MITSUBISHI CHEMICAL GROUP

Mitsubishi Chemical Group Corporation

IR Day 2022
Performance Products
– *value creation through profitability growth*

September 27, 2022

KAITEKI Value for Tomorrow

The sustainable well-being of people,
society and our planet Earth
- we call it KAITEKI.

Through our core values of Sustainability, Health and Comfort,
we create innovative solutions globally realizing KAITEKI.

Creating KAITEKI Value today
we ensure a bright future for tomorrow.
We are THE KAITEKI COMPANY.

Today's agenda

15:00 - 15:05	**Opening remarks**	**Jean-Marc Gilson** **Representative Corporate Executive Officer, President and Chief Executive Officer**
15:05 - 16:10	i. Our starting point	Jean-Marc Gilson
	ii. Performance Products – spearhead of implementation	Johei Takimoto Executive Vice President, Head of Advanced Solutions
	iii. Key takeaways and outlook	Hitoshi Sasaki Executive Vice President, Head of Polymers & Compounds / MMA
16:10 - 16:20	Break	
16:20 - 17:20	Q&A session	
17:20 - 17:30	Closing remarks	Jean-Marc Gilson

Opening remarks – what we will discuss today

- MCG's starting position and **strengths lie in our unique product portfolio** which enables us to bring capabilities & innovation tailored to end-markets to our customers and service them better
- We have set ourselves the **vision of being one of the world's leading specialty materials & solutions provider**
- The launch and accelerated execution of the **"Forging the future" strategy deliver on that vision**
- **Our goal is value creation through profitable growth** – we will improve profitability and grow in areas where we have distinctive products & solutions for our customers while managing capital employed
- **Today, we will share our actions to strengthen profitability and share with you the impact on future growth of our Performance Products business** – as a teaser to the full investor presentation in February on MCG's Forging the future journey

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15:05 - 16:10	**i. Our starting point** ii. Performance Products – spearhead of implementation iii. Key takeaways and outlook	**Jean-Marc Gilson** Johei Takimoto Executive Vice President, Head of Advanced Solutions Hitoshi Sasaki Executive Vice President, Head of Polymers & Compounds / MMA
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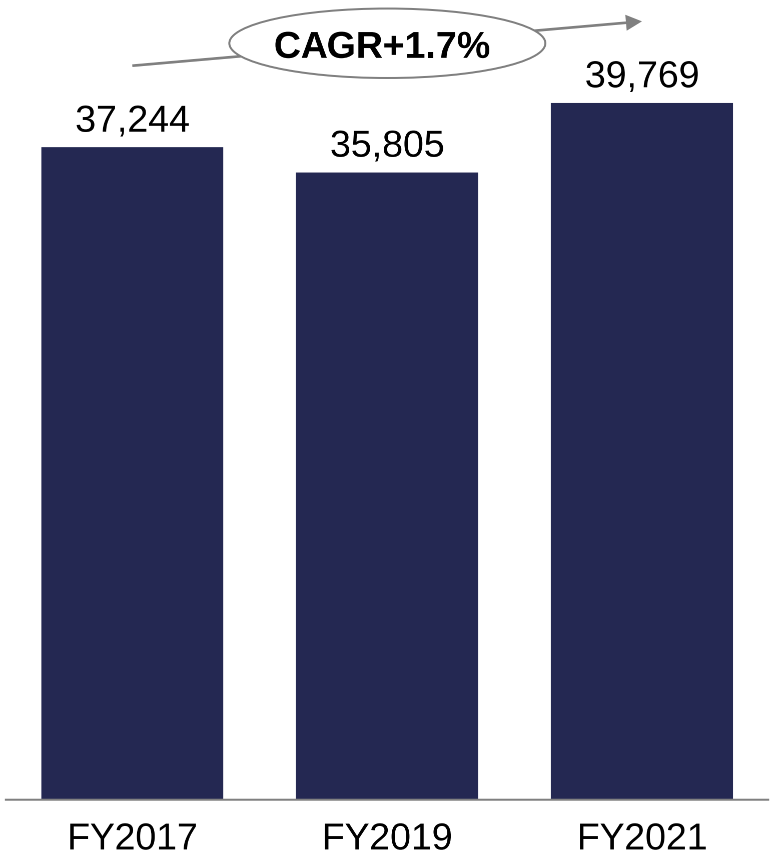
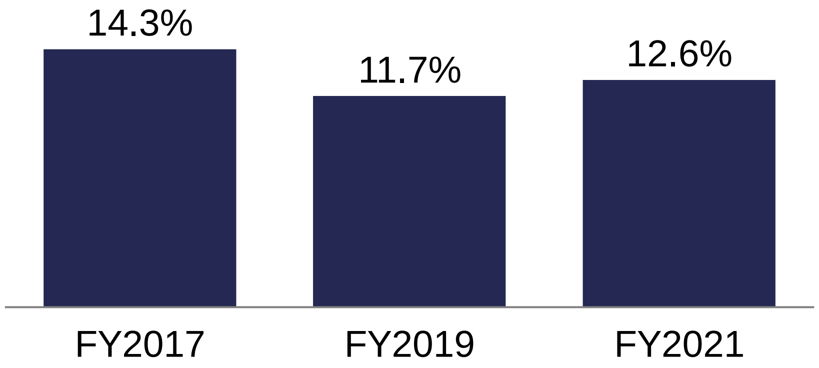
MCG struggled to generate value for our shareholders in the past - along both growth and profitability

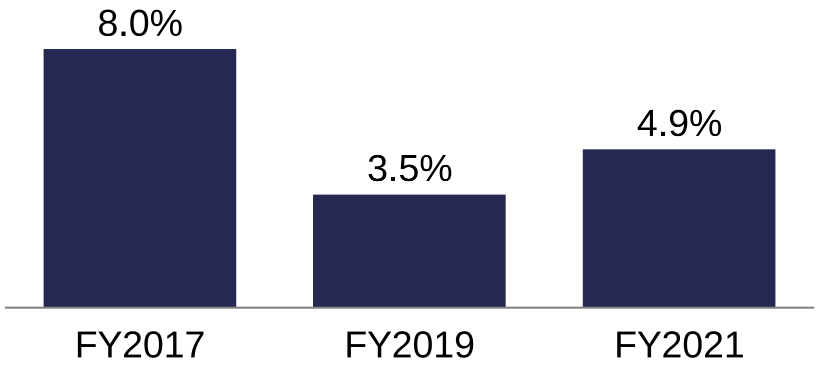
Revenue[1]**,** oku yen



EBITDA margin



ROIC



Takeaways

- **Stalling revenue growth (1.7% CAGR) over the last 4 years while market grew 3-4 % p.a.**
- **Significant profitability decline** between FY2017-19, only slow return to higher EBITDA & ROIC in FY2021

1. Adjusted Revenues to improve comparability

We have identified the major challenges which limited creation of shareholder value in the past

Complex product and business portfolio – requires focus and simplification, leverage tailwinds in high-growing end-markets

Focus on domestic growth – shift focus to global markets through tailored offerings for high growth regions

Existing cost structure – transition to leaner cost positions with improvements in year-on-year productivity metrics

Past investments did not deliver expected returns - need to improve capital allocation and manage working capital more stringently

Digital & process backbone – advance systems and processes to enable quick fact-based decision making and a smooth customer experience

To address these and become one of the world's leading specialty materials & solutions supplier, we launched the "Forging the future" strategy

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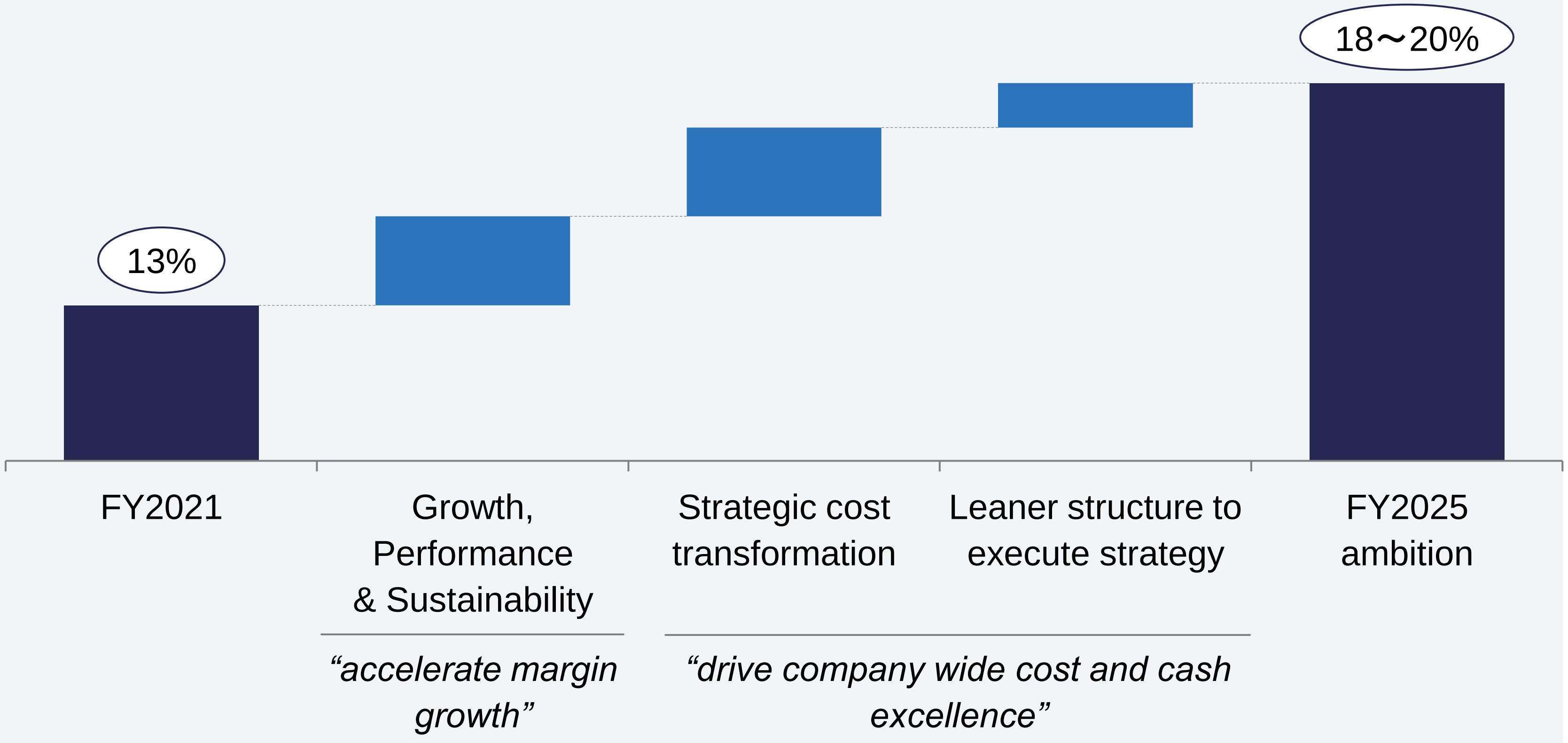
Forging the future Objectives:	Forging the future mindset
Leaner Structure to Execute Strategy	*"bring re-focus"*
Strategic Cost Transformation	
Growth, Performance, and Sustainability	*"accelerate margin growth"*
Business to Exit	*"drive company wide cost and cash excellence"*
Strategic Capital Allocation	

Forging the future will result in margin & ROIC improvement

Objectives

- The "accelerate margin growth" and "drive company wide cost and cash excellence initiatives of Forging the future directly impact EBITDA margin
- Remaining "bring re-focus" objectives will help drive ROIC:
- **Business to exit:** Pockets of business to divest, carve out and consolidate where MCG is not the natural owner
- **Strategic capital allocation**

