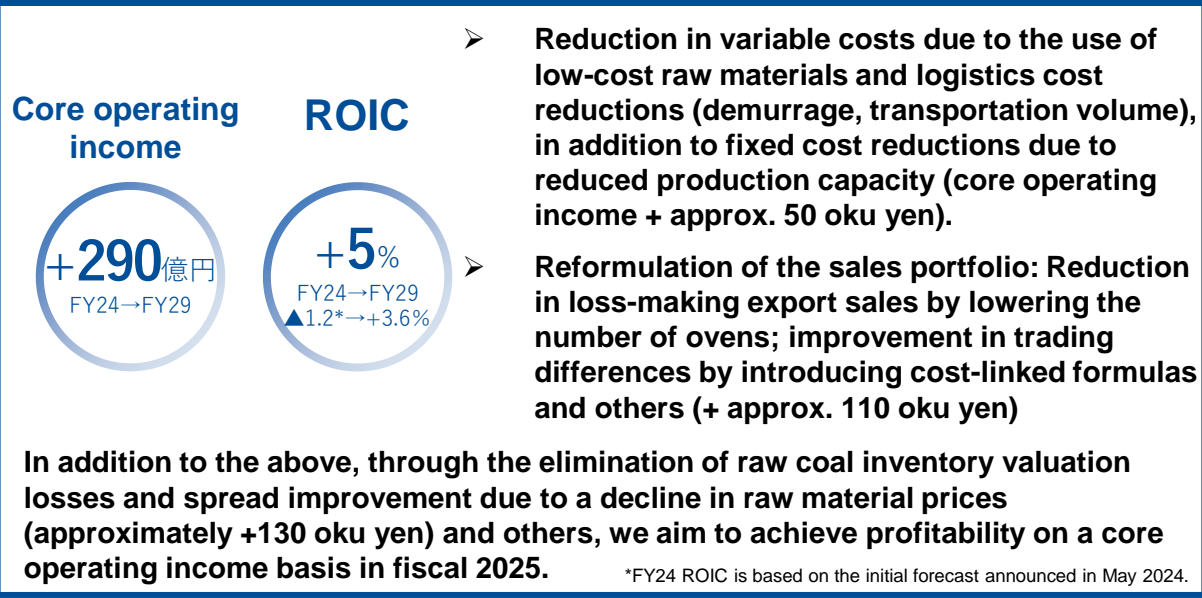
- The overseas coke market is sluggish due to weak demand for steel products, especially in China. Excess production capacity continues.
- High volatility in the coking coal market is a risk factor (inventory valuation losses totaling approx. 100 oku yen were incurred in FY2024 due to the decline in coking coal prices; the losses are expected to be resolved in FY2025).
- Coke production will be scaled down (from Apr. 2025) based on the assessment that the production system and sales policy need to be urgently reviewed.



Initiative



Effect



Priority measure ② Expand sales of polymer compounds for the mobility sector

Key products

FUNCSTER™



- High-performance long glass fiber reinforced polypropylene
- Excellent durability, fluidity, and appearance contribute to reducing environmental impact by eliminating the need for painting
- Expanded use in large-scale products and functional parts such as automobile back door inner panels, instrument panel cores, and brake brackets

NOVADURAN™



- Polybutylene terephthalate (PBT) resin
- In addition to its excellent electrical characteristics and dimensional stability, our products address the needs of automobile electrification and automation by actively proposing solutions with low warping, flame resistance, and high-pressure resistance.
- Expanded adoption in automotive battery peripherals, sensor/radar components, and head-up display components

DURABIO™



- High-performance transparent engineering plastic made from plant-derived materials
- In addition to its excellent impact resistance, the glossy design eliminates the previously required painting process, thus contributing to the reduction of volatile organic compounds generated during manufacturing.
- Expanded use in exterior mobility parts, including front grilles for Japanese and European vehicles, as well as color exterior components for motorcycles

BMW Kidney Grille Surround (© Image Credit: BMW Group)

Mobility Market Trends

As the mobility market evolves, material performance requirements are diversifying



Connected Cars



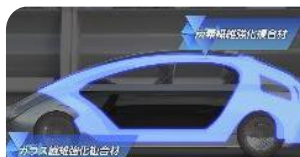
Autonomous driving & safety



Electrification



Comfortable indoor space
Shared



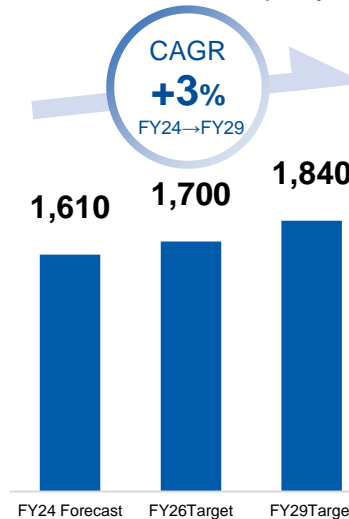
Weight reduction



Sustainability/CE

Growth Strategy

Sales revenue (Oku yen)



- Integrate development, sales, and marketing by quickly approaching markets with high-potential needs Strengthen customer engagement
- Expand the sales of PP compounds overseas (increase production lines in North America and India)
- Expand sales by enhancing technical development foundations (establishment of a China Development & Marketing Center)
- Increase market share among non-Japanese automakers, including Chinese automakers

Priority measure ③ Consolidation of compound sites

➤ Consolidate compound business centered on performance polymers and engineering plastics

Current situation and measures

< Current situation >

- Compound business, technology, and expertise are distributed across both domestic and international group companies
- Inefficiencies arise in areas such as sales, marketing, technical service, and R&D
- There are multiple contact points for markets and customers.

< Measures >

- Integrate businesses and expertise to improve operational efficiency
- Consolidate contact points for markets and customers, and enhance customer support systems
- Strengthen marketing systems in key markets

13 countries, 17 production sites
Americas, EMEA, APAC, Japan



Selective and priority
investment through
business consolidation

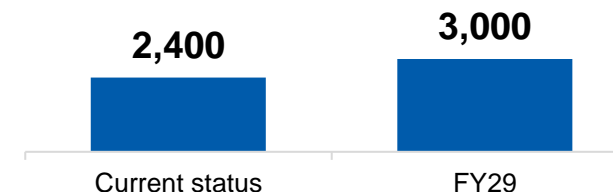
Consolidate distributed resources
Intensive investment in key markets
Integrate contact points for market customers
Achieve the leading position in the molding materials sector

● Performance Polymers : Elastomers, Adhesive/Flame Retardant PO, PVC
● Engineering Plastic : PBT, PC, Bio Engineering Plastics "Durabio"
● PP Compounding : PP compounds, Glass Fiber Reinforced PP

Effects

- Expand sales foundations by enhancing relationships with key customers
- Accelerate growth by expanding the pipeline through increased market presence
- Expedite new material development by expanding our technology portfolio
- Accelerate growth by utilizing external resources more, such as through M&A

Sales revenue (Oku yen)



Priority measure ④ Promotion of CN and CE measures

We are working to commercialize all three routes: recycling, biomass, and CO2



Recycle

Chemical recycling of waste plastic by oilification using supercritical water

Demonstrative operation to begin in FY2025 @ Kashima





Biomass

Production of plant-derived ethylene and propylene from bioethanol

Commercialization @ Kashima under consideration





CO₂ & Renewable Energy

Production of polypropylene from CO2 and green hydrogen

Commercialization @ Abu Dhabi under consideration



Contents

3 Advanced Films & Polymers Business Strategy

**Mitsubishi Chemical Corporation
Managing Executive Officer
Head of Advanced Films & Polymers
Yosuke Egawa**

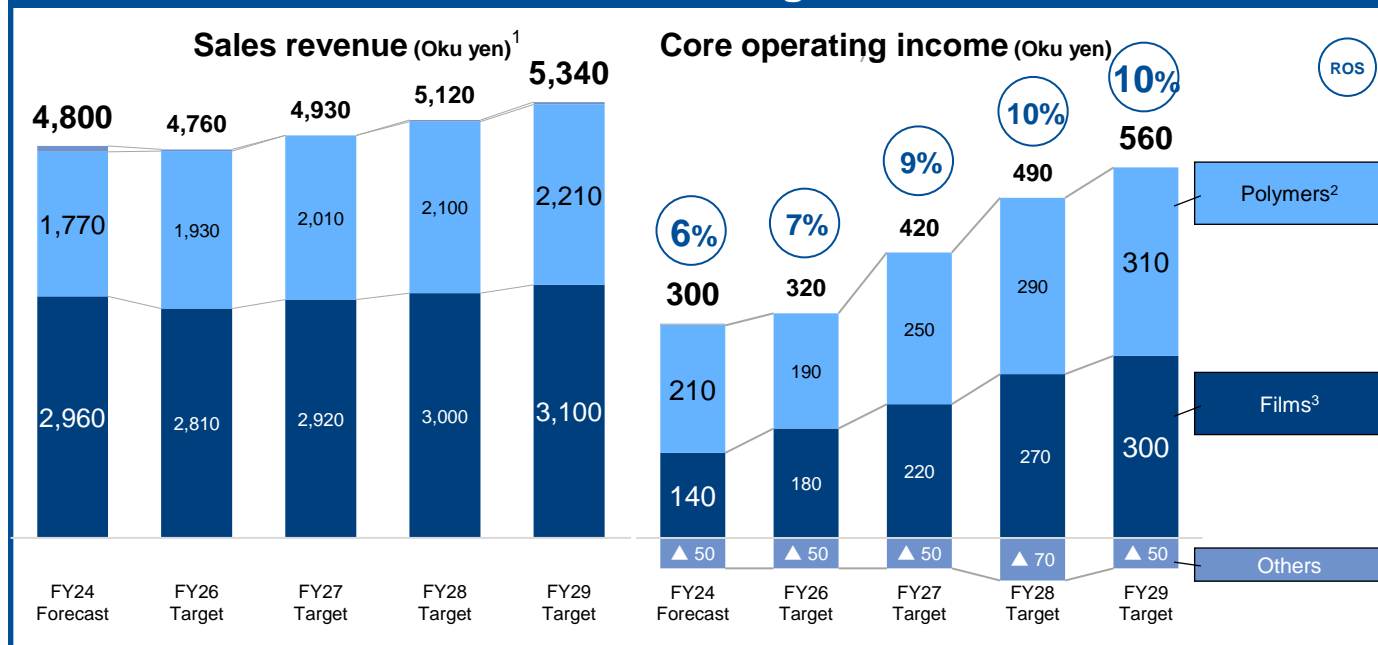
Advanced Films & Polymers Business Strategy

“Become a genuine specialty group by quickly addressing customer needs and creating value through integrated manufacturing and sales operations”

Business Strategy

- Withdraw from low-profit businesses and improve business profitability through divestment
- Grow business through clarifying focus markets and new facility expansion
- Create new opportunities by evolving our customer-oriented, tailored business and strengthening our marketing capabilities
- Share a proactive mindset to achieve the leading market position and improve organizational capabilities

New Medium-Term Management Plan 2029



Focus Products



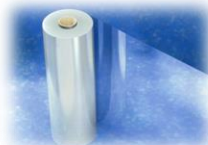
Product: OPLFILM™
Global share: 35%⁴
Main market: Display, Polarizing plate

Specialty Films



Product: Soarnol™
Global share: 35%⁴
Main market: Food packaging material

Acetyl Polymers



Product: Polyester Film
Global share: 20%⁴ (Specialty PET film field)
Main market: Electronics, Industrial

Polyester Films



Product: Thermorun™
Global share: Over 50%⁴ (Air bag cover materials field)
Main market: Automobiles (Interior and exterior materials)

Performance Polymers

¹ The total figures include other adjustments. However, the graph does not show such adjustments, and the segment totals do not match the actual totals.

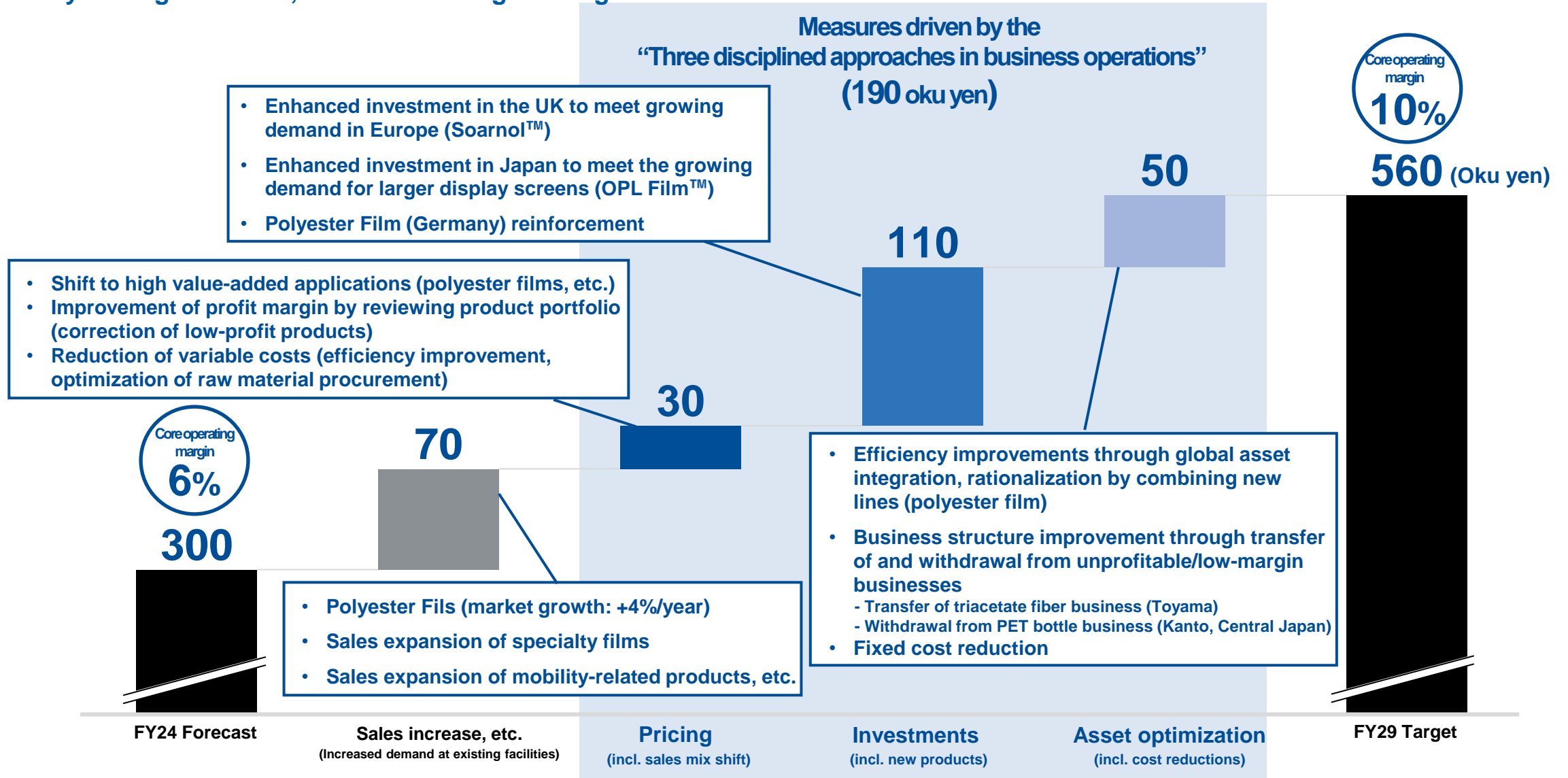
² Polymers are a simple sum of performance polymers and acetyl polymers.

³ Films is the simple sum of Specialty Films and Polyester Films.


⁴ MCC estimate for fiscal year 2024

Advanced Films & Polymers Core Operating Income Growth Plan

Enhancing business structure by transferring or withdrawing from low-profit businesses, expanding sales by adding new lines, and streamlining existing lines

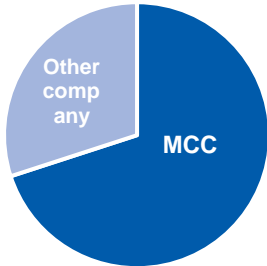


Focus Product ① OPLFILM™

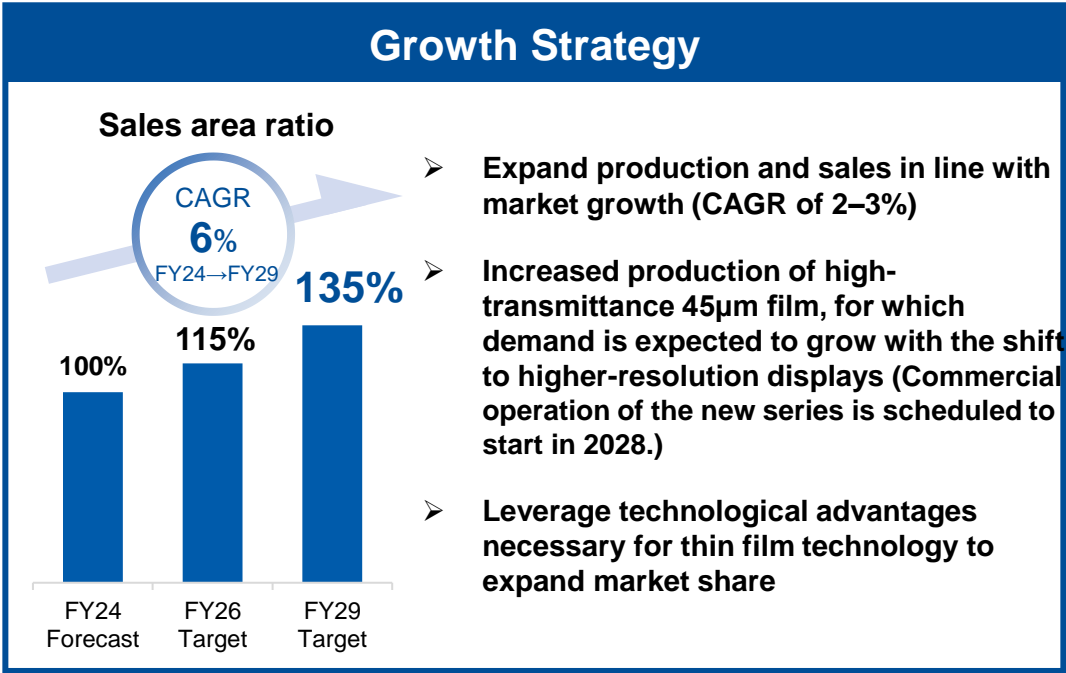
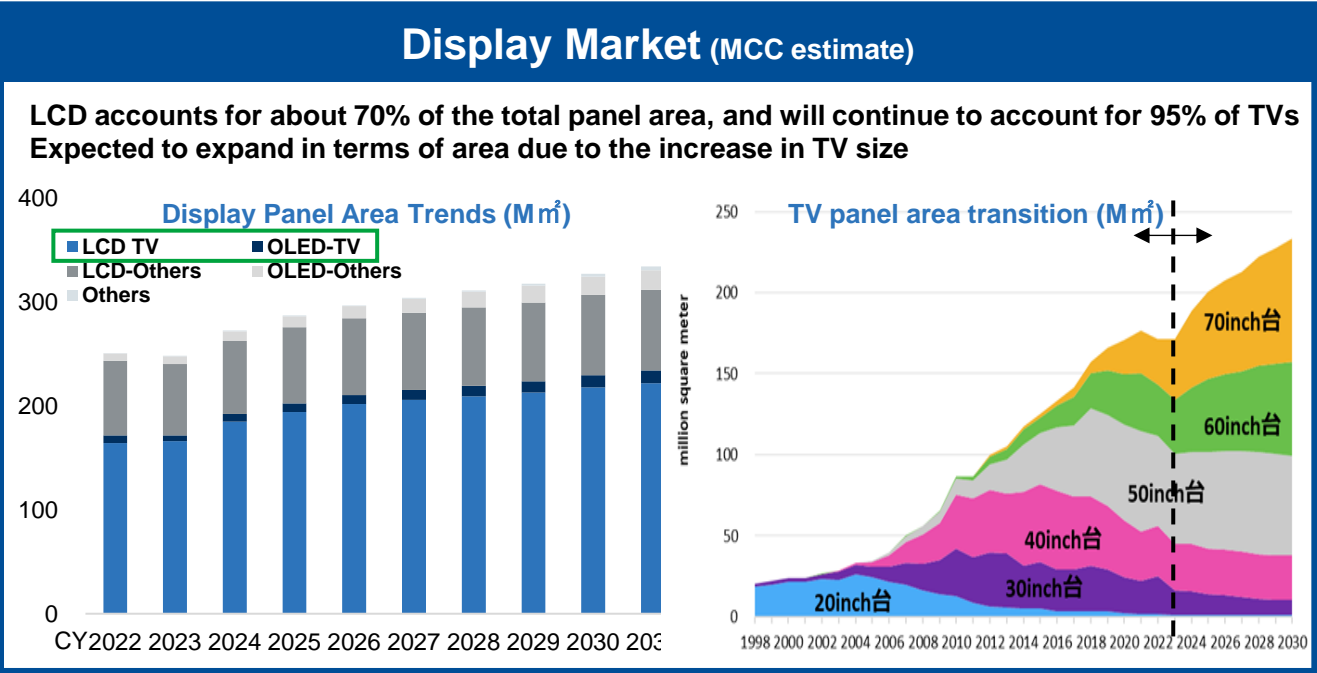


- 35% share (No.2) of the global market for PVOH film for polarizers used in liquid crystal display (LCD).
- Providing optimal materials through advanced polymer technology and film forming technology unrivaled by Chinese companies.
- 45μm OPL film, produced by our proprietary film-forming technology, is suitable for the production of high-transmission polarizers required for large-size TVs (2.4% reduction in TV power consumption compared to our conventional products).

Global share of 45 μm PVOH film for high transparency (our estimate)



Production location	Ogaki, Kumamoto
Global share	35% (MCC estimate)
Main customers	Polarizer Manufacturer (Regional sales: China 80%)



Product Outline



- Specialty polymer (EVOH) that combines the features of polyethylene (melt extrusion properties) and polyvinyl alcohol (gas barrier properties)
- Demand for EVOH is expected to increase in the future due to its ability not to interfere with polyolefin recycling against the backdrop of demand to promote the Circular Economy (CE).
- Expanding into floor heating pipes and other applications in addition to packaging materials

► Food packaging



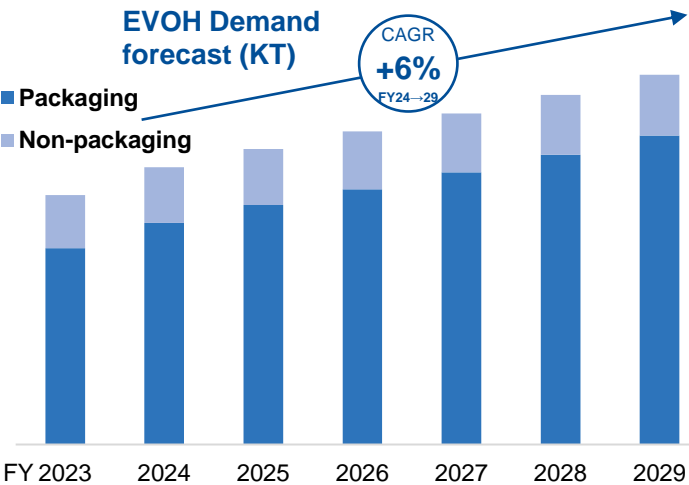
► Floor heating pipe



Production location	Okayama, United States, UK
Global share	35% (MCC estimate)
Main customers	Packaging material manufacturer

EVOH Market (MCC estimate)

Packaging applications are driving the market and demand will continue to grow.



Growth Strategy

Sales revenue



- Capture the increasing demand while maintaining market share by leveraging technological advantages to deter new entrants (UK capacity increase of 21 kt/year; commercial operation scheduled to commence in 2027)
- Enhance market share in packaging applications by obtaining early CE-related certification, anticipating stricter environmental regulations
- Aggressively develop applications that contribute to CE, aiming for 45% share by 2029
- Considering entry into new application markets, such as hydrogen fuel infrastructure-related applications

Recyclability certification from APR¹ and pre-qualification letter from How2Recycle^{®2}



How2Recycle

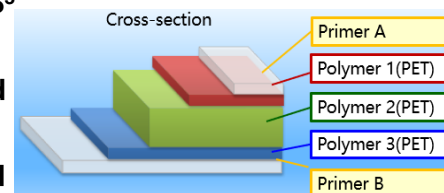
APR (The Association of Plastic Recyclers): An international trade association representing the plastic recycling industry.²
How2Recycle: A program of the Sustainable Packaging Coalition, a project of Greenblue, an environmental NGO in the United States.

Focus Product ③ Polyester film

Product Outline



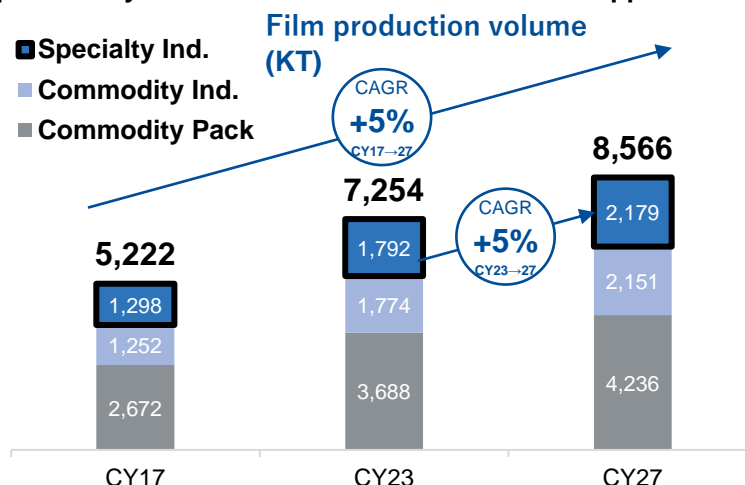
- Specialty polyester films with diverse properties are suitable for use as release films for LCD¹s, high-smoothness films for MLCC²s, and release films for PS³ labels
- Demonstrate a strong presence through local R&D and long-term commitment
- Technical superiority in thin film, raw resin design, and coating technologies tailored to meet customer needs (five-layer, five-function design technology platform)



Production location	Shiga, United States, Germany, Indonesia, China
Global share	20% (MCC estimate)
Main customers	Converter (Regional sales: 35% in Japan, 20% in other Asian countries including China, 25% in North America, 20% in Europe)

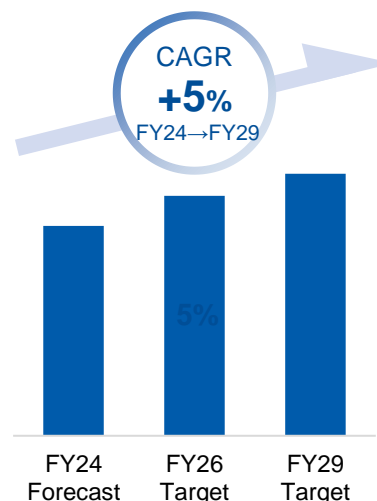
Polyester film market (MCC estimate)

The market is expected to continue growing steadily, particularly in electronic devices and industrial applications



Growth strategy

Sales revenue



- Optimize global production structure by reducing high-cost production lines and increasing capacity (The installation of new lines in Indonesia and Germany is expected to increase production capacity by 50 Ktpa.)
- Shift to high-value-added applications and expand sales (OLED⁴, Mobility, Semiconductor, etc.)
- Asia: Increase market share by leveraging technological superiority in MLCC applications where miniaturization is advancing (obtain customer certification)
- Europe and United States: Develop new needs and capture the growing demand for PS Liners and industrial applications by leveraging regional R&D (optimize sales composition)

MLCC



PS Liner

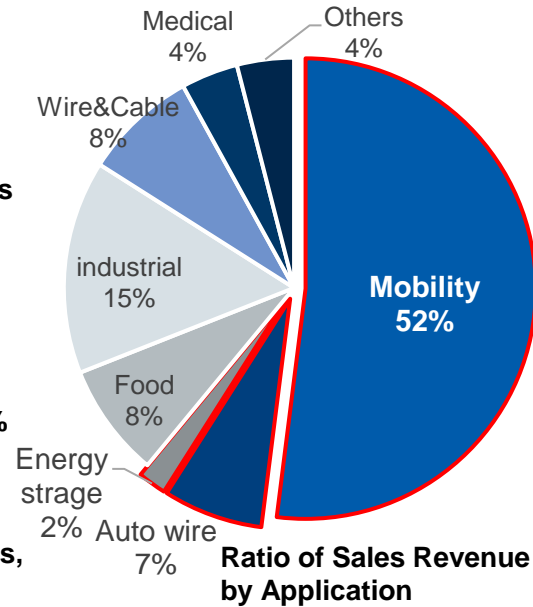


1. Liquid Crystal Display
2. Multi-Layer Ceramic Capacitor
3. Pressure sensitive
4. Organic Light Emitting Diode

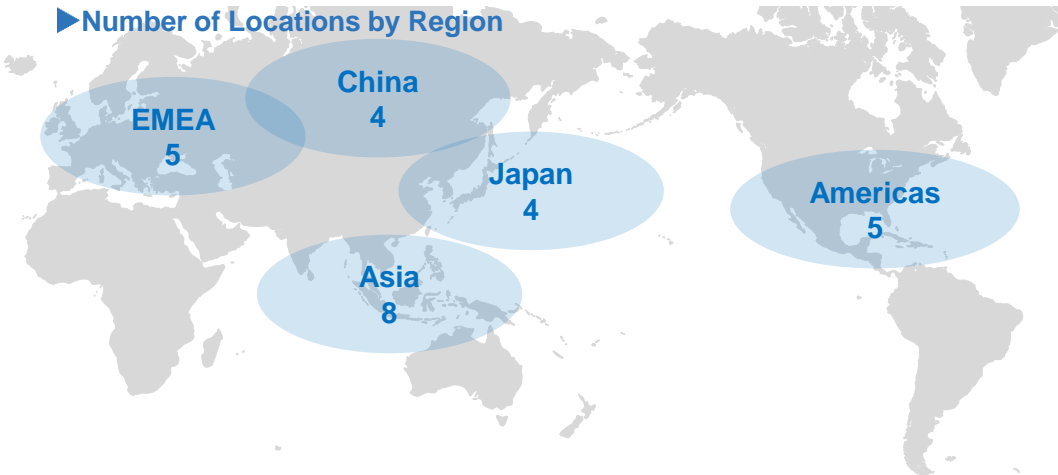
Focus Product ④ Performance polymers

Business overview

- This is an asset-light (recipe business) operation that can flexibly respond to changes in the market environment.
- By utilizing compounding and kneading technologies, we address customer needs and offer solutions that competitors will find challenging to replicate.
- Wide range of technologies and product lineup
- Mobility-related products account for 60% of sales revenue
- Establish a global production and supply structure across five regions, 13 countries, and 26 locations