Forging the future EBITDA margin improvement roadmap*



* As presented in Forging the future, December 2021

Turning Forging the future into action – we are changing the way MCG operates

1: Bring company wide re-focus

- Strategic capital allocation based on portfolio strategy and capex management thereafter
- Exit businesses where we are not natural owners
- Targeted M&A yielding aspirational returns
- Shift orientation to markets and focus on those with high-growth or distinctive products

2: Drive company wide cost and cash excellence

- Restructuring and cost eliminations (e.g., reductions in other fixed costs, improvement in productivity etc.)
- Working capital management (targeted at Accounts Receivable, Accounts Payable, and Inventories)
- Productivity improvement across manufacturing, supply chain, logistics, procurement

3: Accelerate margin growth

- Global markets and global commercial organization
- R&D aligned with business needs
- Optimal product portfolio mix
- Distinctive customer experience (CX)
- Commercial excellence (including Pricing)

Performance Products

Industrial Gases

Health Care

MMA

Petrochemicals

Carbon Products

Enable the organization

- Empowered and value driven organization
- World-class business processes and digital infrastructure

1: Bring company wide re-focus

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	From (FY2022)	To (FY2025)
Capital allocation, business to exit, M&A levers	• Truly diversified portfolio with equal focus on non-core / low return markets and industries	• **Refocus on key businesses** where we have capabilities, tailwinds, and product pipeline ✓ • Focus on products and markets where we are **natural owners and obtain leadership position** - **Several product segments already identified for divestitures**, in various stages of implementation ✓
	• Little strategic capital allocation, investments rather made by businesses	• **Strategic capital allocation based on portfolio strategy** - Project kicked off to redefine our capital project selection and execution (to be implemented by 2022-year end) ✓
	• Current M&A process not focused on synergies hence leading to limited value creation so far	• **Best-in-class process for scouting, screening & diligence** of M&A opportunities - Adopted **a stricter stage gate M&A process** ✓ - Installed **post acquisition integration planning** and reviews ✓

✓ *includes progress made so far*

2: Company wide cost & cash excellence

	From (FY2022)	To (FY2025)
Re-structuring and cost eliminations	• Siloed organization between businesses in Japan and globally • Complex matrix structures with many layers	• Efficiency and collaboration between businesses, **enabling servicing customers globally** • Support function consolidation & de-layering
Productivity improvement	• Y-o-Y productivity lagging versus best-in-class • Continuously increasing costs for e.g., logistics, procurement not passed through sufficiently	• **Best-in-class design of indirect procurement processes and operating model** (incl. organization, key enablers and capability building), **identification of quick win levers** • Monitoring and continuous improvement mindset through **productivity control tower** • Approach defined to **tackle other productivity improvements** in manufacturing, logistics and supply chain
Working capital management	• Investments in fixed and working capital not delivering required returns	• **Governance mechanism for efficient capital management** • Deployment of **ERP based processes and AR & AP tracking for** efficient working capital management

includes progress made so far

1. Includes potential from efficiency (FTE reduction), cashflow related (AR/AP) and inventory for Europe, NA and Japan

Turning Forging the future into action – we are changing the way MCG operates

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Performance Products

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Enable the organization

- Empowered and value driven organization
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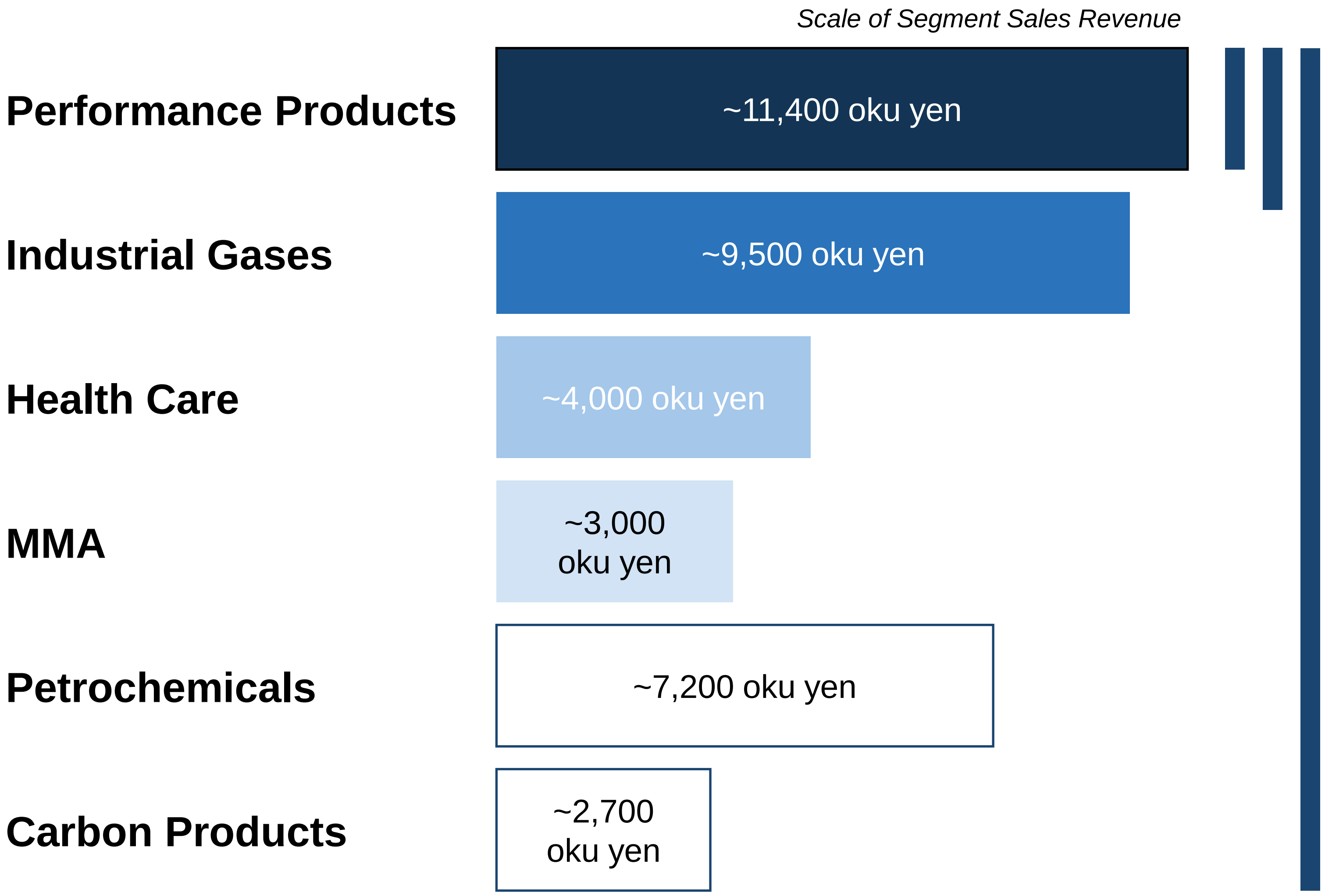
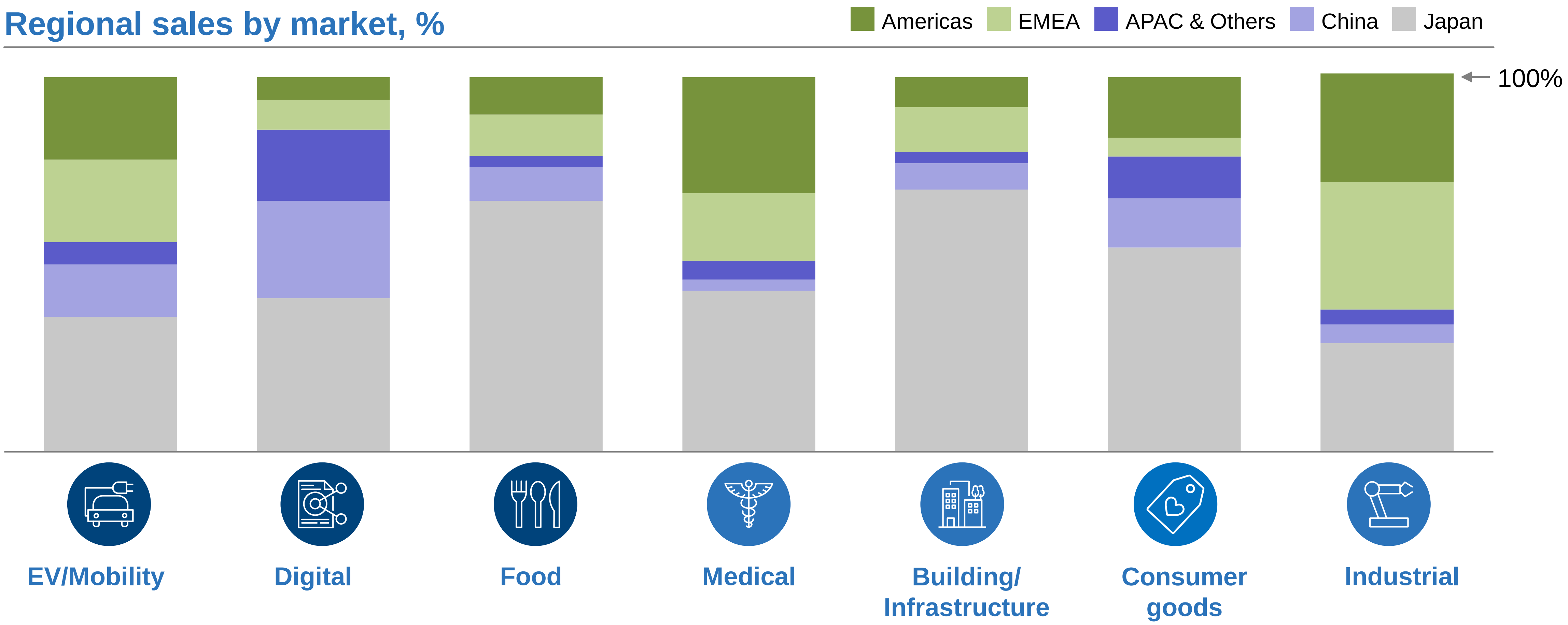
3: Accelerate margin growth: Performance Products is core to MCG



"Performance Products offer distinctive technology products for Engineering applications in high-growth end-markets"

3: Accelerate margin growth - Taking our existing products to high growth markets outside of Japan



3: Accelerate margin growth: shifting to a market-facing organization with focus on 7 key markets to best leverage our core products

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Product-focused organization

↓

Market-oriented commercial organization

EV/Mobility	Digital	Food	Medical	Building/ Infrastructure	Consumer goods	Industrial

Growth
- Develop and scale new business in new high growth markets (EV/Mobility, Digital, Food)
- Grow in existing markets through an integrated offer by end-application

×

Performance
- Enable synergies between businesses and regions
- Tailored business operations and margin management as per different needs of the markets

×

Customer experience
- Move into solution offering by market to address customers' needs in respective markets
- Enable better cross-functional collaboration and one face to the customer

3: Accelerate margin growth: Performance Products serves end-markets with high growth tailwinds and has unique capabilities to address them

	EV/Mobility	Digital	Food	Medical	Building/ Infrastructure	Consumer goods	Industrial
Key trends	• Electro-mobility • Light-weighting • Appearance	• Smart homes & applications • Performance • Miniaturization	• Nutrition & health • Durability • Processability	• Durability and longevity • Tailored implants • Health effects	• Energy efficiency • Modular construction • Insulation	• Personalization • Sustainability • Renewable resources	• Smart materials • Water treatment • Energy efficiency
MCG capabilities	• Battery materials • Composite materials • Specialty Polymer compounds	• Semiconductor materials, equipment and components • Fab cleaning services • Display films & materials	• Emulsifiers • Vitamins • Gas barrier function • Probiotics	• Implantable polymers • Silicone hydrogels for contact lenses • Dental mold compounds	• Façade design materials • Additives for adhesives and coatings • Construction materials	• Carbon fiber composites • Water soluble polymers • High-performance water filtration	• Industrial processing films • Functional separation membranes • Engineering Plastic parts

3: Accelerating margin growth

✓ *includes progress made so far*

⬚ *Detailed next*

	From (FY2022)	To (FY2025)
Growth focused levers	• Lack of globalization, over-reliance on businesses in Japan	• **Growth of the businesses across the globe** by bringing Japanese excellence to global markets tailoring to local environments ✓
	• Product push	• **Application pull and understanding of market needs** ✓
	• Cross-divisional key account management missing	• **Key account management (KAM)** for strategic accounts, tailored offerings and solution selling, higher win/rate of concrete opportunities ✓
	• Lack of lead generation and funnel management engine	• Best-in-class **lead and opportunity management** process, implementation ongoing in Europe and North America ✓
	• Cost plus (mark up-based) pricing model	• **Value-based dynamic pricing:** Plan to scale further in Advanced Solutions and other businesses ✓
	• Insufficient results from innovation (including R&D) to drive business growth	• **Integrated innovation strategies** that optimally deploy internal R&D and open innovation based on the specific nature of each growth market

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Our Performance Products business leaders will tell you about how we will create value in key growth markets and some exciting products

Perspective on PP - Takimoto Johei,
Executive Vice President,
Head of Advanced Solutions

Perspective on sustainability – Sasaki Hitoshi,
Executive Vice President,
Head of Polymers & Compounds / MMA

Our focus markets in Performance Products

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1st session | 2nd session

	Digital	Food	EV/Mobility	Sustainability
Sales Revenue (oku yen, FY2021)	Approx. 2,500	Approx. 1,700	Approx. 1,700	Approx. 4,600*
Key Businesses	• Semiconductor materials/services • Electronic devices	• Food packaging materials • Food additives	• Batteries • Lightweight materials	• Recycled and bio-materials • Product life extension
Products to be introduced today	• Cleaning materials & services • Epoxy • Black bank materials for OLED • Light guide plate materials for AR glass	• Sugar esters • Barrier film for food	• Electrolyte • Carbon Fiber composite materials	• EVOH • Bio-based polycarbonate

*A portion of revenue is duplicated in each market

Portfolio transformation in Performance Products

Strategic focus market

: EV/Mobility

: Digital |Semiconductors

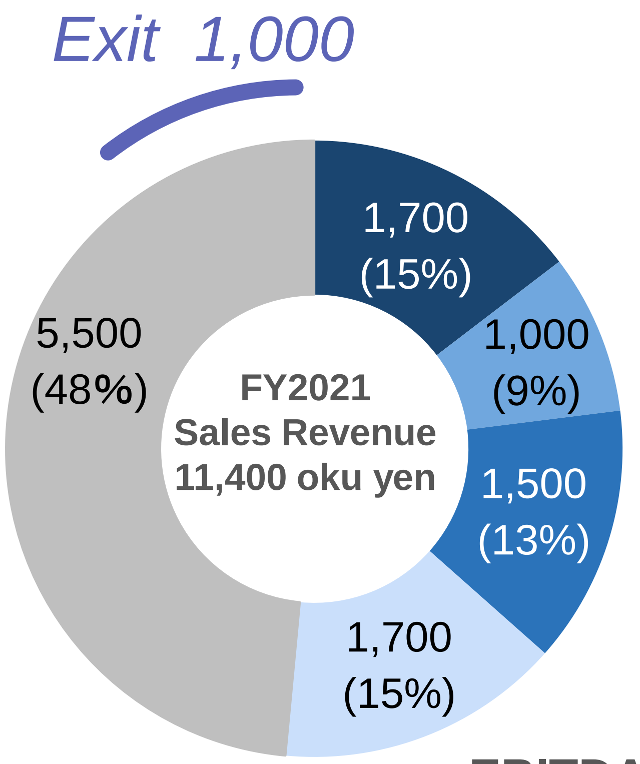
: Digital |Electronics

: Food

: Industrial, Medical
Consumer goods
Building &
Construction etc.