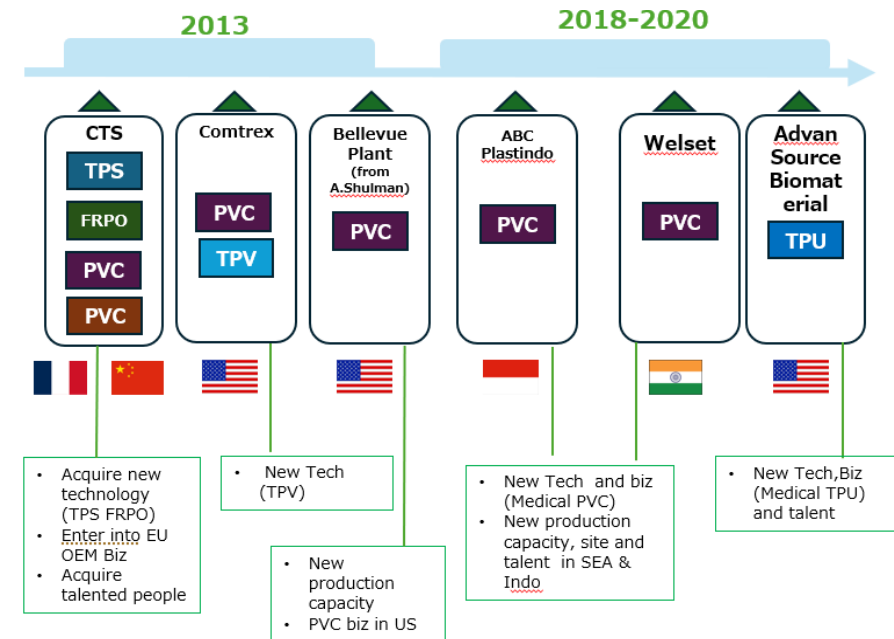


Number of Locations by Region



Global development and further growth strategy

- Background of global development and portfolio strengthening
Through strategic acquisitions, we obtain business foundations, production sites, and new technologies in new regions, driving business growth and expansion.
- Further growth strategy
“Become the undisputed No.1 leader in the mobility sector”
by integrating the strengths of other compound businesses within the group and Performance polymers
- Establish a new core business following mobility by continuously pursuing M&A opportunities, emphasizing the acquisition of new technologies, applications, and sites



Focus Product ④ Thermorun™ (airbag cover material)

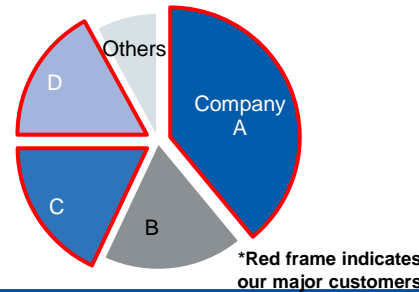
Product Outline



- Thermoplastic elastomer with excellent high-temperature strength and low-temperature impact resistance for automotive airbag applications
- We have the technological advantage with superior appearance, moldability, and formulation design capabilities, as well as a technical support system that leverages our global footprint.
- Widely deployed in major airbag module manufacturers and top share in the world

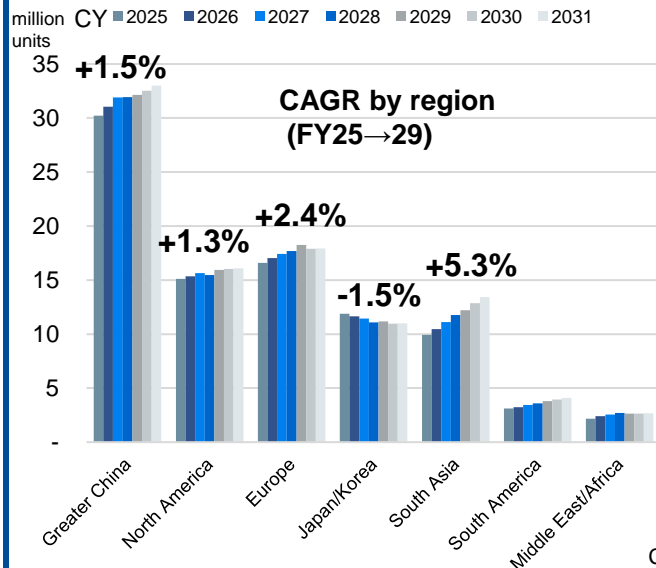


Airbag module market share (MCC estimate)

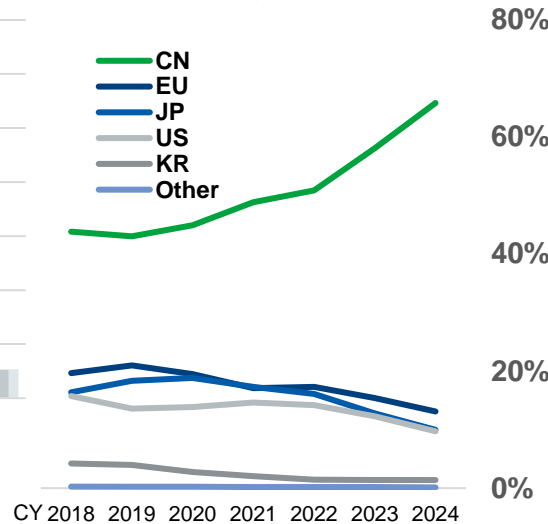


Production location	Europe, China, Thailand, India, Japan, United States
Global share	Over 50% (MCC estimate)
Main customers	Airbag module manufacturer (Regional sales: 40% in the United States, 20% in China, 20% in Japan, etc.)

Production volume of passenger and commercial vehicles (MCC estimate)

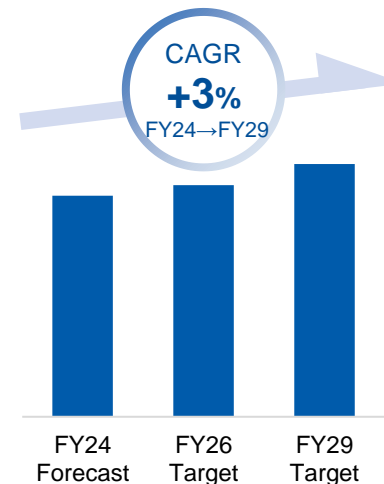


OEM country share (%) in China



Growth strategy

Sales revenue



- Maintain leading market share through a locally based production structure for local consumption at global sites
- Expand production in India to secure the growing market demand (2027 plan)
- In China, where Chinese OEMs are rapidly expanding, we aim to maintain our share of over 60% for driver seat airbags and increase our share by reducing costs through the localization of raw materials for passenger seat airbags.

Contents

4 Advanced Solutions Business Strategy

**Mitsubishi Chemical Corporation
Executive Officer
Head of Advanced Solutions
Satoshi Wakabayashi**

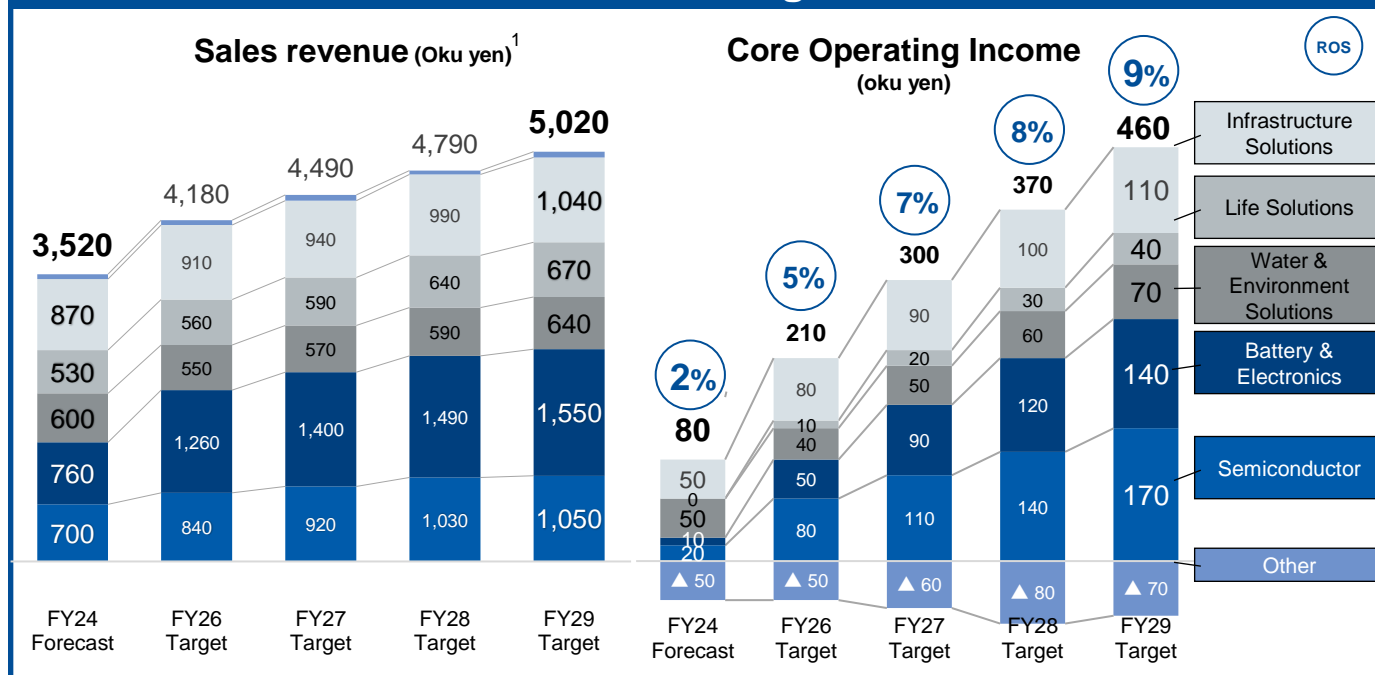
Advanced Solutions Business Strategy

“Continually create solutions to industry challenges with our comprehensive chemical engineering capabilities and grow together.”

Business Strategy

- Increase and expand production of top-share products in line with semiconductor market growth.
- Full-scale commercialization of new “low-expansion natural anode materials” for automotive lithium-ion batteries.
- Accelerate overseas sales expansion of Sugar Ester emulsifier.

New Medium-Term Management Plan 2029



Focus Products



Product: Lithomax™
Global share: 30%² (Exclusive polymer manufacturer)
Main market: Semiconductors (photolithography)
 Semiconductor



Product: Low-expansion natural anode materials
Global share: 10th place²
Main market: Automotive lithium-ion batteries
 Battery & Electronics



Product: Specialty epoxy resins
Global share: Approx. 40%²
Main market: Semiconductor (Encapsulant, interlayer insulating film)
 Semiconductor



Product: Precision Cleaning Service
Global share: 40%²
Main market: Semiconductors (Manufacturing equipment)
 Semiconductor

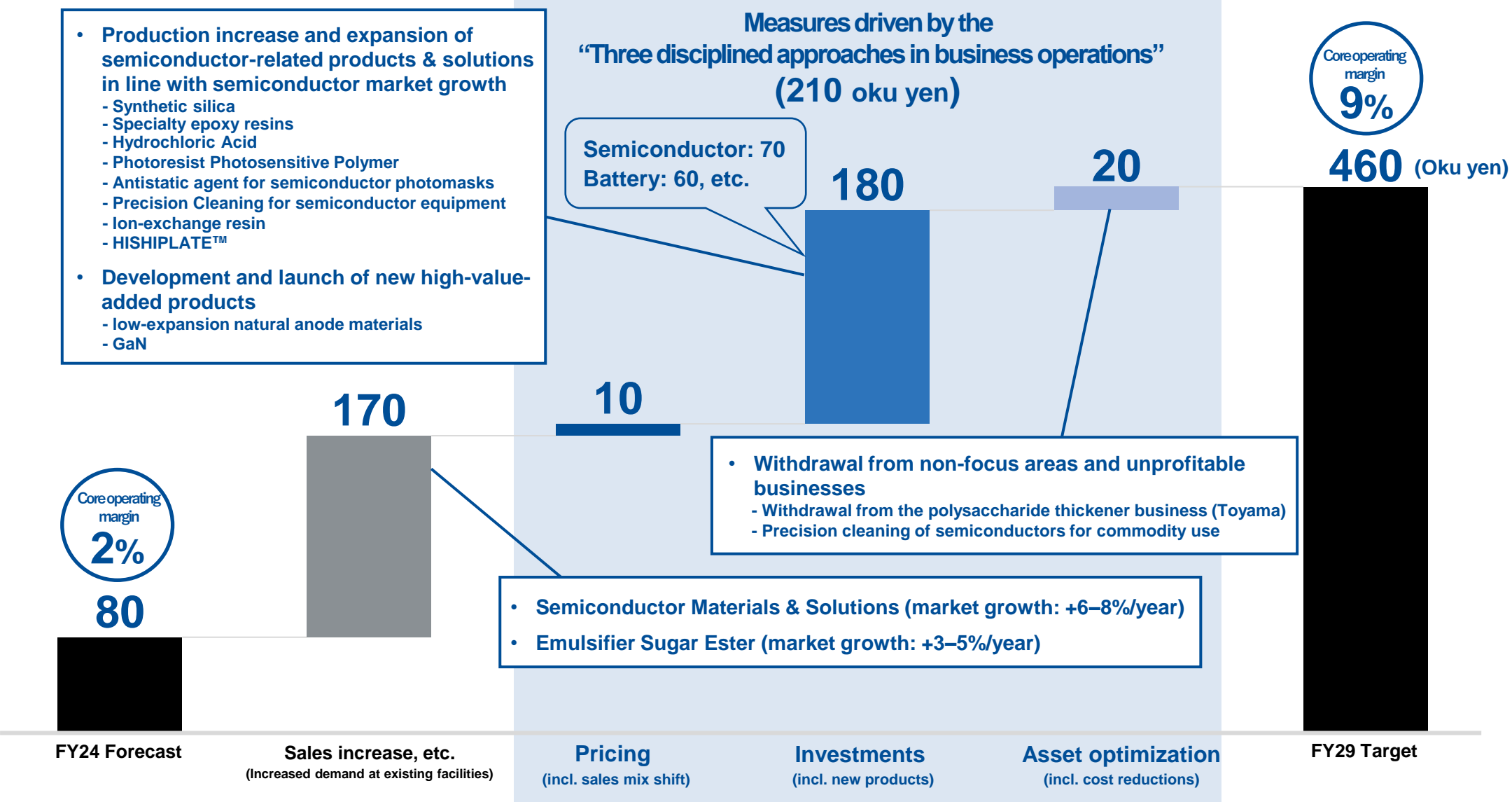


Product: Mitsubishi Synthetic Silica
Global share: 100%² (300mm wafer production use)
Main market: Semiconductors (silicon wafers)
 Semiconductor



Product: RYOTO™ Sugar Ester
Global share: 70%²
Main market: Processed food
 Life Solutions

Advanced Solutions Core Operating Income Growth Plan



Focus Product ① Low-expansion Natural Anode Materials

Product Outline



- Anode material for automotive lithium-ion batteries, primarily for electric vehicles (EVs)
- Developed a grade of natural graphite that surpasses the performance of synthetic graphite by suppressing expansion, which has been an issue with natural graphite and affects battery life. Addresses a wide range of customer requirements, such as rapid and low-temperature charging and discharging of batteries.