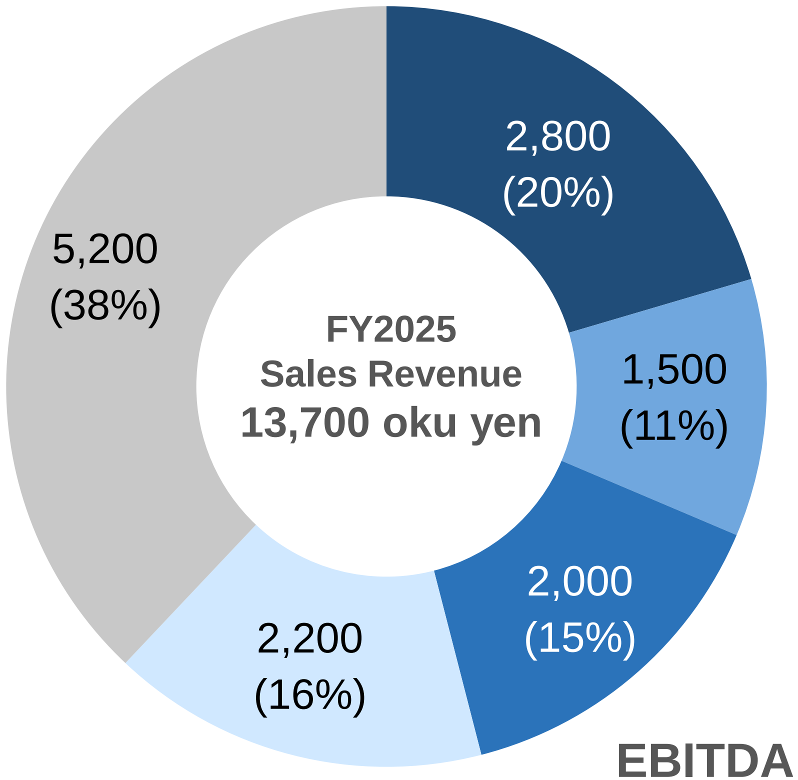
: Divestiture
Candidates

FY2021 Actual



EBITDA
>11%

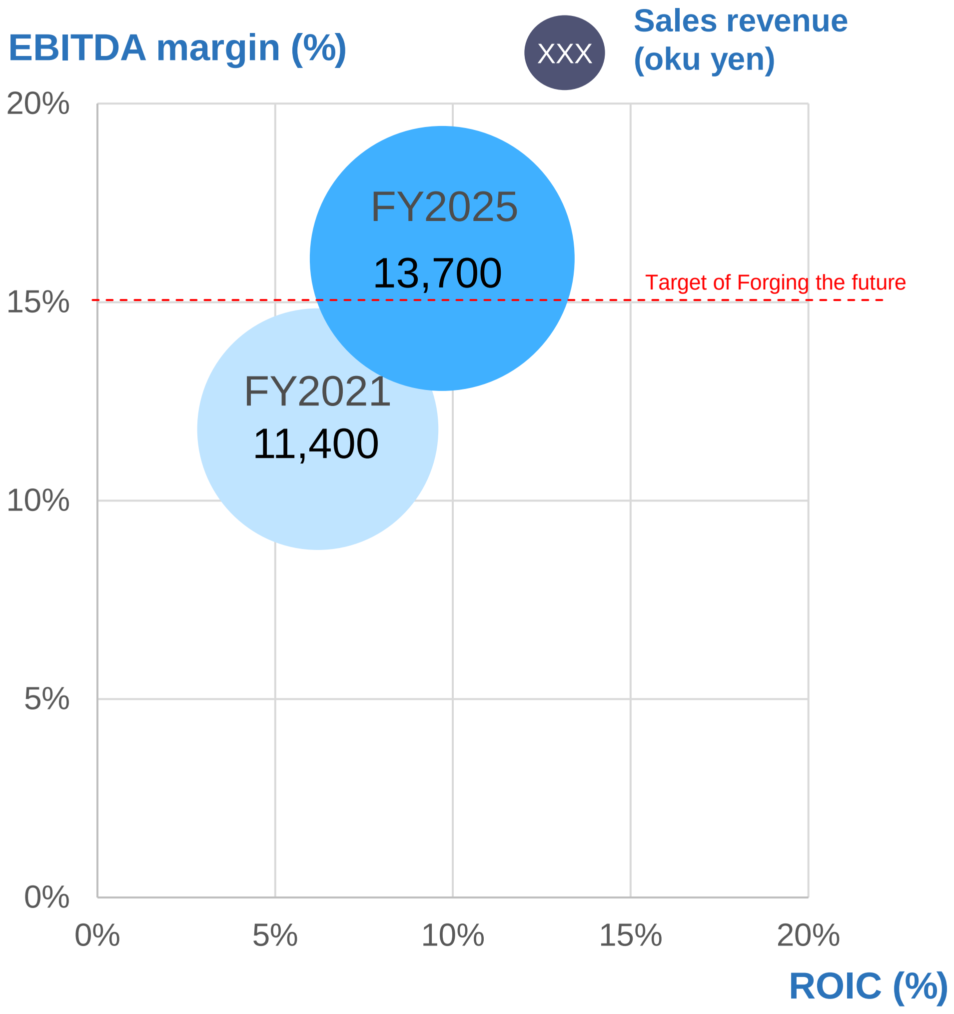
FY2025 Target



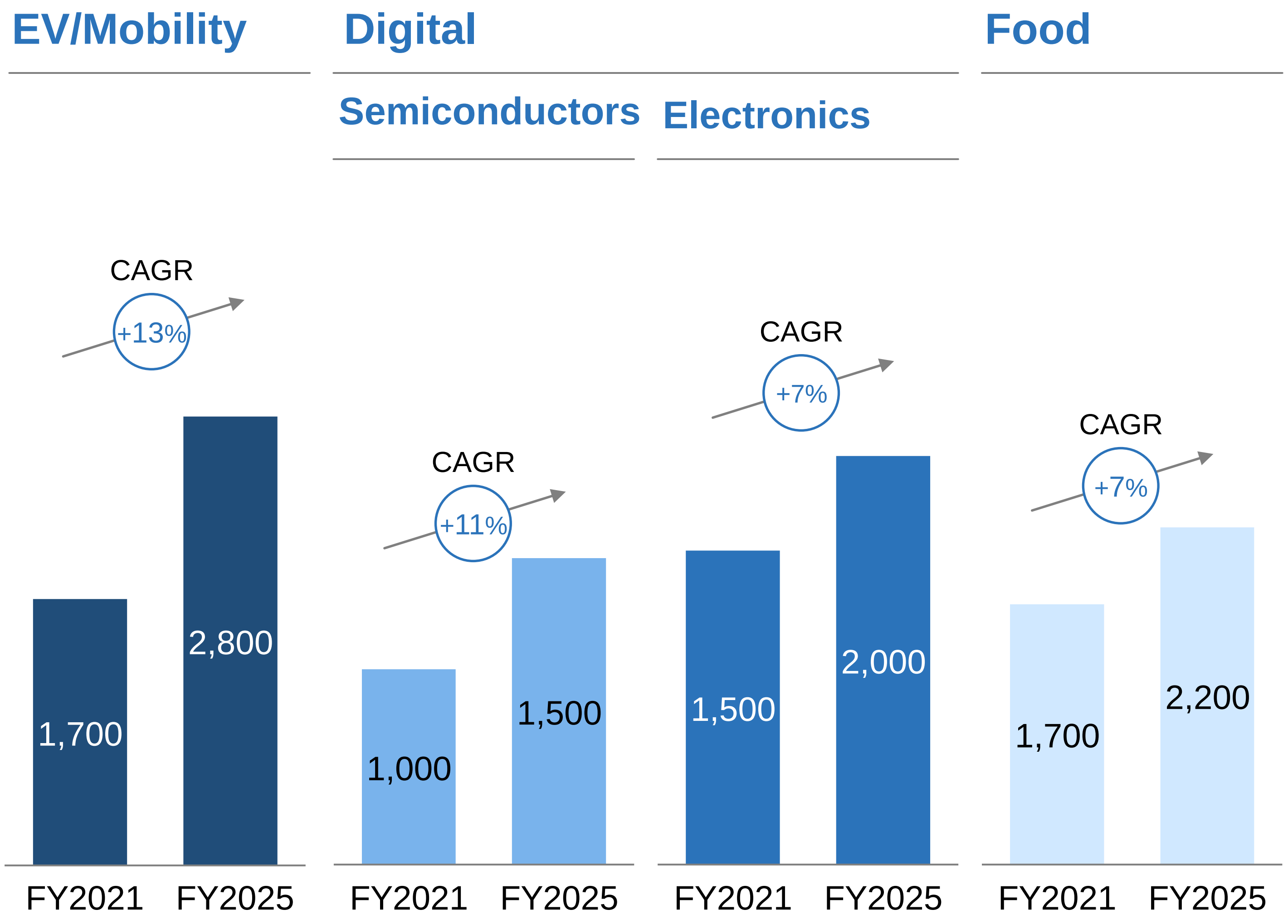
EBITDA
>16%

Sales Revenue/EBITDA targets for Performance Products Segment

Performance Products Segment



Sales Revenue by Focus Markets (oku yen)



Basic Strategy of the Performance Products Segment

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Aspiration

Achieve strong position **by continuous differentiation** that cannot be easily challenged
→ Realize highly profitable businesses （**EBITDA＞15%**）

Transform to Market-oriented org.

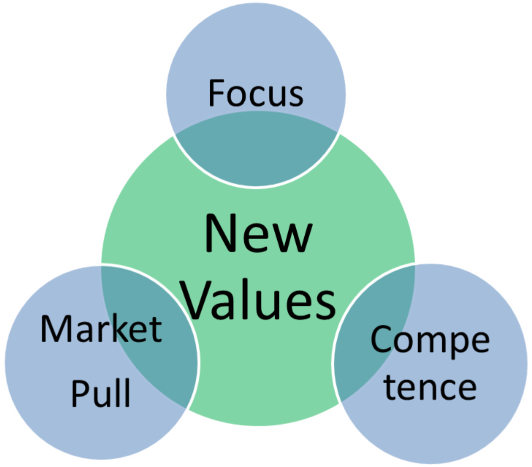
Early and deep understanding of the most advanced market change

Org. structure ＋ **Behavior pattern**

- **Strengthening marketing function**
- **Intensifying regional operation**
- **Speed up development ～proposition cycle**

Our Philosophy：

“New Value Daily”



Sharpening our competence that enables innovation

Provide unique & high-level solution which enables the market transformation, in a timely manner.

Our Strengths ➡ **Sharpen up** aligning with the market change direction

- **Technology/Material platform**
- **Best-in-class Quality Management**
- **Trusting relationship with innovation leaders**

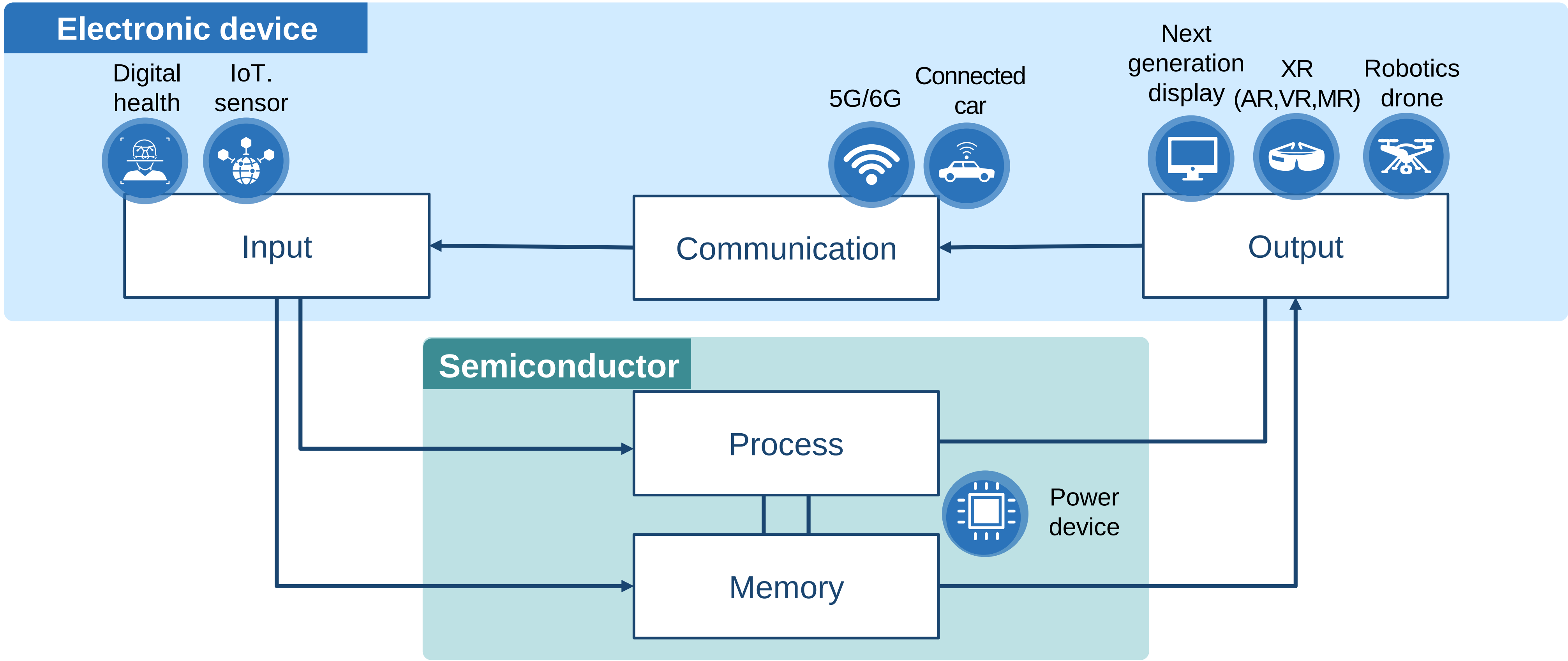
＊Examples to be explained later

Disciplined Portfolio Strategy

Focus on products & markets where we are natural owners and obtain leadership position.
Business operation based on strict criteria :
[Dynamically changing markets] x [Our unique capabilities]

Digital Semiconductors & Electronics

Trends in Information and Communication Related Market



Seamless Interface

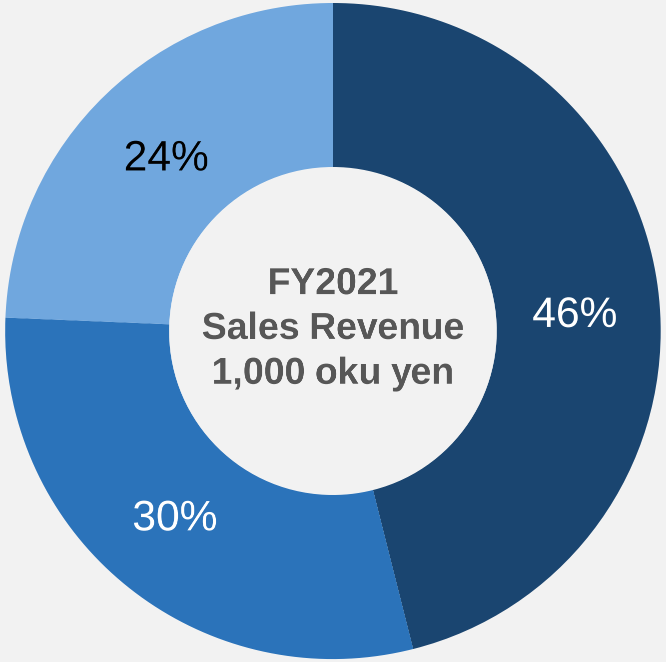
Real ⇔ Virtual

Human ⇔ Products

- The amount, type, and accuracy of information that comes and goes dramatically evolved
- Rise of various emerging markets

Digital 1 | Semiconductor-related Businesses | Overview

Sales revenue by product in the semiconductor businesses



- Semiconductor materials
- Semiconductor solutions
- Semiconductor equipment components

Explained in detail in the latter part.

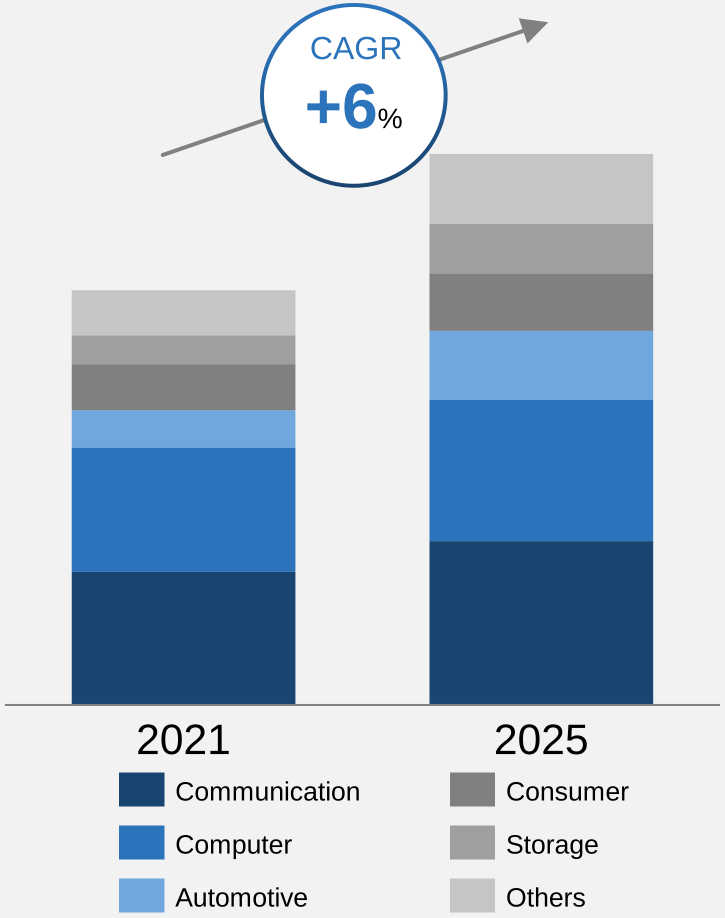
	Base products	Growth products	Future products
Wafer Manufacturing Process	Ultra-pure silica		GaN Wafer
Front-end	HCl	Antistatic agent for photomasks	Photosensitive Polymer for EUV Photo Resist
	H_2SO_4, NH_4OH	Photo Resist Photosensitive Polymer for ArF	Organometallic Precursors
	Silan precursor	CMP* post-cleaning agent	
Back-end	Epoxy resin		Boron nitride
Equip. Components	CMP* Retainer Rings/ Wafer handling components		
Manufacturing Solutions		Cleaning & Repair Service	