MCG's strengths

- Integrated production with our own unique technology
- Adoption of GHG emissions reduction processes

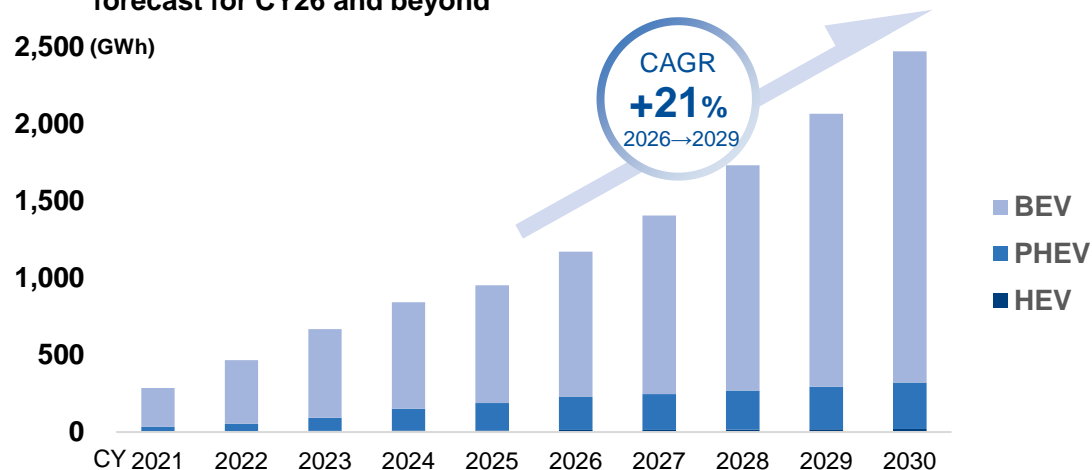
	Natural	Synthetic
GHG reduction	○	×
Cost	◎	×
Supply chain	◎	×
Performance	△→○	○

Overcame the issue of inferior battery life compared to synthetic

Production location	China, Kagawa
Global share	10 th place (MCC estimate)
Main customers	Global manufacturer of lithium-ion batteries (Regional sales: Japan 30%; China and the rest of Asia 68%; Europe 2%)

Automotive Lithium-Ion Battery Market

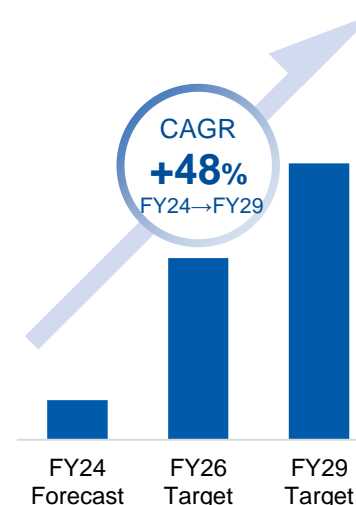
While growth slowed in recent years, global market expansion is forecast for CY26 and beyond



Source: B3 Report 24-25

Growth Strategy

Sales Revenue



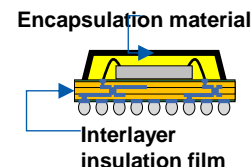
- Capacity increase at the Kagawa Plant (production capacity: 11,000 tons/year; commercial operation to begin in Oct. 2026)
- While leveraging the technological superiority of low-expansion natural anode materials, win customers by building a supply system that can respond flexibly to geopolitical risks.
- Reduce GHG emissions by approximately 40% compared to by developing a cost-competitive and environmentally compatible process design. Strengthen the supply chain to increase market share in automotive applications, especially EVs.

Focus Product ② Specialty Epoxy Resins

Product Outline

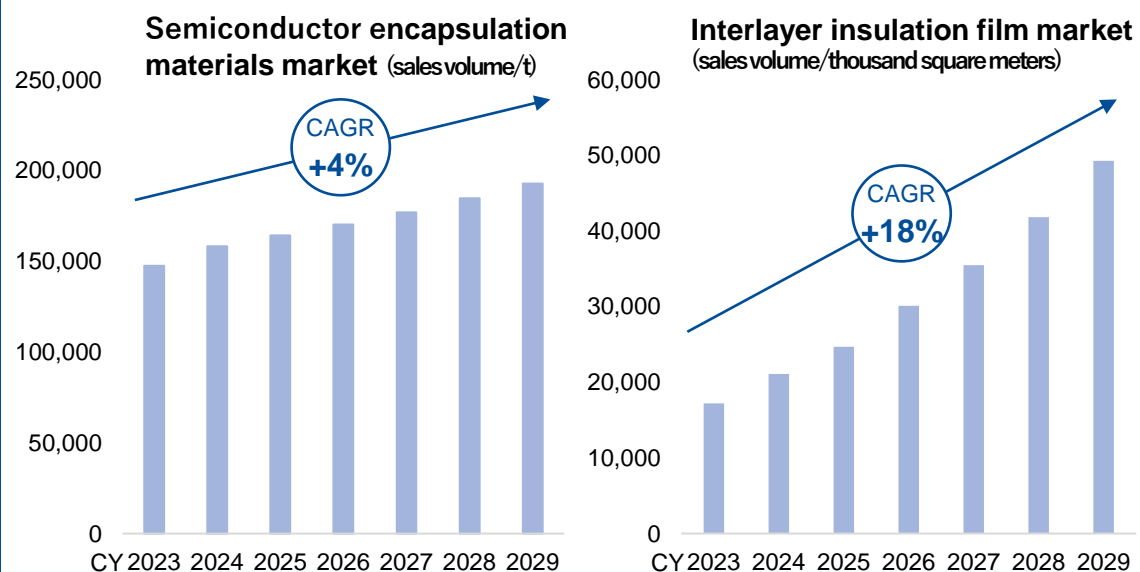


- **Crystalline epoxy resin for IC package encapsulants:** These encapsulants cover semiconductor chips, protecting them from heat, moisture, shock, and other environmental factors. The epoxy resin features high fluidity, dimensional stability, and heat resistance, along with excellent insulation and adhesive properties.
- **Epoxy resins for interlayer insulation films (high-molecular and low-molecular):** Interlayer insulation films are materials used to insulate fine wiring in semiconductor package substrates. These epoxy resins provide excellent insulation and adhesion properties, along with a low dielectric constant, heat resistance, and high dimensional stability.
- **MCG's strengths:** Molecular design technology tailored for specific applications that ensures low chlorination and management process of chlorine-based contaminants through proprietary technologies



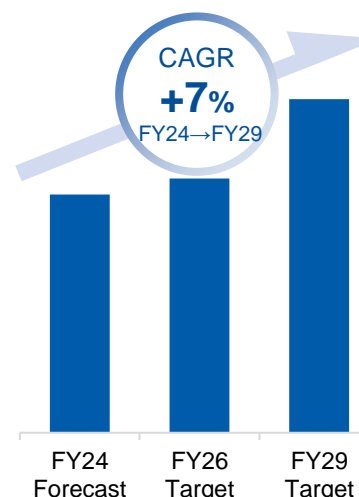
Production location	Mie, Fukuoka
Global share	Approx. 40% (MCC estimate)
Main customers	Semiconductor encapsulation material manufacturer Interlayer insulation film manufacturer

Semiconductor encapsulation materials market / Interlayer insulation film market (MCC estimate)



Growth Strategy

Sales revenue



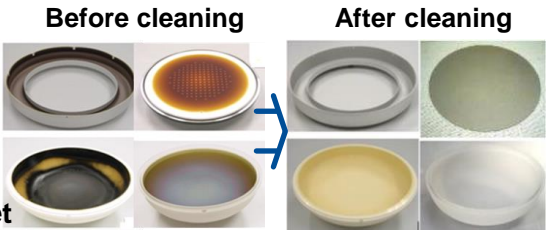
- Restructure the portfolio to create a healthy business and achieve growth in line with semiconductor demand from encapsulation materials and interlayer insulation films
- Improve evaluation technology and accelerate development speed to bring materials for semiconductor back-end processes to market in a timely manner, ensuring high profitability
- Leverage multiple production sites to adjust to future increases in semiconductor demand

Focus Product ③ Precision Cleaning

Product Outline

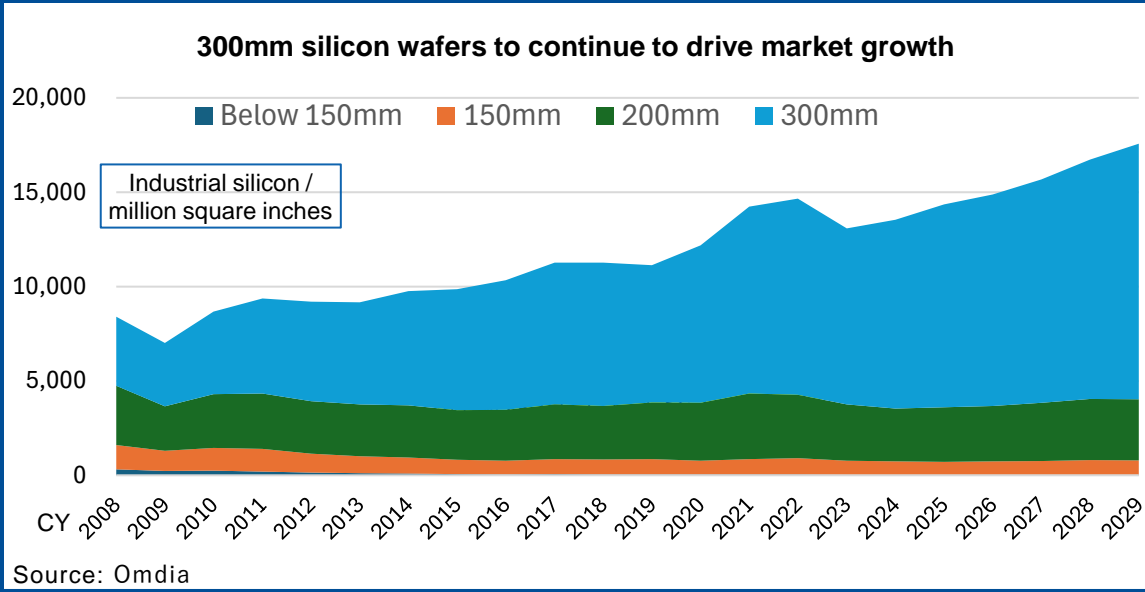


- Cleaning service for chamber parts used in semiconductor manufacturing equipment An essential process for maintaining yield and quality in semiconductor manufacturing
- Optimal cleaning formulas for each part's material and shape
- Provide cleaning formulas customized to meet regional and customer-specific needs with locations around the globe



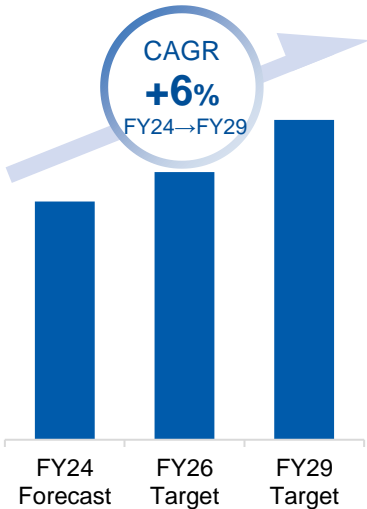
Production location	Japan, Taiwan, China, South Korea, Germany, France, United States
Global share	40% (MCC estimate)
Main customers	Semiconductor equipment manufacturer Semiconductor manufacturer

Silicon Wafer Market (MCC Estimate)



Growth Strategy


Sales revenue



- Reinforce and expand sites to align with market growth; the new Fukushima plant to begin operations in October 2026
- Focus on cutting-edge semiconductor markets by refining next-generation cleaning technologies through strong partnerships with semiconductor equipment manufacturers
- Contribute to the creation of new supply chains for customers by leveraging global footprints