*Chemical Mechanical Polishing

Market Trend | Rapid growth in each application area and device demand drive the overall market

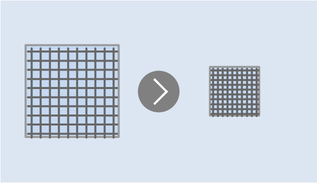
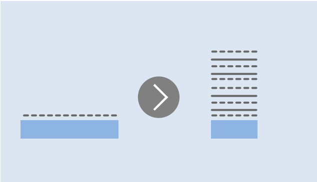
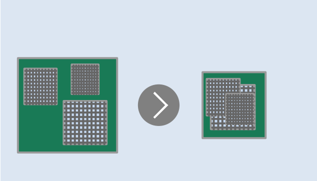
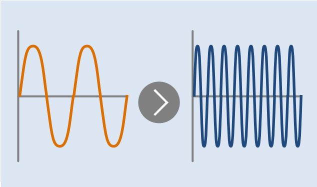
Global Semiconductor Market Trend

Semiconductor Sales by End Market (amount-based)



Technology Trends

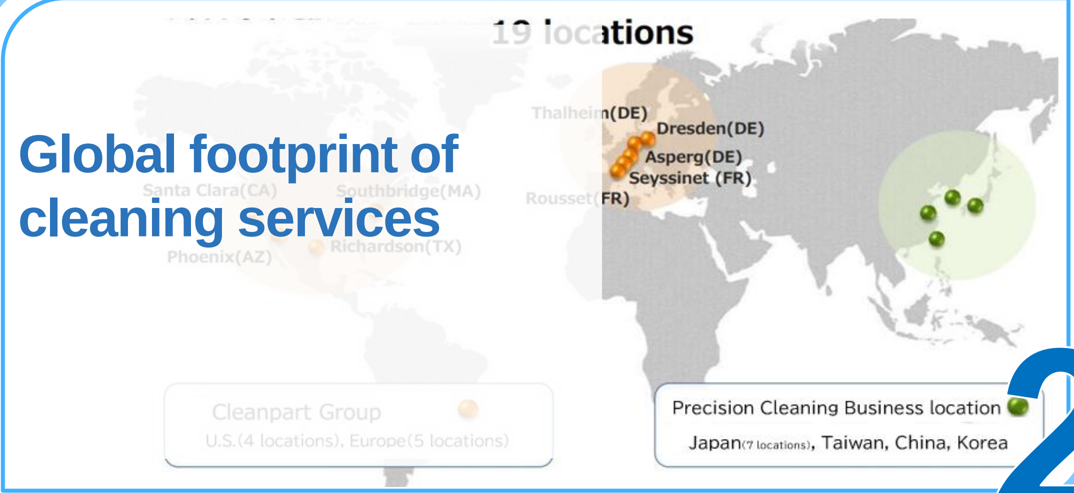
Effects on semiconductor materials (Advanced process materials)

Technology Trends			Effects on semiconductor materials
More Moore (miniaturization, high integration)	Process miniaturization		• Precursor materials • Etching gas • CMP related materials
More than Moore (high density)	Chip multilayer		• CMP related materials • Films, adhesive materials
	Chip densification		• Advanced resin materials • High performance filler • Low melting point solder materials
The rise of power electronics	High frequency support, High withstand voltage		• Compound semiconductor substrates • Thermal management materials

Our Advantage | Unique products and capabilities to meet increasingly sophisticated customer needs

1

Lineup of high-purity products for a wide range of customer requirements

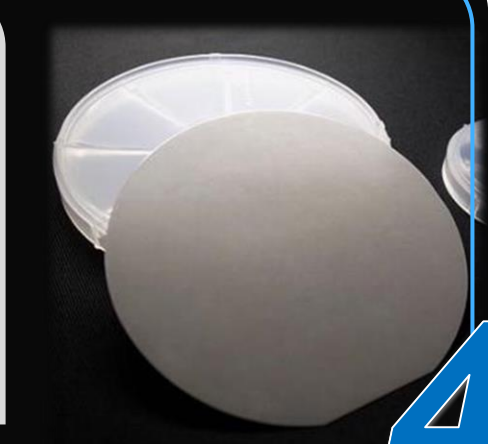


2

Global footprint of cleaning services

3

Strong relationship and channel network with equipment manufacturers



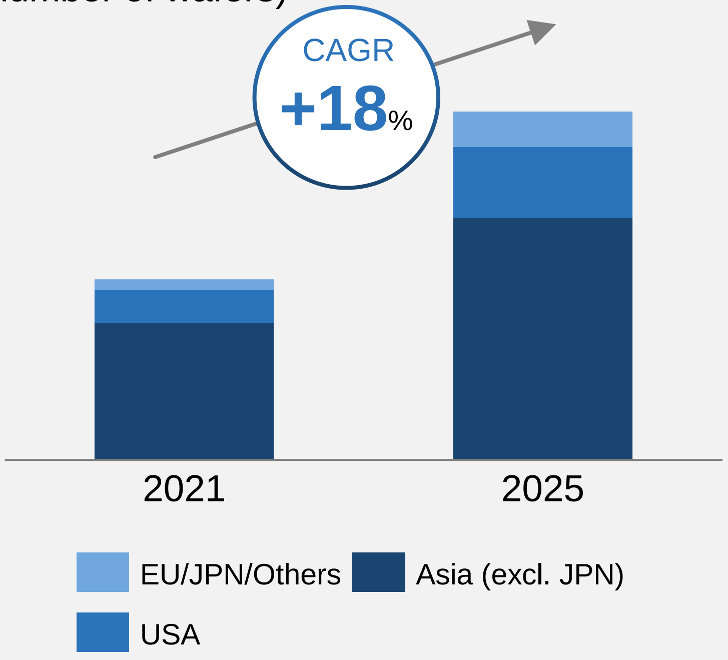
4

R&D and technology for sustainable innovation

Cleaning Services | Strong Global Position

Logic Semiconductor Production by Region

Advanced node production capacity of 10nm and below (200nm wafer equivalent, based on number of wafers)

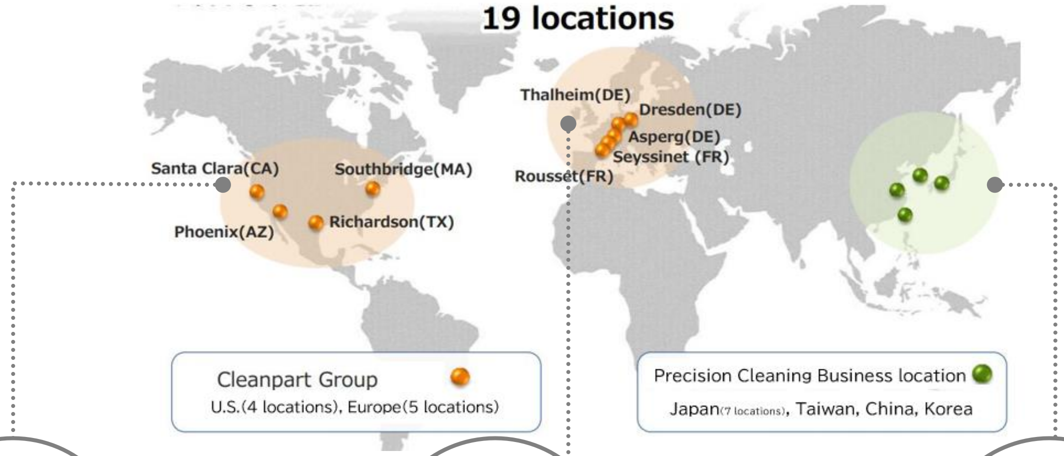


Semiconductor production volume is growing at a rapid pace

Increased regional decentralization

MCG's Strengths

- Equipment-friendly, contamination-free cleaning technology that supports high productivity in evolving semiconductor manufacturing processes.
- Global footprint, regional coverage and regional strategies.



USA No.4

- Expand market share for new cutting-edge fabs by horizontally deploying cutting-edge technologies

Europe No.1

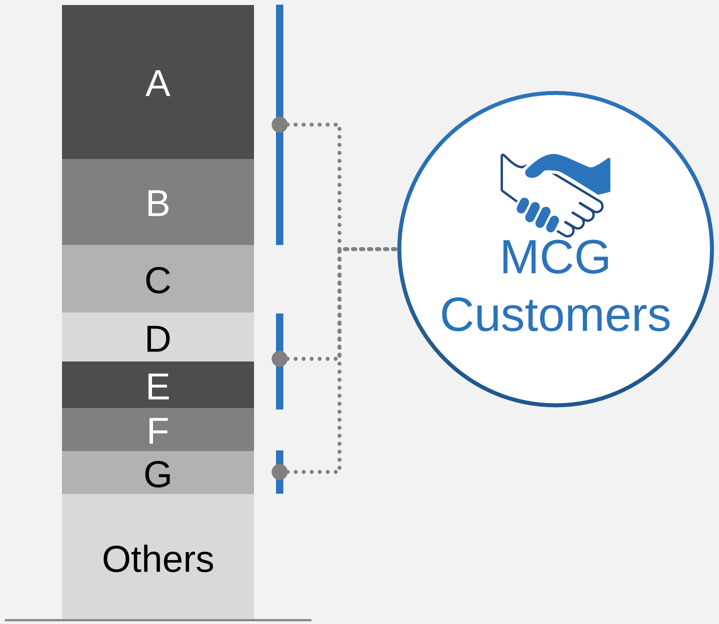
- Maintain No. 1 market share as power semiconductor companies continue to invest in expansion

Asia No.1

- Japan: Our factories are operating at full capacity and expanding profitability as fabs and OEMs increase their investments
- Taiwan, South Korea: Enhanced cleaning for cutting-edge applications

Epoxy | High Adaptability to Cutting-Edge IC Trends Maintains High Market Share

Our share of the sealing materials market

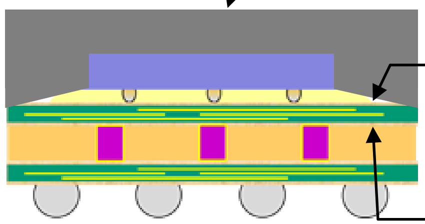


Building strong customer relationships with top players in semiconductor sealing materials

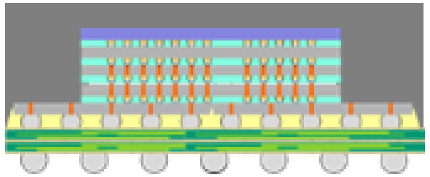
Customer needs

More complex semiconductor chip structures require higher-performance resins.