Focus Product ④ Mitsubishi Synthetic Silica

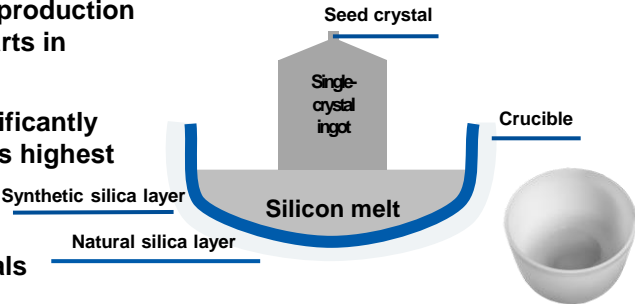
Product Outline



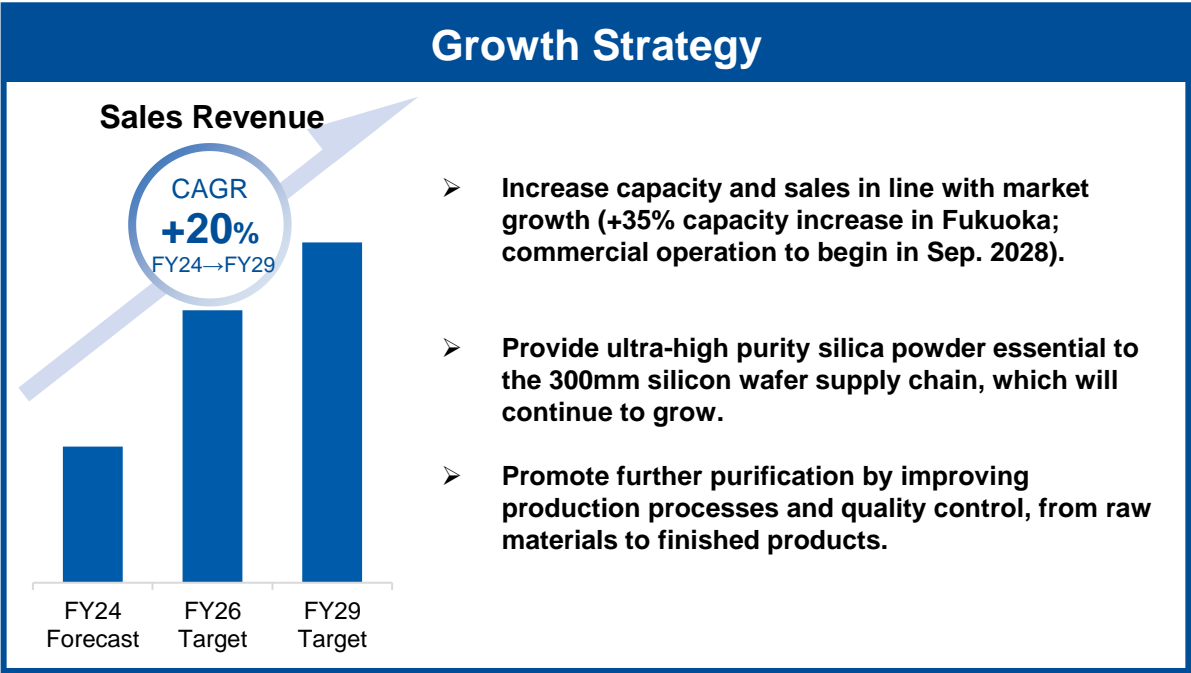
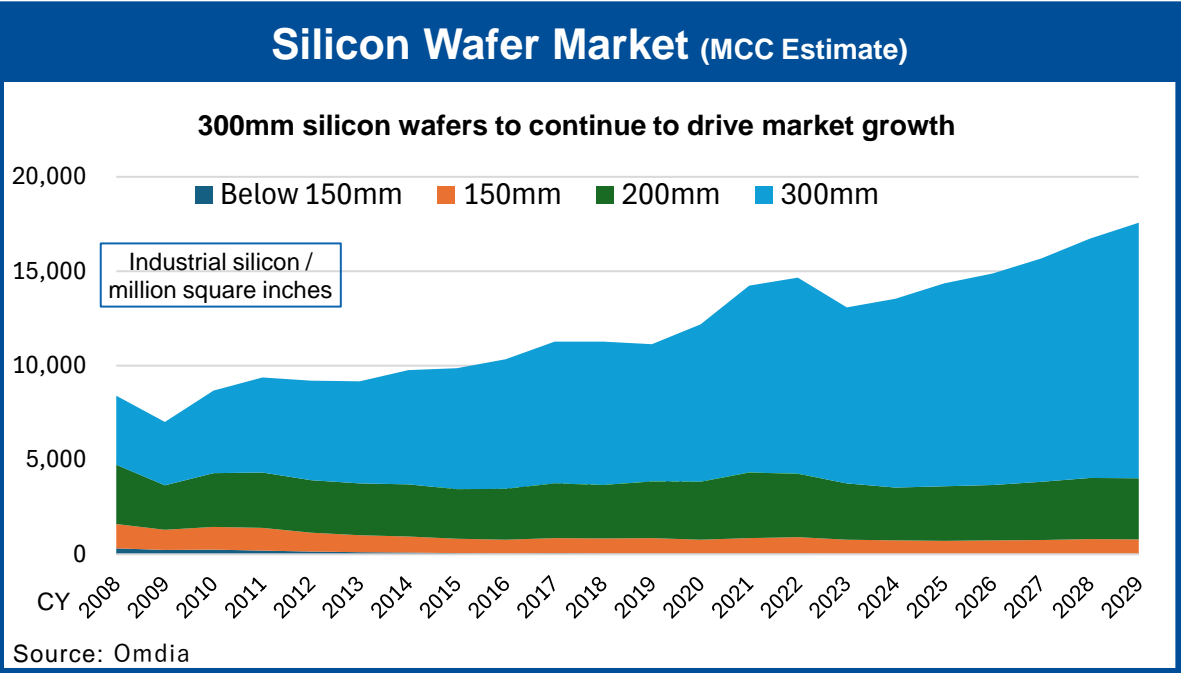
- The world's purest synthetic silica powder used as raw material for quartz crucibles employed in the production of silicon wafers and for high-purity quartz parts in semiconductor manufacturing equipment.
- Prevents inclusion of impurities that can significantly degrade wafer quality by achieving the world's highest level of purity for sand-type silica.

MCG's strengths

- Integrated production process from raw materials
- Advanced quality control



Production location	Fukuoka
Global share	100% (300mm wafer production application)
Main customers	For silicon single crystal pulling Crucible manufacturers



Focus Product ⑤ Emulsifier RYOTO™ Sugar Ester

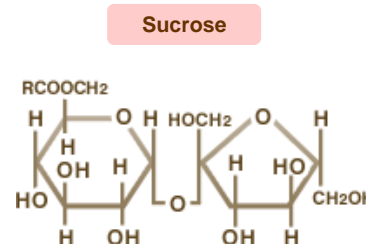
Product Outline



- Consisting mainly of sucrose and fatty acids derived from vegetable oils and fats, it is capable of uniformly mixing water and oil. Contributes to maintaining quality during food processing and distribution/storage.
- Offers a wide range of products with different physical properties, with different fatty acid types and degrees of esterification available.

MCG's strengths

- A rich lineup of high-quality, high-purity products
- Possession of a wealth of utilization technologies in processed foods



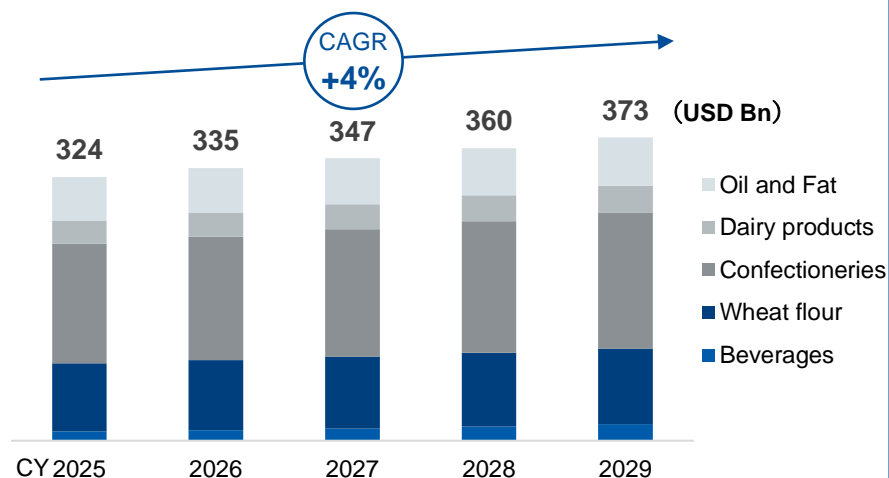
Fatty acid(RCO)

lauric acid
Myristic acid
Palmitic acid
Stearic acid
Oleic acid
Behenic acid
Erucic acid

Production location	Mie, Fukuoka
Global share	70%
Main customers	Major beverage, confectionery, and oil and fat product manufacturers in Japan (Regional sales: Japan 47%; China and the rest of Asia 40%; North America 4%; Europe 9%)

U.S. Processed Food Market (MCC Estimate)

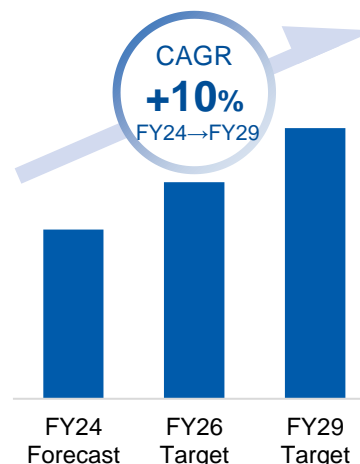
Continued growth expected in the U.S. processed food market



Source: MCC estimate based on Statista Market Insight

Growth Strategy

Sales Revenue



- Create new markets overseas for sugar esters as a high-quality emulsifier that does not interfere with "taste" and is highly adaptable to various processing applications.
- Accelerate global expansion based on the increased capacity (+1,100 tons/year, +10% capacity increase; commercial operation to begin in Mar. 2026) from the new plant constructed in the Kyushu-Fukuoka Plant.
- Increase local sales and technical support staff for expansion of sales in the U.S.
- Increase sales to processed food manufacturers by promoting compounded formulations.
- Strengthen channels and promotions through the use of digital marketing.

Contents

5 Advanced Composites & Shapes Business Strategy

**Mitsubishi Chemical Corporation
Executive Officer
Head of Advanced Composites & Shapes
Franck Ruel**

Advanced Composites & Shapes Business Strategy

“Focus on high-value-added businesses through a comprehensive product lineup, initiatives with key customers, and unique technologies.”

Business Strategy

- Rationalize through consolidation, optimize unprofitable facilities, and withdraw from low-profit businesses.
- Focus on high-value-added businesses and expand sales.
 - Semiconductor manufacturing equipment and medical applications (high-performance engineering plastics)
 - High-end carbon fiber and mobility applications (carbon fiber, composites)

Organization

- As 75% of revenue is out of Asia, we set a matrix organization balancing Japanese and overseas business culture. (50+ sites globally)

Focus Products



Product: Plastic components for semiconductor manufacturing equipment
Main market: Semiconductor manufacturing equipment

High-performance engineering plastics



Product: Plastic components for medical applications
Main Markets: Implants such as Artificial hip joints and other

High-performance engineering plastics



Product: Carbon fiber, Composites
Main Markets: Aerospace, Defense, Sports

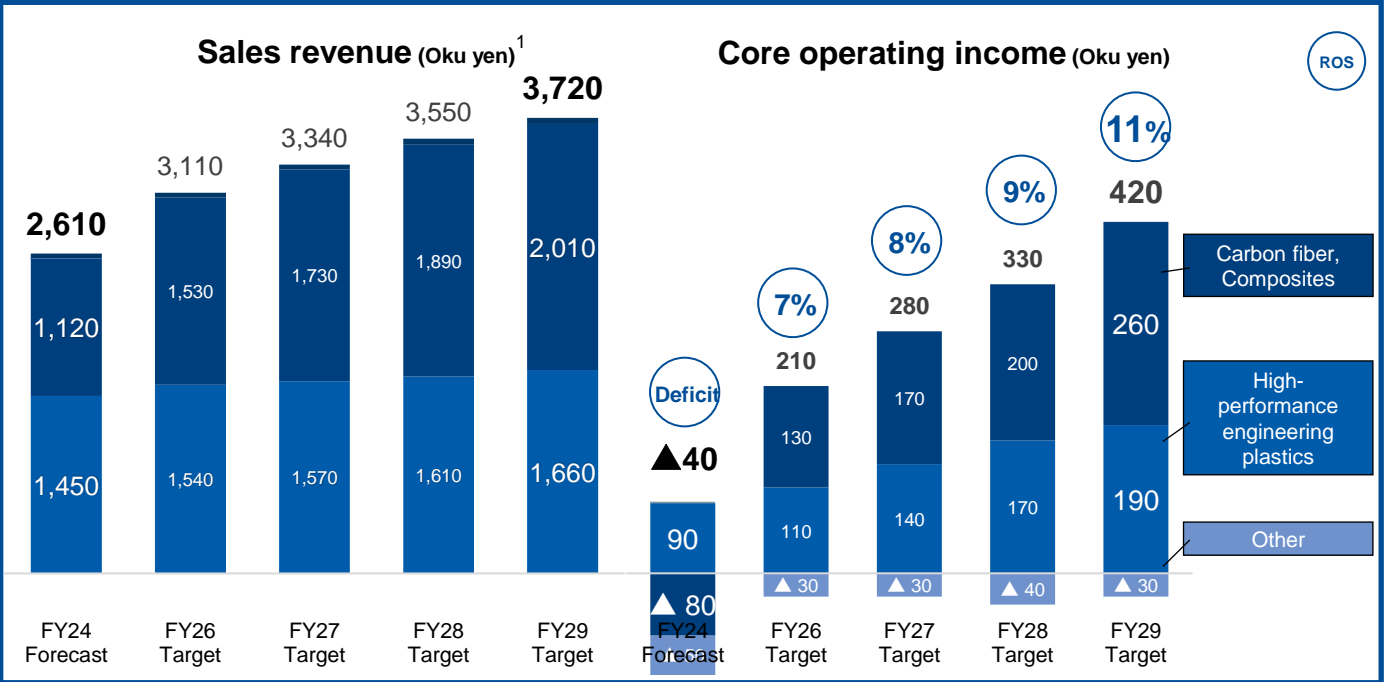
Carbon fiber, Composites



Product: CFRP mobility parts
Main markets: Hypercars, next-generation mobility

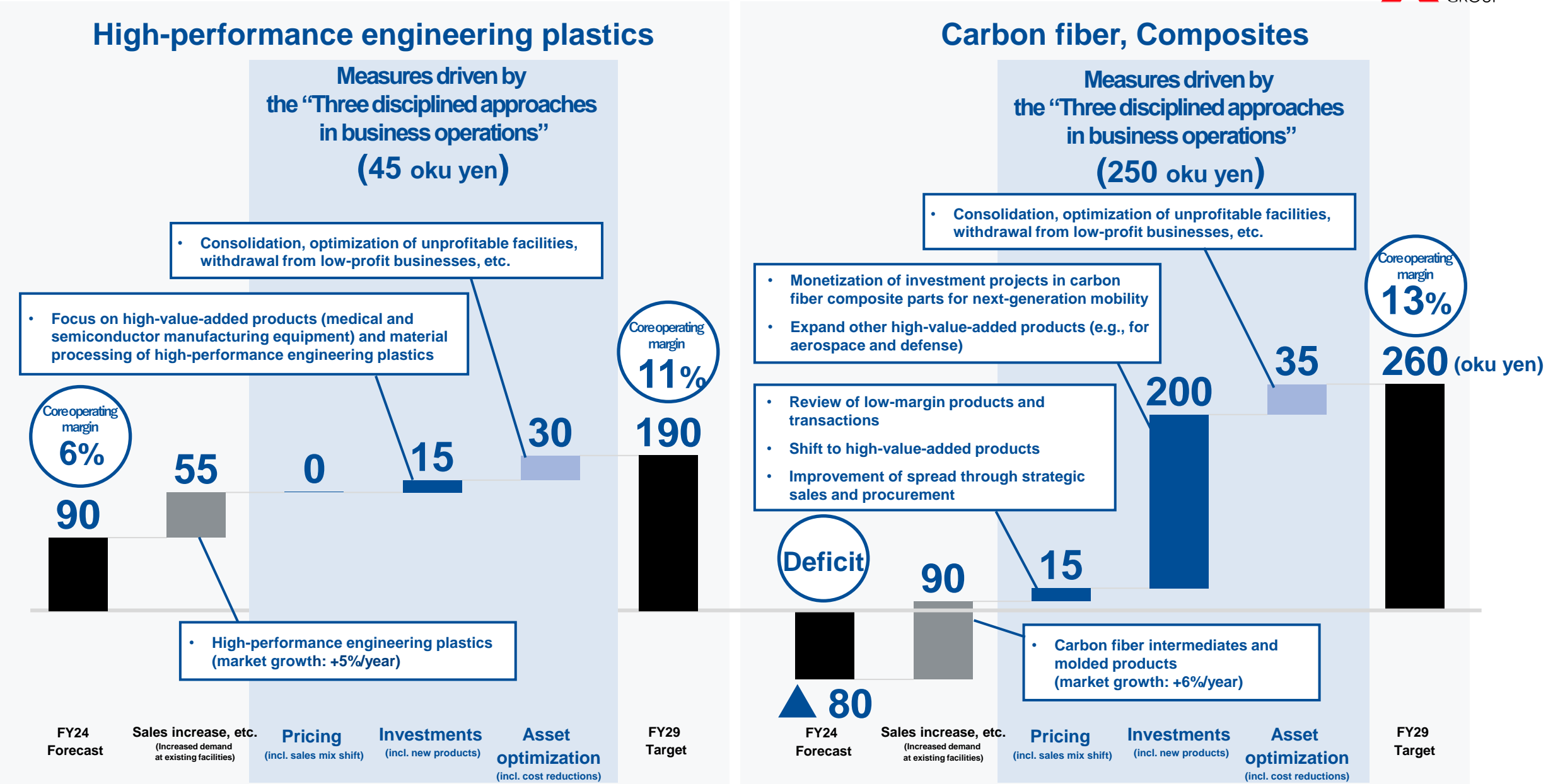
Carbon fiber, Composites

New Medium-Term Management Plan 2029




¹ The total figures include other adjustments. However, the graph does not show such adjustments, and the segment totals do not match the actual totals.