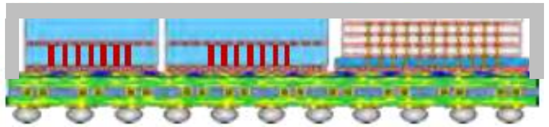
Conventional type 2D-IC



Evolutionary type 3D-IC



Composite type 3D-IC



MCG's Strengths

Heat-resisting property: Increased heat generation due to next-generation devices and high integration

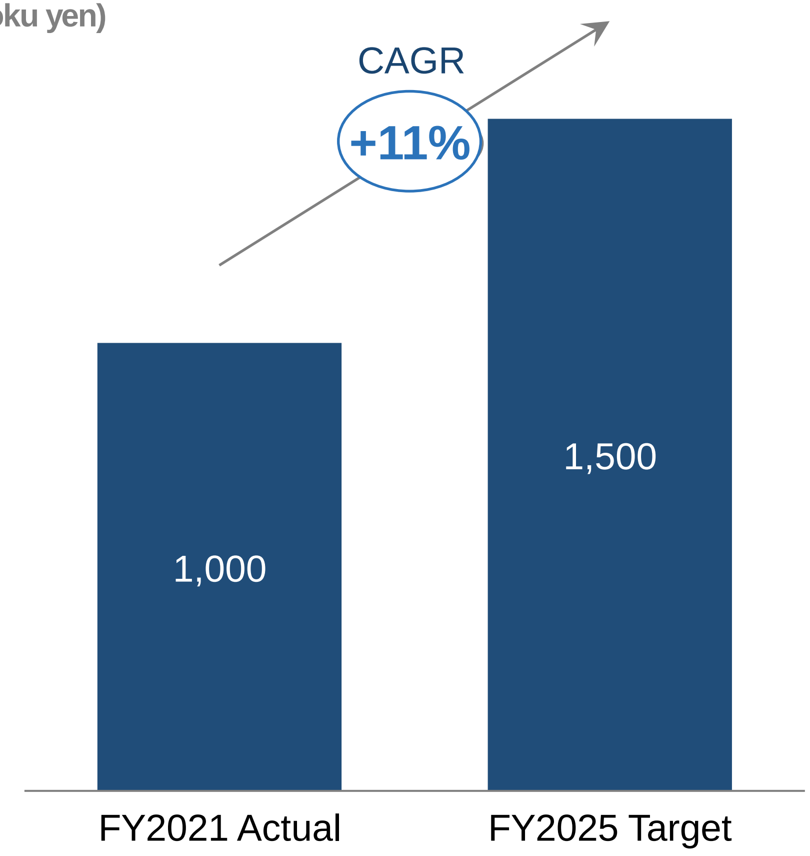
Low viscosity: Contribution to improvement of formability in thin-walled parts

Low warp: Retention and reliability with board connection surface

Semiconductor Business Indicators Summary

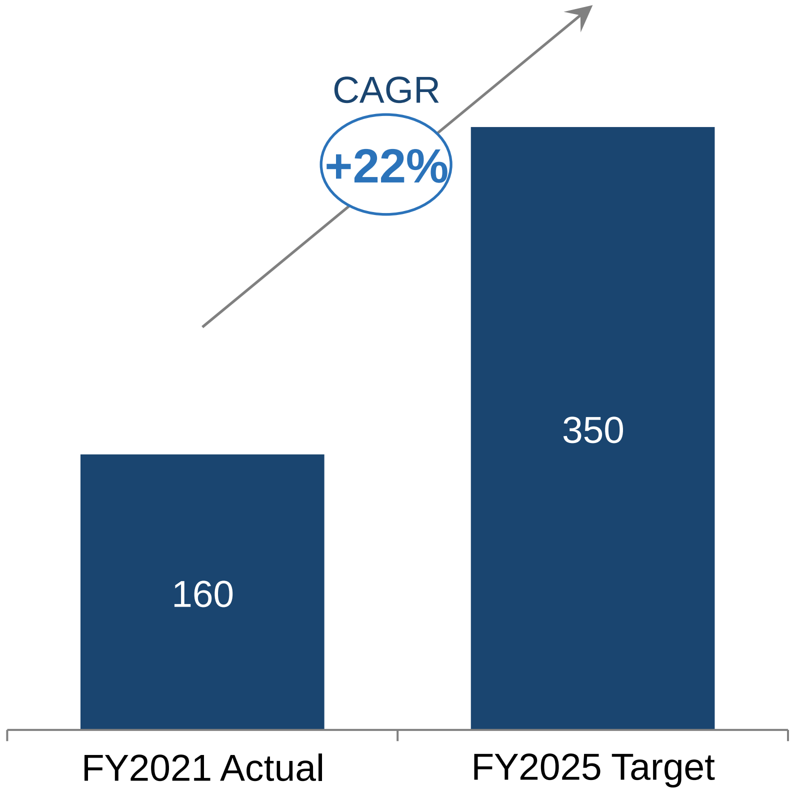
Sales Revenue

(oku yen)



EBITDA

(oku yen)



Digital 2 | Electronics Businesses | Overview

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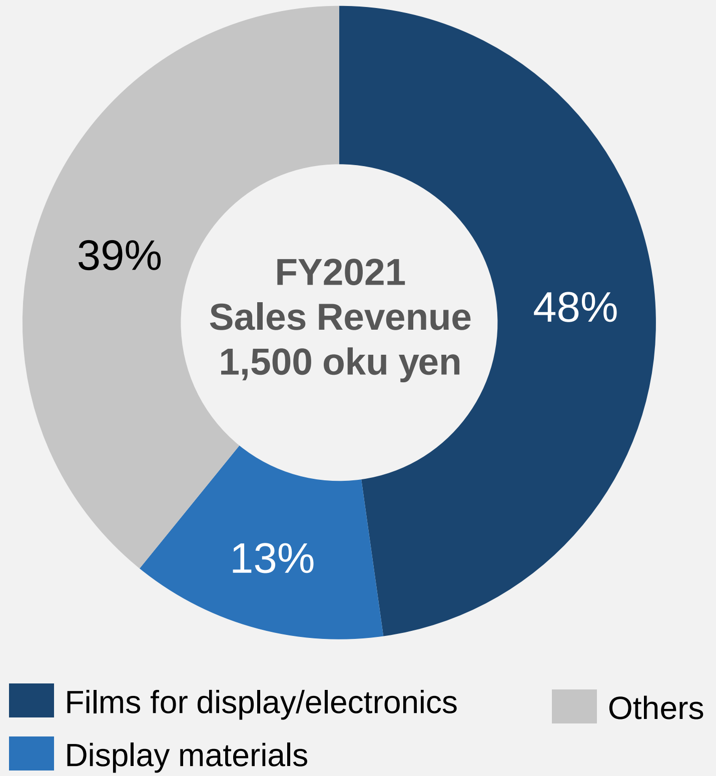
Breakdown by product in the electronics businesses

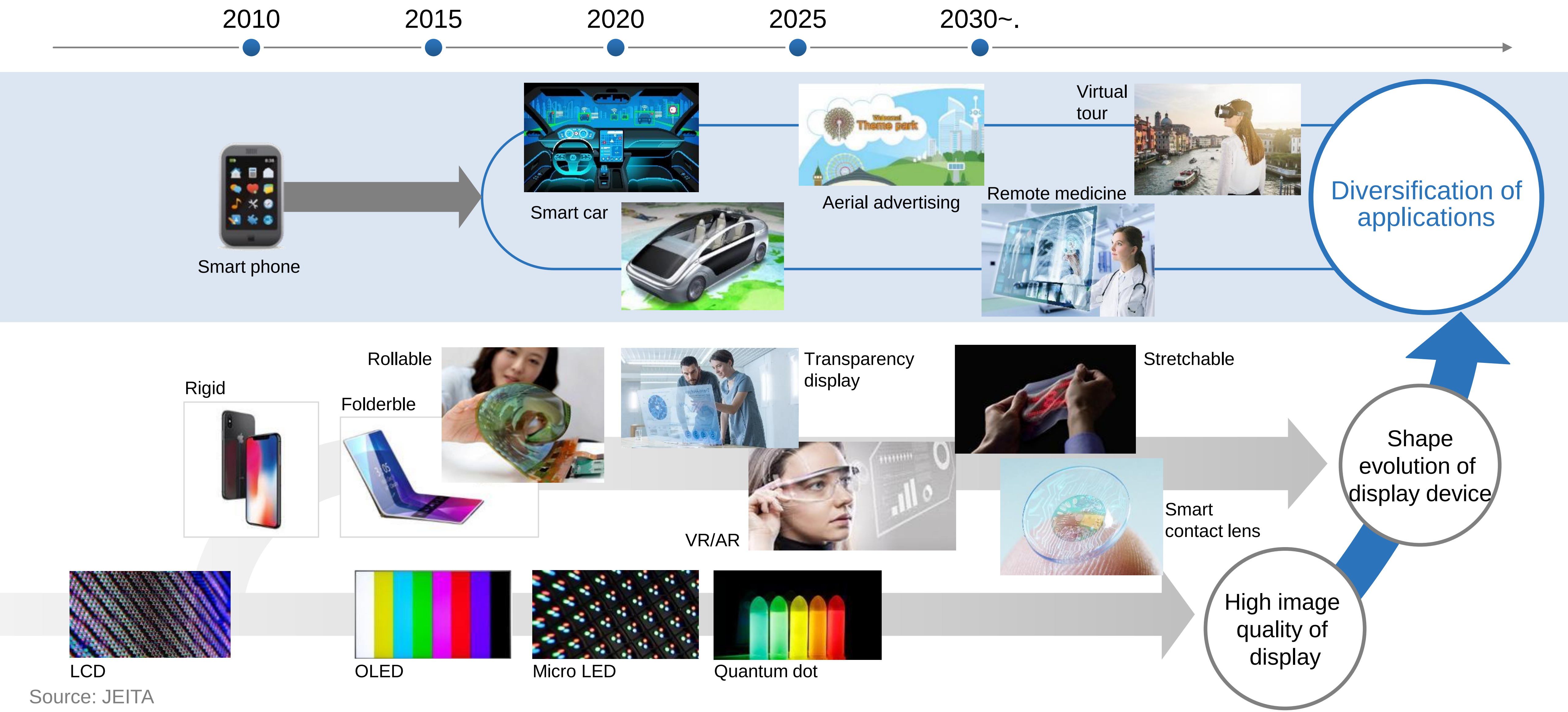


product classification	
	optical film
	pigment
	the others

Explained in detail in the latter part.

	Base products	Growth products	Future products
Input	X-ray scintillator	Next generation x-ray scintillator	γ-ray scintillator
			NIR sensor materials
			Piezoelectric film
Output	Optical sheet/ Films	Black bank material for OLED	xR-related optical materials
	Color Resist / Black Matrix for LCD	Ink for OLED	Actuator
	Phosphor	Next Generation Digital Printing Materials	
	Printer substrate components		
Communication			Low dielectric film for FPC
			Low Dielectric film for Redome
			Electromagnetic wave shielding materials

Next Generation Display Market Trends



Source: JEITA

Black Bank Materials for OLED |

Building a leading position in the OLED market by applying color resist materials and technology

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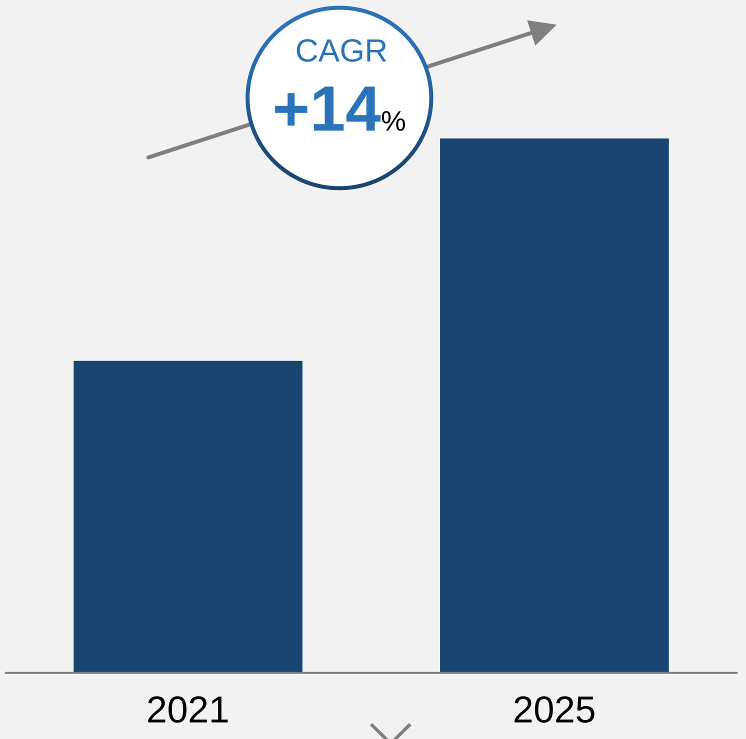
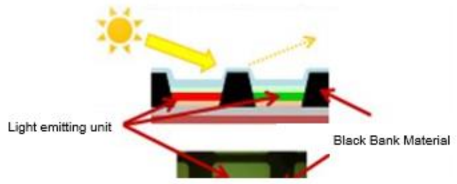
Global OLED Market Trend

(based on number of units)



The OLED market is in a growth phase.
Further improvement of image quality is required.

MCG's Strengths



Technology cultivated in the color resist business and
Responding to the need for even higher image quality by leveraging leading position in the industry

- World's first BM* resist launched in 2003
- BM/BCS** No.1 share as of 2021

**Black Matrix **Black Column Spacer

Our Colors resist technology

Pigment dispersion technology

Ink component
Pigments, Carbon black, Dispersing agents, Dispersing resins

Resist design technology

Resist component
Photosensitive resin, Photoinitiator, various additives

× Materials & Dispersion Technology

× Materials & Design Technology

High image quality is realized by blackening Bank materials

Enables wider selection of pigment types that can penetrate UV light even under thick films

Enables detailed arrangements for film thickness, etc.

Light Guide Plate Materials for AR Glass (xR-related Optical Materials)

Expanding business in the growing market for AR glasses by leveraging our capabilities in optical control technology

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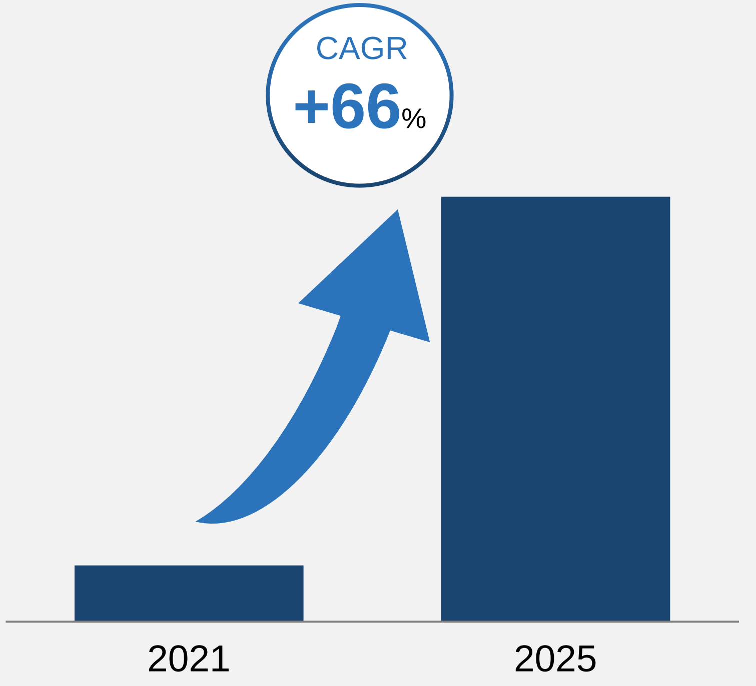
Global xR Hardware Market Trends

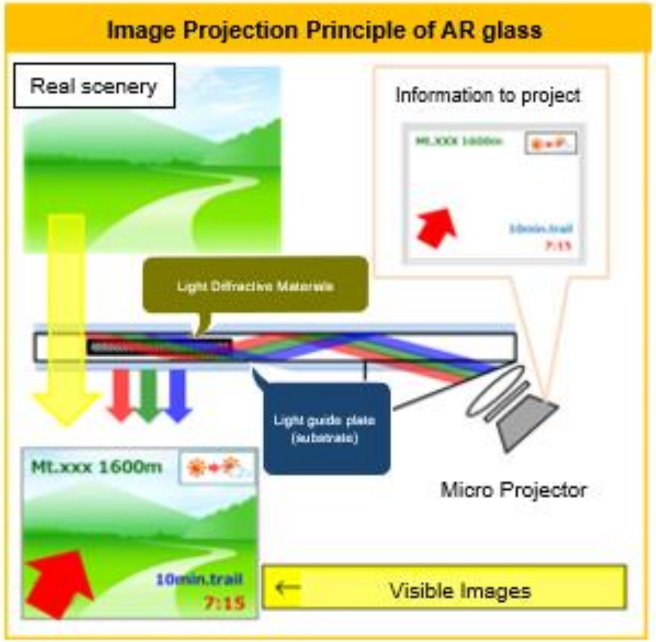
(amount-based)



xR market expected to expand rapidly in the future

Customer Needs and MCG's Strengths

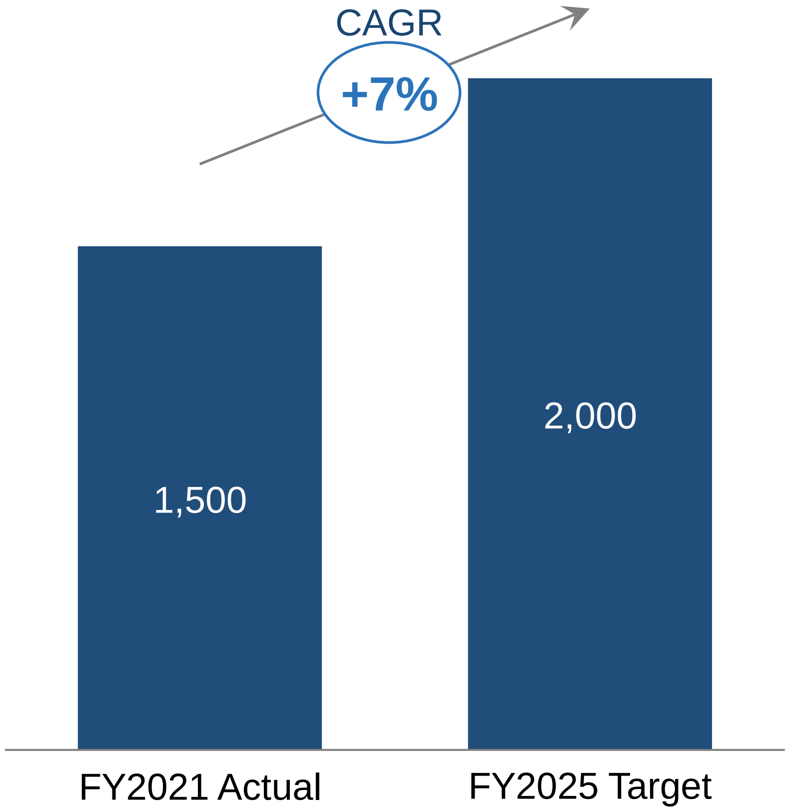
	Customer needs	MCG's Strengths
Light guide plate (Substrate)	Improvement of weight reduction, safety, which are the challenges for conventional glass substrates	• Achieves transparency and smoothness beyond that of optical glass by utilizing our superior molding technology for transparent polymer materials. Super transparency / Super smoothness
Light Diffractive Materials	Improved immersion feeling	• Achieves higher performance than other methods using technology cultivated through research and development of hologram memory • We have a full range of in-house capabilities, from materials to evaluation technology. (Our unique strength) Viewing angle improvement / Brightness improvement / Image quality improvement / Weight reduction Thinning



Electronics Business Indicators Summary

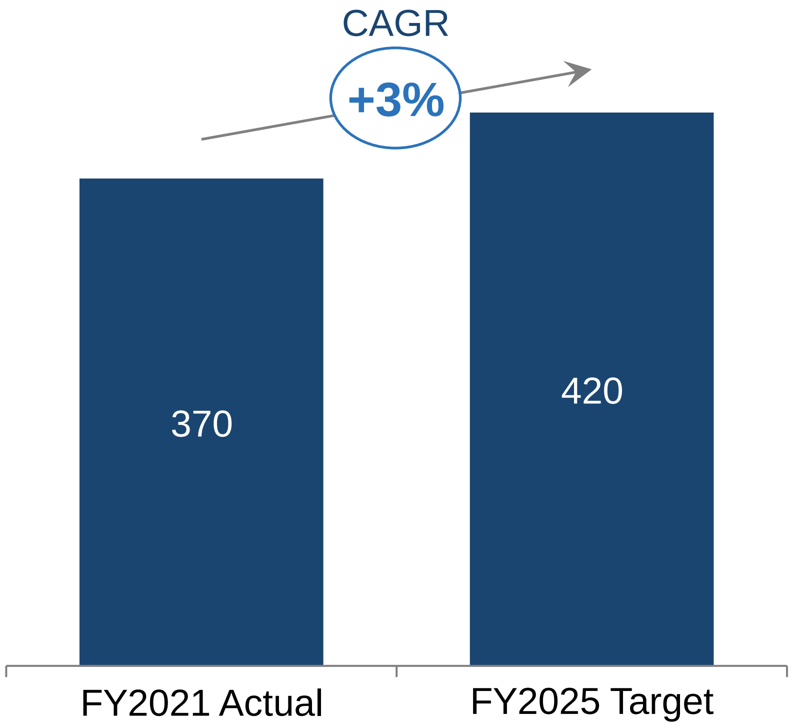
Sales Revenue

(oku yen)



EBITDA

(oku yen)



Food

Food Market Trends | MCG Solutions and Products

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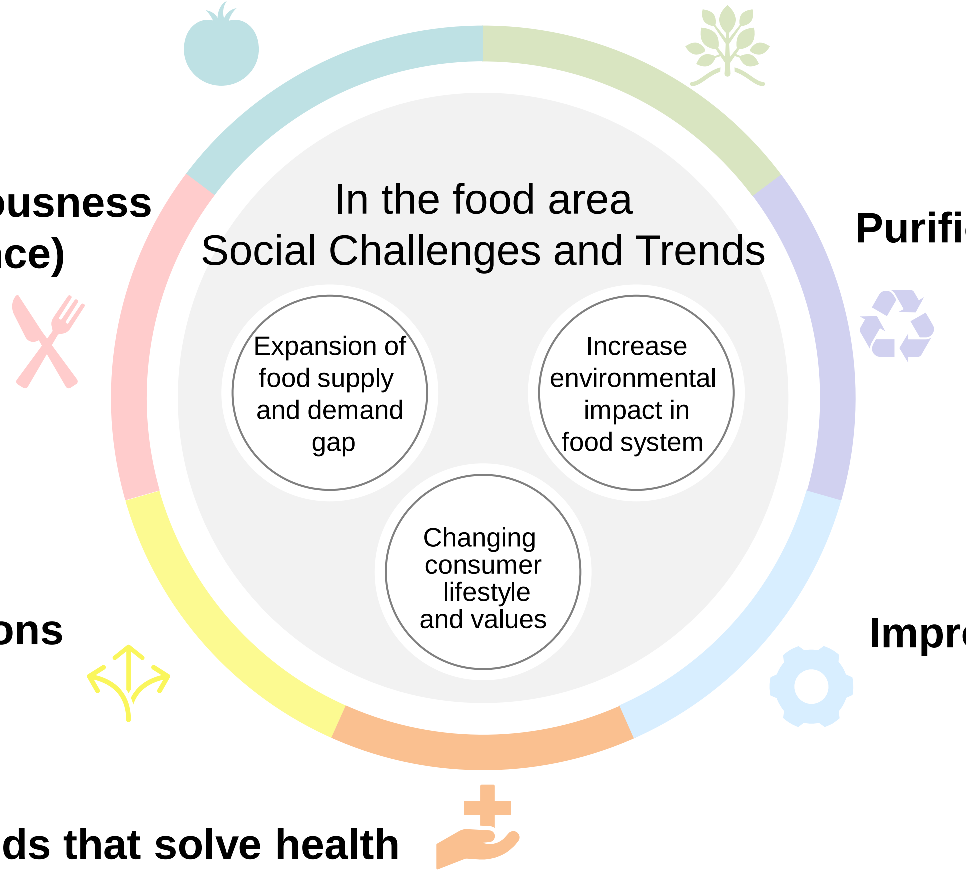
Reduction of food loss, preservation of taste and freshness