Advanced Composites & Shapes Core Operating Income Growth Plan



Rationalization through Consolidation, Optimization of Unprofitable Facilities, Withdrawal from Low-Profit Businesses, etc.

Items targeted for completion in FY2025	Initiative	Effect
High-performance engineering plastics	<ul style="list-style-type: none"> Transfer and consolidation of engineering plastics recycling sites from Appenzell (Switzerland) to Lenzburg (Switzerland) 	<div>Core operating income</div> <div>+18 (Oku yen) /year</div>
Carbon fiber, Composites	<ul style="list-style-type: none"> Withdrawal from the unprofitable automobile business by the group company Wethje Carbon Composites GmbH (Germany). Focus on the aerospace business. Close the glass fiber reinforced thermoplastic (SymaLITE ®) manufacturing plant (Canada). Absorb demand at partner companies in Germany, Slovakia, and China. Close the CFRTP pellet manufacturing plant (Aichi). Outsource production to an external partner company to ensure price competitiveness and flexibility of production capacity. ... 	



Optimize upstream capacity of carbon fiber and composites, continue strengthening competitiveness by reforming structure for high-performance engineering plastics, and realize profit improvement through asset optimization as soon as possible.

Focus on High-Value-Added Business: High-Performance Engineering Plastics

Semiconductor manufacturing equipment applications

- A broad range of products for semiconductor manufacturing equipment applications, from front-end to back-end processes



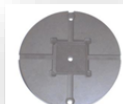
Chemical nozzle



Chemical cup
Wafer support



Retainer Ring



Device Guide



Test socket

Medical applications

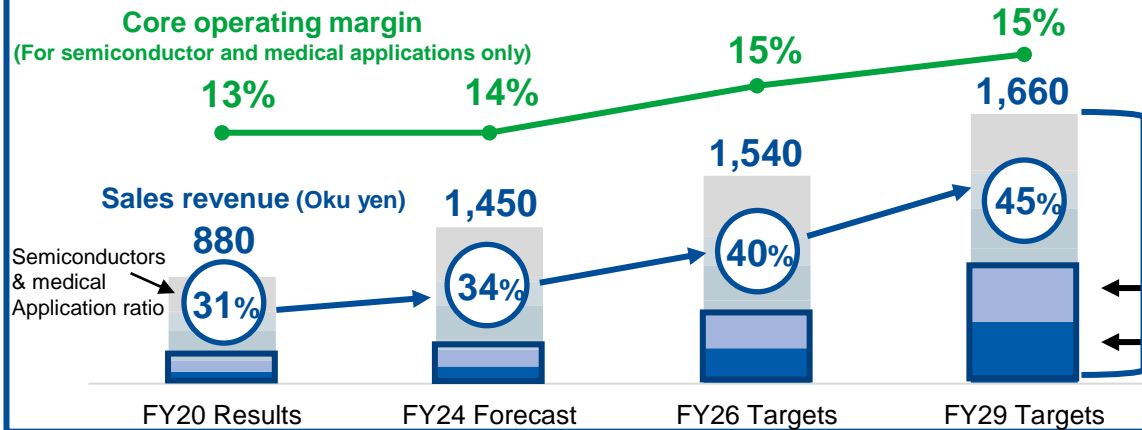
- A leading supplier of implant resin materials for spinal fusion cages and for hip and knee joint replacements (approx. 50% market share)



- A global production system to satisfy semiconductor equipment manufacturers



Sales growth in high-value-added businesses



- Strengthen profitability by capturing market growth in high-value-added applications

High-performance engineering plastic semi-finished products
All applications (Market Growth Rate*+5%/year)

Medical applications (Market growth rate*+8%/year)

Semiconductor manufacturing equipment applications (Market growth rate*+7%/year)

- Planned capacity increase to meet increasing demand for semiconductor manufacturing equipment parts in Thailand (x 5 increase / sequential expansion until completion in 2027)

- Capacity expansion also planned in Belgium (see next page for details)

*FY2024→2029 (MCC estimate)

Focus on High-Value-Added Businesses: High-Performance Engineering Plastics

Approved CAPEX:

Plans to increase capacity at Belgium plant for sales growth in high-value-added business

- Plans to install state-of-the-art extrusion molding equipment to respond to steady growth in demand. In addition to improving operational efficiency, production capacity will be increased (+15% increase in capacity/sequential expansion until construction is completed in 2028).
- Further strengthen profitability by capturing opportunities in high value-added markets and customer expansion.
 - Semiconductor
 - Medical
 - PFAS Alternatives
 - Energy (Oil & Gas)
 - Food & beverage packaging
- New recycling line will be installed to enable closed-loop recycling system on site.
- Plans to expand laboratory and R&D capabilities, positioning the Belgium plant as the European center of excellence for extrusion products and R&D

Rod lines

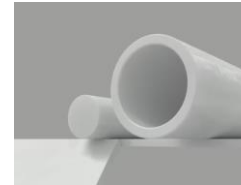
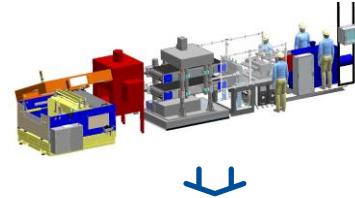
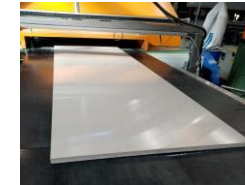
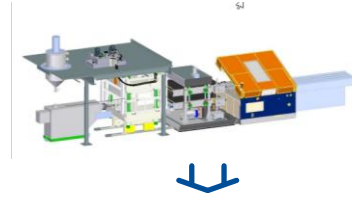


Plate lines



Recycling equipment



Tielt, Belgium Plant


Manufactures shapes by extrusion, injection molded parts and plastic parts with CNC machine
The energy used at this plant is already 100% green



Focus on High-Value-Added Businesses: Carbon Fiber, Composites for High-End Applications




Product Outline

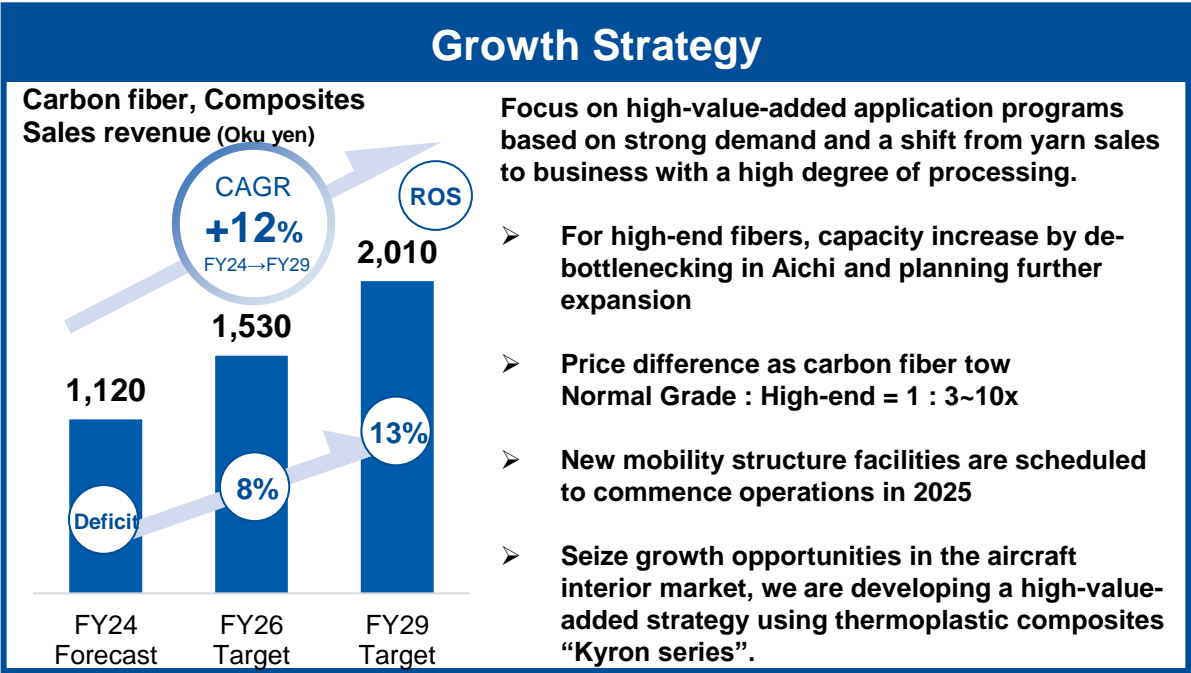
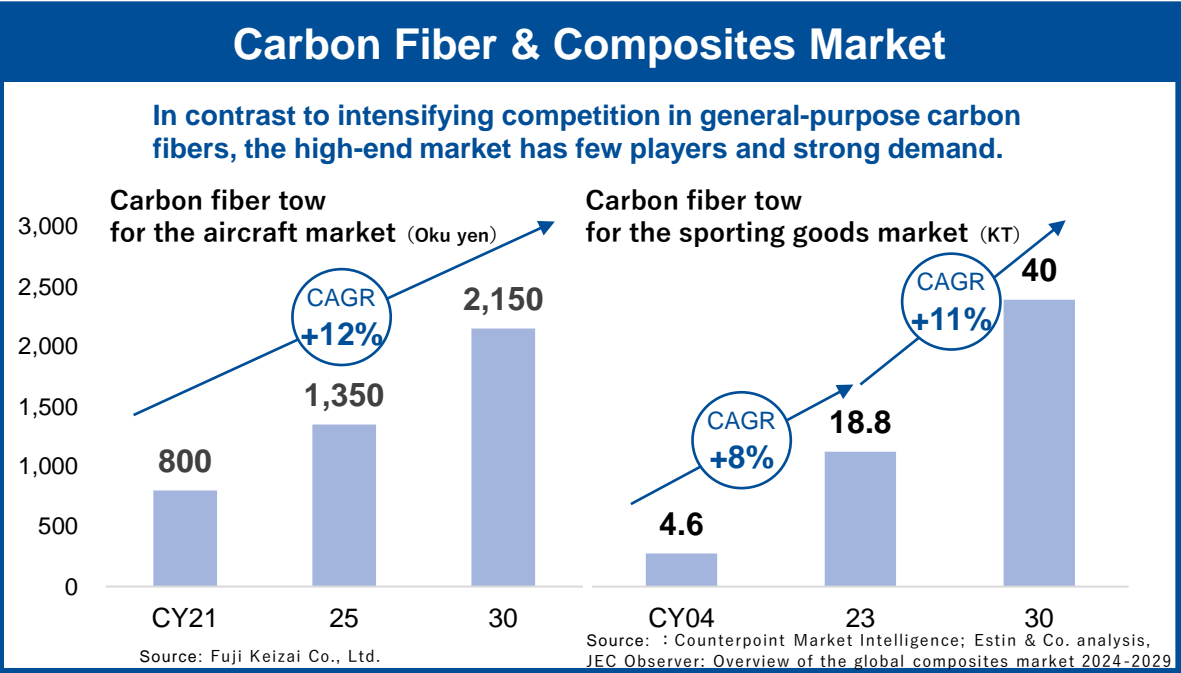


- As a fiber supplier, superior strength and modulus, and reliable quality are appreciated by industry-leading customers
- As a composite materials supplier, we have unique compression molding materials as preregs and SMC's
- With our superior CAE capabilities, we are able to perform advanced design and analysis of complex molded components.

- The world's only carbon golf shaft manufacturer capable of consistently executing everything from optimal material development to advanced design and molding



Major Production location	Aichi, United States (carbon fiber) Aichi, United States, Italy (composite materials) Italy, Vietnam, Japan (composite parts)
Main applications	Aircraft engine Aircraft interiors Defense programs High-end sports New mobility



Focus on High-Value-Added Businesses: High Performance Engineering Plastics, Carbon Fiber, Composites for High-End Applications

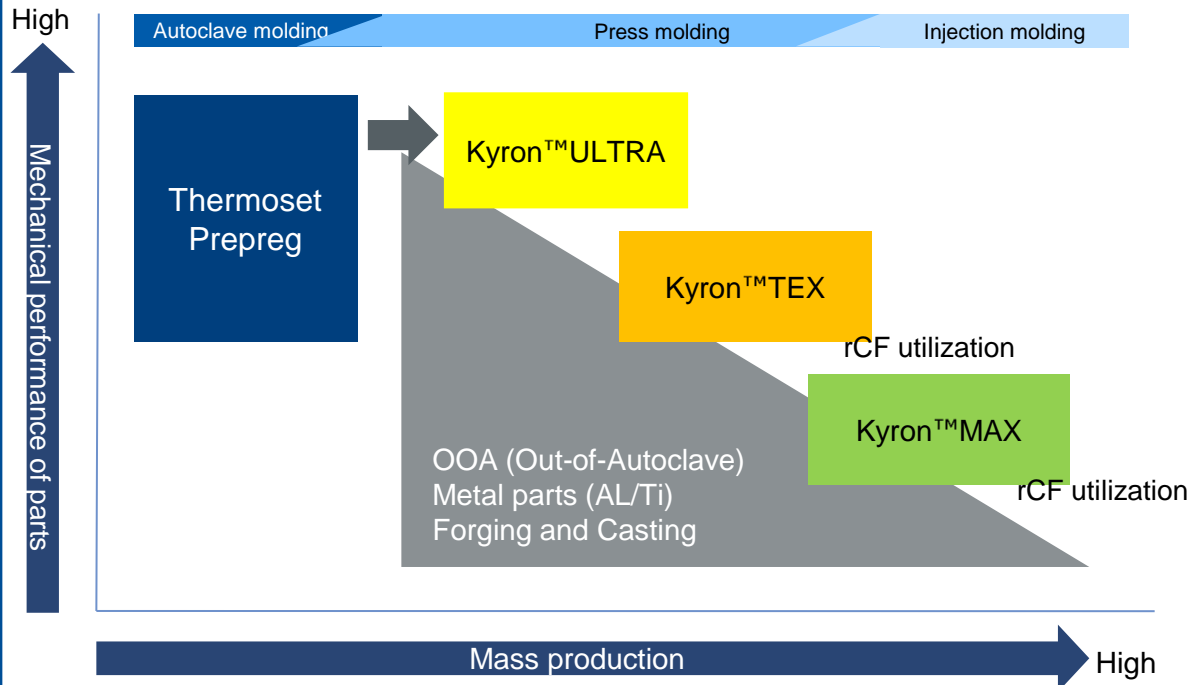
Seize growth opportunities in the aircraft interior market
with thermoplastic composites “Kyron series”

< Product Outline >

- The first stamp-able large sheet combining high-performance engineering plastics and chopped carbon fiber
- Increasing demand on recycled post-industrial waste products for thermoplastic prepregs
- To meet demand for much more aircraft interest growth in manufacturing from new materials such as thermoplastics and composites at high speed

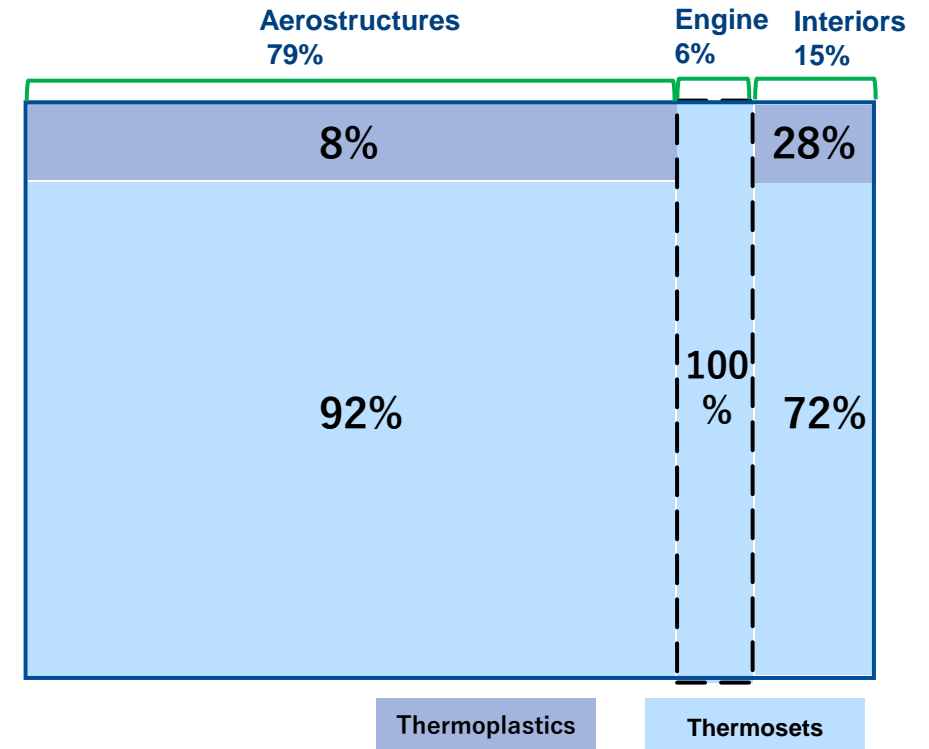
< Targets >

- All market segments with semi-structural parts
- Aircraft interior parts with lower mechanical performance requirements
- Preparing for future demand and lower availability of dry fiber residuals of non-crimp fabrics, bobbin residuals



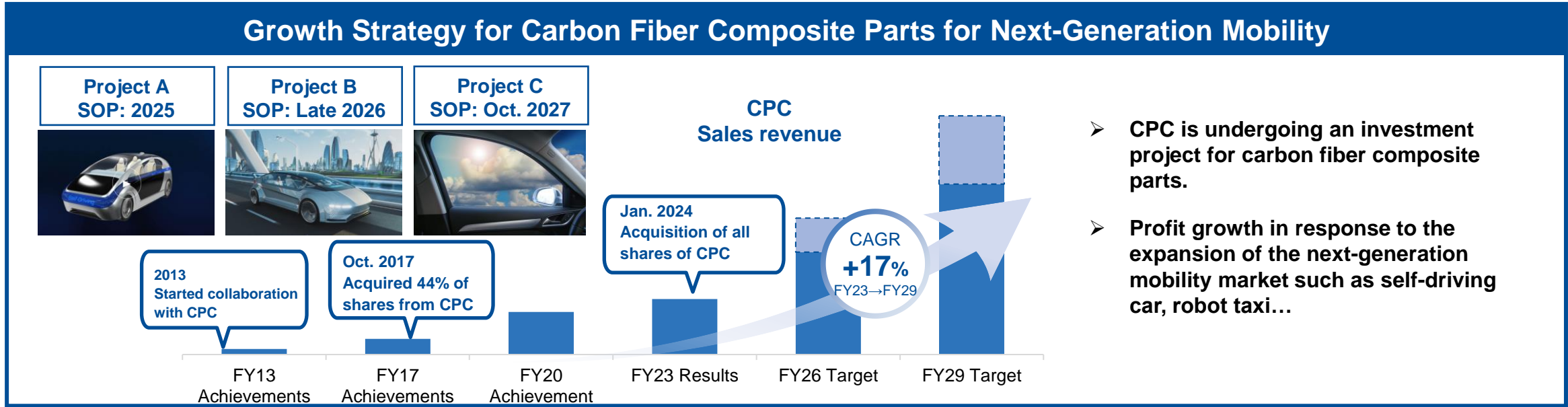
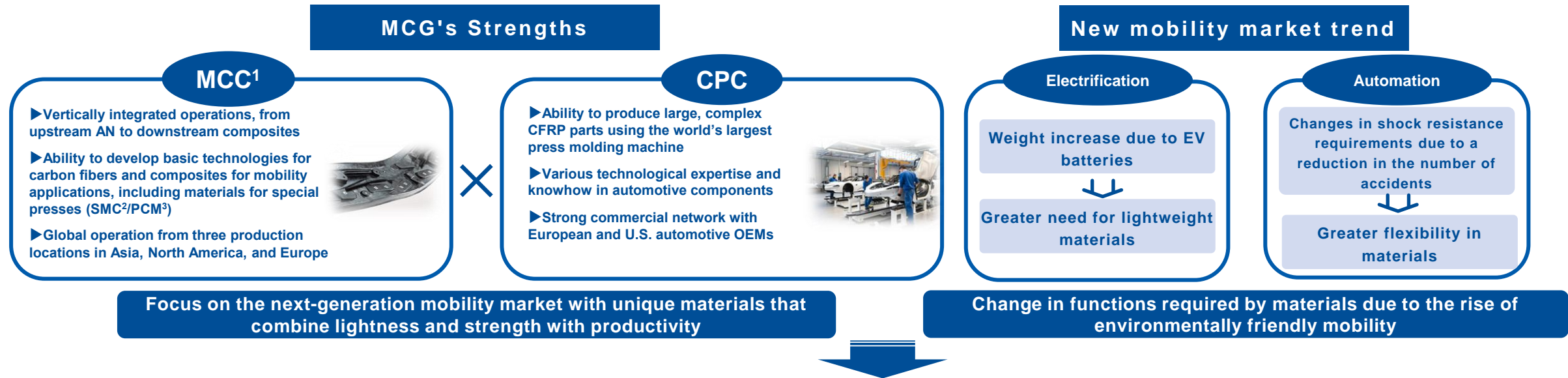
Market share of thermoplastics and thermosets
in each part in the aircraft parts market

- Thermoplastics account for 10% of the total aircraft market
- Higher volume production of CFRTTP to be required in near future. Kyron™series will provide added value and fulfill the market demand.



Source : Counterpoint Market Intelligence; Estin & Co. analysis,
JEC Observer: Overview of the global composites market 2024-2029

Focus on High-Value-Added Businesses: Carbon Fiber Composite Parts for Next-Generation Mobility



1 MCC : Mitsubishi Chemical Corporation
2 Sheet Molding Compound
3 Prepreg Compression Molding

New operating pilot assembly plant at CPC

With full integration from carbon fiber to composite parts





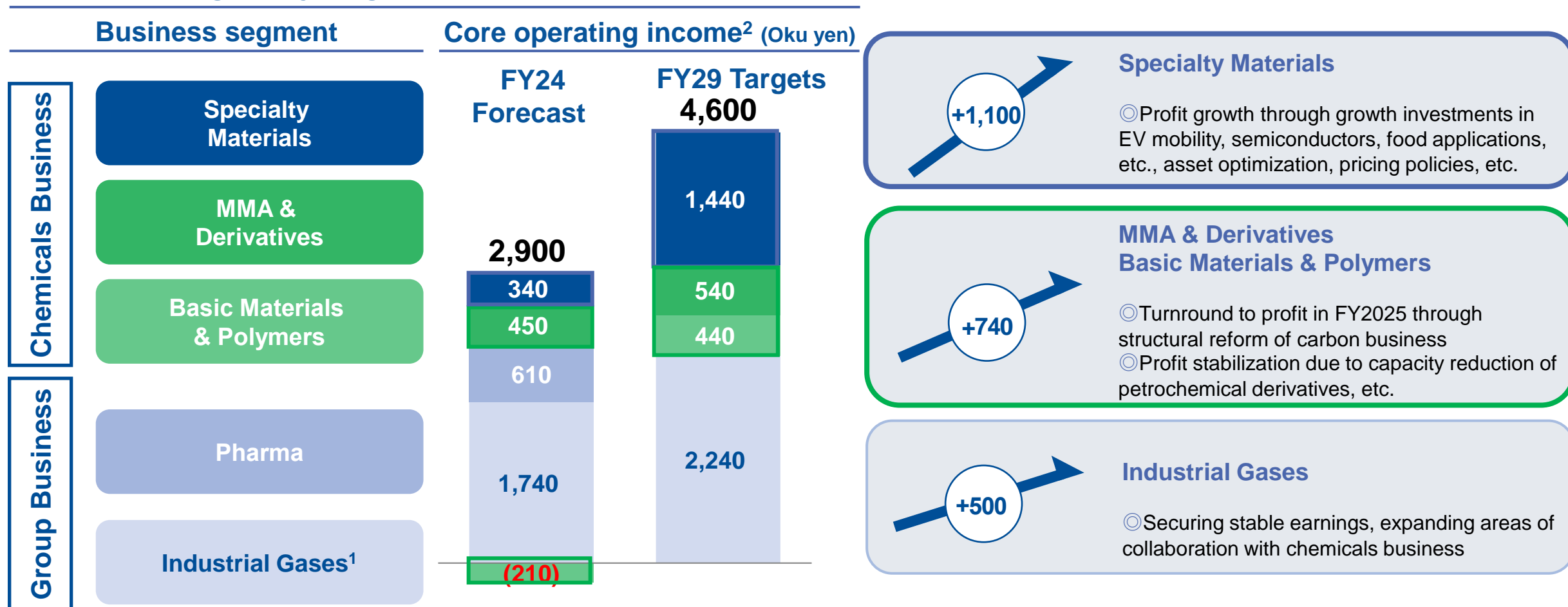
- **New Medium-Term Management Plan 2029 | Target by segment (After Pharma business transfer) Core operating income growth outlook**
- **New Medium-Term Management Plan 2029 | Chemicals business: Annual sales revenue, core operating income, core operating margin, and ROIC by segment**
- **Chemicals Business Major Growth Investment Plan (New Expansion and Service Enhancement)**
- **Divestiture/closure of non-core businesses in Chemicals**
- **Reference Materials by Segment**
- **Chemicals Business: Segment Information**

New Mid-term Management Plan 2029 | Target by segment

(After Pharma business transfer)

Making Chemicals Business highest earning segment

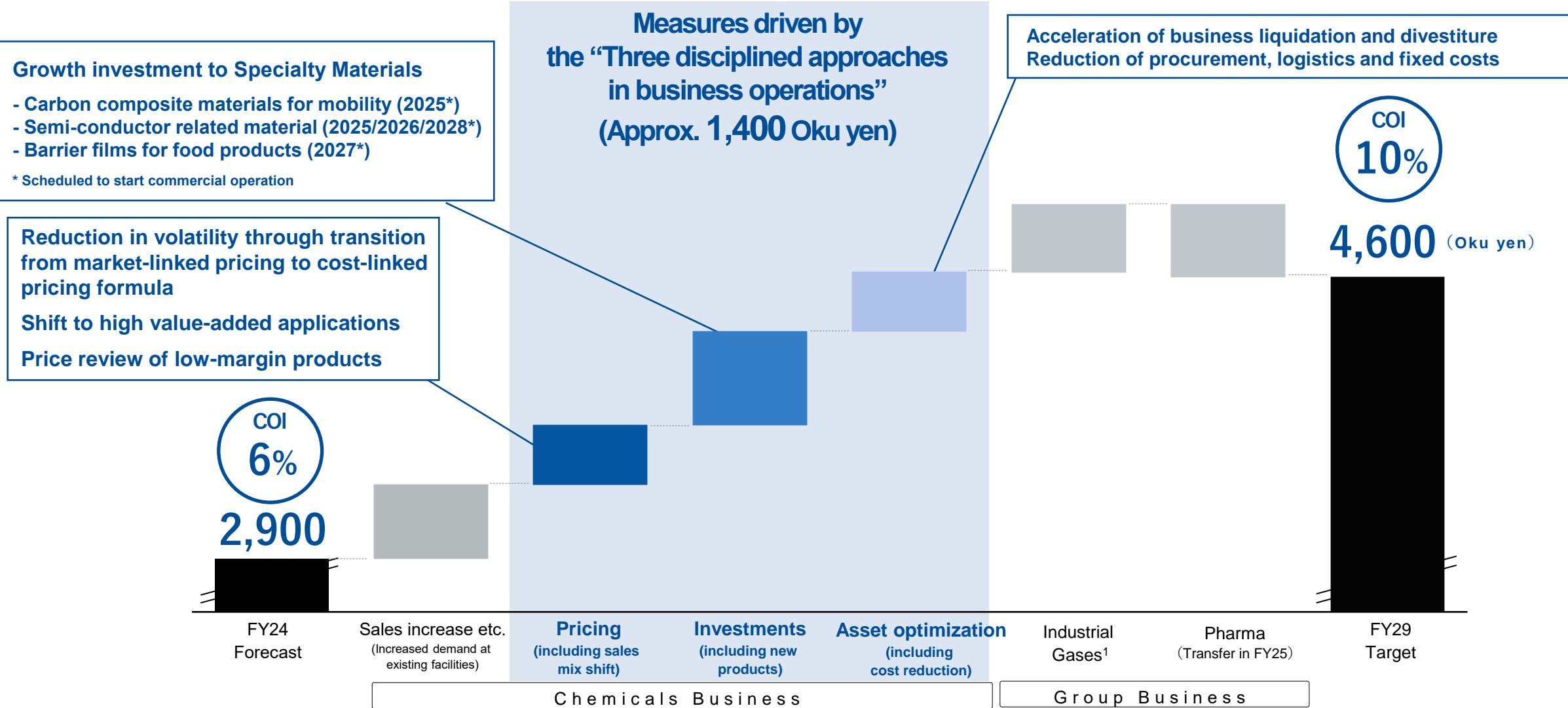
Targets by Segment after the transfer



¹ With regard to Industrial Gases Business, Mitsubishi Chemical Group (MCG) has made its own estimates based on "NS Vision 2026", which was formulated by Nippon Sanso Holdings Corporation in 2022, and incorporates the effects of continuous demand growth, price management, productivity improvements, etc.

² The total figures include other adjustments. However, the graph does not show such adjustments, and the segment totals do not match the actual totals.

COI growth of chemicals business through the “Three disciplined approaches in business operations”



1. With regard to Industrial Gases Business, Mitsubishi Chemical Group Corporation has made its own estimates based on "NS Vision 2026", which was formulated by Nippon Sanso Holdings Corporation in 2022, and incorporates the effects of continuous demand growth, price management, productivity improvements, etc

New Medium-Term Management Plan 2029

Sales Revenues, Core Operating Income, and ROS by Fiscal Year and Segment in Chemicals Business






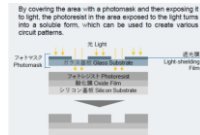
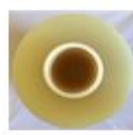

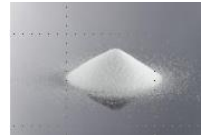
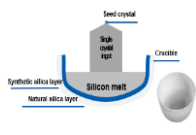








		Sales Revenues, Core Operating Income, and ROS by Fiscal Year and Segment in Chemicals Business					ROS				
		FY2024 Forecast	FY2026 Target	FY2027 Target	FY2028 Target	FY2029 Target	FY2024 Forecast	FY2026 Target	FY2027 Target	FY2028 Target	FY2029 Target
Chemicals Business	Sales Revenue	27,130	27,390	28,710	29,480	30,460	-	-	-	-	-
	Core Operating Income	550	1,360	1,730	2,000	2,360	2%	5%	6%	7%	8%
Specialty Materials	Sales Revenue	10,930	12,050	12,760	13,460	14,080	-	-	-	-	-
	Core Operating Income	340	740	1,000	1,190	1,440	3%	6%	8%	9%	10%
Advanced Films & Polymers	Sales Revenue	4,800	4,760	4,930	5,120	5,340	-	-	-	-	-
	Core Operating Income	300	320	420	490	560	6%	7%	9%	10%	10%
Advanced Solutions	Sales Revenue	3,520	4,180	4,490	4,790	5,020	-	-	-	-	-
	Core Operating Income	80	210	300	370	460	2%	5%	7%	8%	9%
Advanced Composite & Shapes	Sales Revenue	2,610	3,110	3,340	3,550	3,720	-	-	-	-	-
	Core Operating Income	▲ 40	210	280	330	420	-2%	7%	8%	9%	11%
MMA & Derivatives	Sales Revenue	4,170	4,050	4,310	4,280	4,380	-	-	-	-	-
	Core Operating Income	450	420	430	500	540	11%	10%	10%	12%	12%
MMA	Sales Revenue	3,250	3,160	3,280	3,220	3,280	-	-	-	-	-
	Core Operating Income	430	370	370	420	450	13%	12%	11%	13%	14%
Coating & Additives	Sales Revenue	920	890	1,030	1,070	1,100	-	-	-	-	-
	Core Operating Income	20	50	60	70	90	2%	6%	6%	7%	8%
Basic Materials & Polymers	Sales Revenue	10,140	9,240	9,550	9,590	9,850	-	-	-	-	-
	Core Operating Income	▲ 210	230	320	320	440	-2%	2%	3%	3%	4%
Materials & Polymers	Sales Revenue	8,070	7,850	8,150	8,180	8,440	-	-	-	-	-
	Core Operating Income	40	190	280	280	410	0%	2%	3%	3%	5%
Carbon	Sales Revenue	2,070	1,390	1,400	1,410	1,410	-	-	-	-	-
	Core Operating Income	▲ 250	40	40	40	40	-12%	3%	3%	3%	3%
Others	Sales Revenue	1,890	2,050	2,090	2,140	2,150	-	-	-	-	-
	Core Operating Income	▲ 30	▲ 30	▲ 20	0	▲ 60	-2%	-1%	-1%	0%	-3%

New Medium-Term Management Plan 2029

ROIC by Fiscal Year and Segment in Chemicals Business

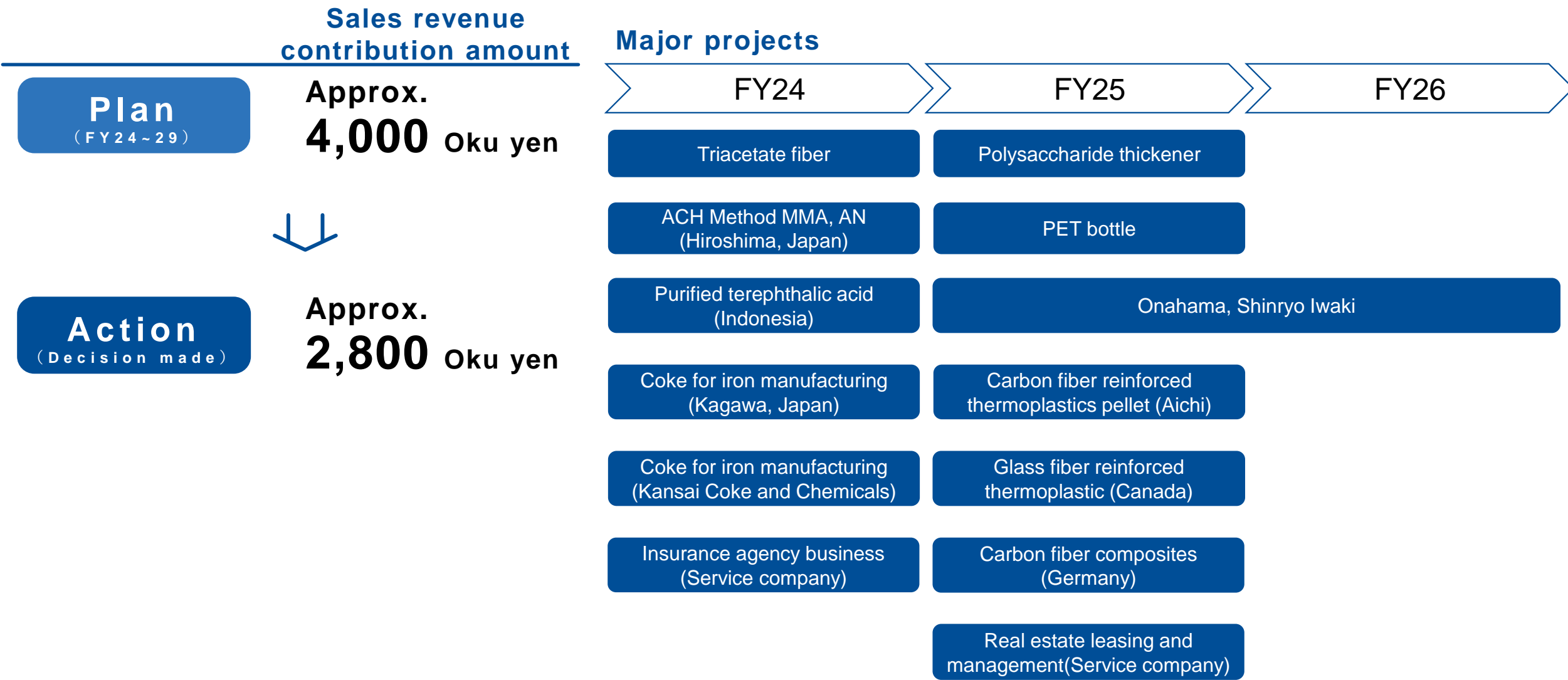
	FY2024 Forecast (announced in May 2024)	FY2026 Target	FY2027 Target	FY2028 Target	FY2029 Target
Chemicals Business	2.1%	4.3%	5.4%	6.2%	6.7%
Specialty Materials	2.6%	4.9%	6.6%	8.0%	9.5%
Advanced Films & Polymers	4.4%	5.7%	7.4%	8.7%	10.1%
Advanced Solutions	2.1%	4.7%	6.6%	8.4%	10.0%
Advanced Composite & Shapes	0.3%	4.3%	5.7%	6.7%	8.5%
MMA & Derivatives	3.5%	7.2%	7.4%	8.7%	9.6%
MMA	3.6%	7.8%	7.7%	9.0%	9.8%
Coating & Additives	3.3%	4.8%	6.4%	7.6%	9.1%
Basic Materials & Polymers	1.1%	4.3%	5.5%	5.4%	7.1%
Materials & Polymers	1.9%	4.4%	5.8%	5.6%	7.7%
Carbon	-1.2%	3.8%	3.9%	4.0%	3.6%

Chemicals Business Major Growth Investment Plan (New Expansion and Service Enhancement)

FY25		FY26		FY27	FY28
Polyester film capacity increase Germany		Lithomax™ capacity increase (Photosensitive polymer for photoresists used in semiconductor circuit formation) Japan		Optical Film for Polarizers “OPL FILM™” capacity increase Japan	Mitsubishi Synthetic Quartz Powder capacity increase for semiconductors Japan
 		 		 	 
Carbon fiber composite materials expansion of large press molding machine Italy		Natural anode materials for Automotive lithium-Ion battery capacity increase Japan			
 		 			
Emulsifier capacity increase Japan		Soarnol™ capacity increase UK			
 		 			

Divestiture/closure of non-core businesses in Chemicals

Accelerate liquidation and divestiture of non-core businesses



[Reference Materials by Segment]

Advanced Solutions: Developing a Knowledge Business

- Promoting collaboration with the most suitable partners in each region to meet the demands of customers operating worldwide.
- We package our expertise in material composition and processes to propose solutions to our customers that solve their problems.

High purity sulfuric acid	Flocculent	Electrolyte
<ul style="list-style-type: none"> High-purity sulfuric acid is used in the cleaning process in the semiconductor manufacturing process (production site: Taiwan) Continuously meeting the quality requirements of leading-edge semiconductor manufacturers. We are proud of our long track record of supply. Promote licensing of MCG's manufacturing technology to partners in regions with robust semiconductor Fab expansion plans. Contribute to the establishment of a supply chain for high-purity sulfuric acid in a timely manner. 	<ul style="list-style-type: none"> Flocculants are used in processes such as paper strength enhancers, wastewater treatment agents, and oil mining aids; NVF (N-vinylformaldehyde) is a functional monomer that serves as a raw material for these The world's first in-house technology to produce NVF from acetaldehyde. Compared to competing cyanide gas-based processes, it is cheaper and safer. Coagulants are used in processes such as paper strength enhancers, wastewater treatment agents, and oil mining aids. NVF (N-vinylformaldehyde) is a functional monomer that can be used as a raw material for these processes. NVF technology license with SNF, a long-time partner and the world's No. 1 flocculant market share holder, as the best owner Contributing to the realization of a circular economy by improving the strength, durability, and recyclability of paper 	<ul style="list-style-type: none"> Promote monetization based on the knowledge of electrolyte design technology and manufacturing. Capture growth opportunities in emerging markets <div>Electrolyte design technology</div> <ul style="list-style-type: none"> Possesses a library of additives that are key to battery performance; developing solutions for LFP (lithium-ion iron phosphate) batteries Quickly propose optimal electrolyte compositions to meet the required battery performance based on our strength in analysis and simulation technology. <div>Manufacturing</div> <ul style="list-style-type: none"> Licensed process technology for safety, productivity, and reliability

- **Carbon fiber is listed as a substance of concern in the proposed amendments to the ELV regulations.**
 - Previously, discussions focused on the recyclability of CFRP, but recently, concerns about its adverse effects on human health emerged. (there are no regulations concerning carbon fiber under REACH.)
- **In the proposed amendment, thermosets is excluded from the list of recyclable plastics**
 - Thermosets are difficult to recycle, but many recycling technologies have already been developed, and recyclable products are also emerging in the market.
- **As MCG, we are working in collaboration with industry associations and stakeholders in Europe and Japan to untangle these concerns. We are engaging with relevant organizations, including the EU, to ensure that the facts are correctly understood.**
- Although the regulations are limited as they apply only to vehicles sold in the EU market, there still have a certain impact on our automotive parts business.
- In pursuit of realizing a circular economy, we are promoting marketing and R&D globally to advance recycling and improve its quality. In addition, we are accelerating R&D on thermoplastic composite materials to enhance the recyclability

Chemicals Business: Segment Information

Business Segments	Business Sub-Segments	Businesses
Specialty Materials	Advanced Films & Polymers	Performance Polymers, Soarnol, Gohsenol Packaging, Industrial & Medical Films, Acetyl Firms, Polyester Films, and Fiber
	Advanced Solutions	Aqua Solution, Life Solution, Infrastructure Solution, Semiconductor, Electronics, and Battery Materials
	Advanced Composites & Shapes	Engineering Shapes & Solutions, Carbon Fiber and Composite Materials
	Advanced Films & Polymers	Performance Polymers, Soarnol, Gohsenol Packaging, Industrial & Medical Films, Acetyl Firms, Polyester Films, and Fiber
	Advanced Solutions	Aqua Solution, Life Solution, Infrastructure Solution, Semiconductor, Electronics, and Battery Materials
MMA & Derivatives	MMA	MMA, PMMA
	Coating & Additives	Coating Material, Additives & Fine
Basic Materials & Polymers	Materials & Polymers	Basic Petrochemicals, Polyolefins, Basic Chemical Derivatives, Sustainable Polymers, and Engineering Plastic
	Carbon Products	Carbon Products
	Materials & Polymers	Basic Petrochemicals, Polyolefins, Basic Chemical Derivatives, Sustainable Polymers, and Engineering Plastic

Disclaimer

The forward-looking statements¹ are based largely on company expectations and information available as of the date hereof, and are subject to risks and uncertainties, which may be beyond company control.

The Group is engaged in a very diverse range of businesses, including various functional products, MMA, petrochemicals, carbon products, industrial gases, and pharmaceuticals, and its performance may be affected by domestic and international demand, exchange rates, prices and procurement volumes of raw materials and fuels such as naphtha and crude oil, product market trends, speed of technological innovation, NHI price revisions, product liability, litigation, legal regulations, etc. The Company's business performance may be affected by such factors. However, factors that may affect our business performance are not limited to these factors.

In this document, Mitsubishi Chemical Group (MCG) is used as a generic term for Mitsubishi Chemical Group Corporation and its group companies. All figures in this material have been rounded and all forecasts are approximate.

All forecasts for FY2024 in this document are forecasts announced on November 1, 2024.

¹ For the purpose of this notice, “statements” means this document, any oral presentation, any question and answer session and any written or oral material discussed or distributed by Mitsubishi Chemical Group.