Reduction of environmental impact in food production systems

Comprehensive design of deliciousness (Taste, texture, aroma, appearance)

Purification technology to support supply



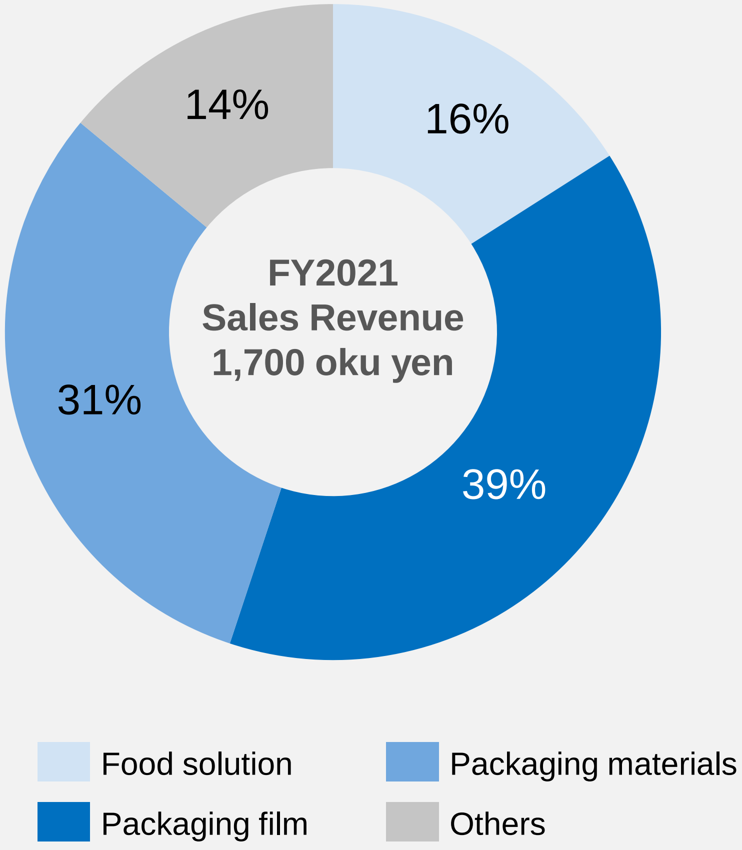
New food options

Improved production efficiency

Foods that solve health challenges

Food-related Businesses | Overview

Sales by product in the food businesses



Explained in detail in the latter part. (Emulsifier, High-performance co-extruded film)

	Base products	Growth products	Future products
Food solution		Emulsifier	Plant-based meat and plant-based milk
	Carbohydrates and polysaccharides	Lactic acid bacteria/enzymes	
	Other health food materials	Vitamin E	
Packaging film		Biaxially oriented nylon film	
		Silica deposited barrier film	
		High-performance co-extruded film	
Packaging Materials		PVOH / EVOH	
Others	Water Purifiers (Cleansui)	Biodegradable resin	Hydrogen jelly
	Wastewater treatment	Ion exchange resin	Zeolite membrane
	Agricultural Materials		Plant factory

Emulsifiers | Maintain and strengthen the No. 1 global market share of sugar esters

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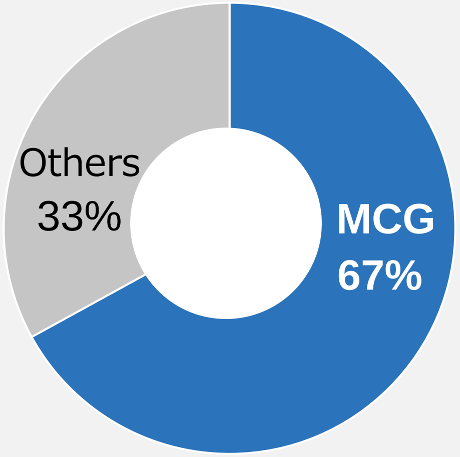
Breakdown of Sugar Esters' Global Share



No. 1 global market share and a dominant position accounting for approx. 70% of the total

MCG's value proposition in the emulsifier business (Sugar Esters)

- Application range
- Dispersion stability
- Customize ability

Improves texture and taste by easily maintaining the emulsified structure of various food ingredients.
Optimize composition according to customer needs

Other emulsifiers	MCG
	

Tea Demand (APAC)

CAGR[1] **+8%**

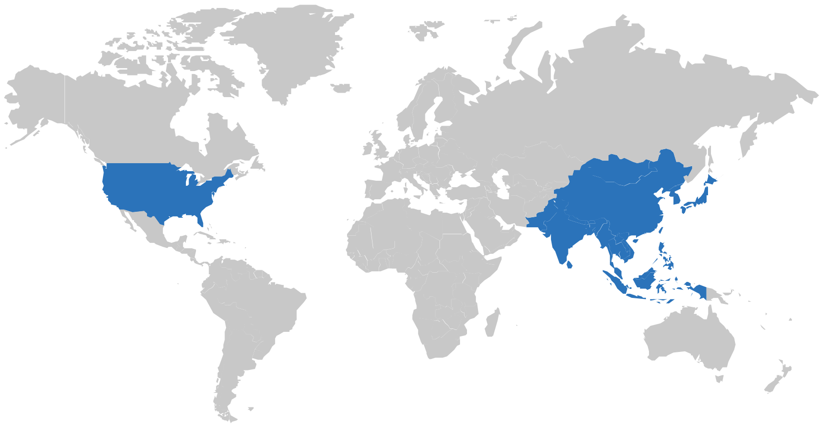
Ready-to-Drink Demand Rises as Incomes Rise in Emerging Asian Countries

Coffee Demand (APAC)

CAGR[2] **+4%**

Increased demand due to lifestyle changes (e.g., remote working) as a result of the COVID-19.

Regional expansion



Beverage
Business expansion in Asia (China)

Chocolate
Business expansion in Asia (China) and USA

1. growth rate of Tea RTD market (APAC) during 2020-25; 2. growth rate of Coffee RTD market (APAC) during 2022-27
Source: Mordor Intelligence

Food packaging materials |
Appealing to the food needs of Asian countries such as Thailand with the No.1 track record in Japan

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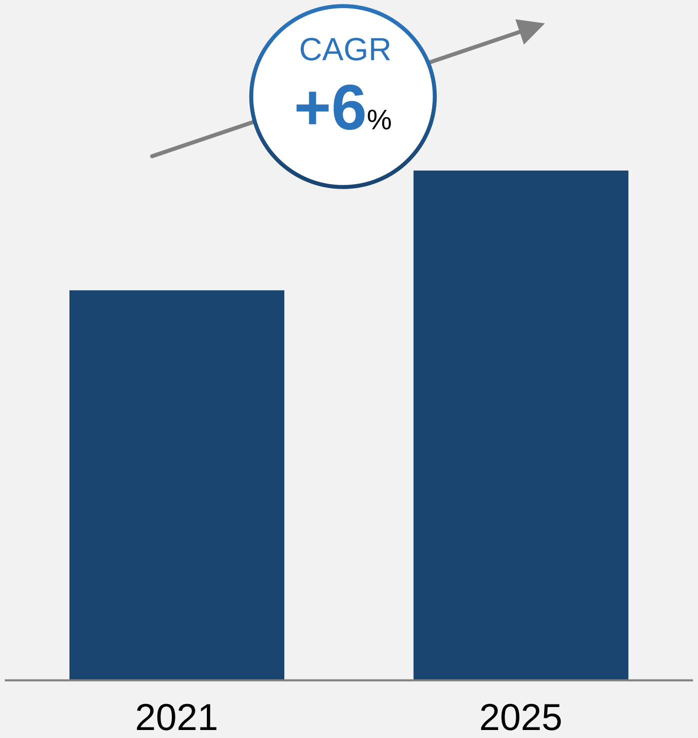
Global Food Packaging Market Trends

Barrier Film Market (amount-based)



Growing demand for food loss reduction and QOL improvement will drive future growth, especially in Asia

MCG's Strengths

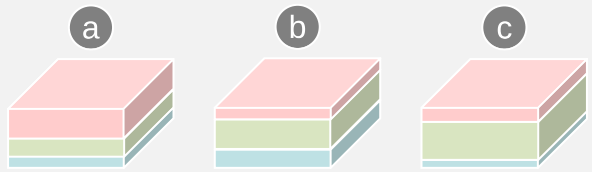
Design and film deposition technology

High quality stable supply

Multilayer co-extruded film for deep drawing packaging No.1 share of the domestic market

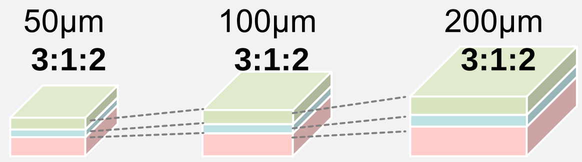
Approx. 65%

MCG DIAMIRON Co-Extrusion Technology



- Unique technology allows for a high degree of freedom in setting the layer thickness ratio.
  The thickness of each layer can be changed.
- Various functions such as design, barrier property, pinhole property, etc. can be added.

Other company



- Each layer thickness tends to be in the same ratio
- Surface roughness occurs when changing layer thickness

Expansion into Asia

Responding to customer needs specific to Thailand and other Asian countries

Chilled needs

Responding to demand such as change from frozen to refrigerated for export

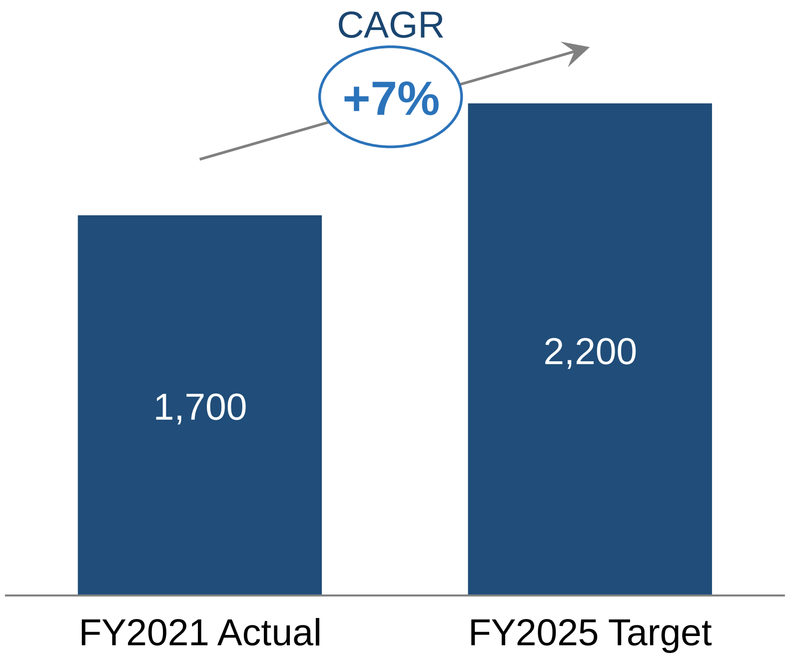
Color needs

Expressing the colors that are unique to the region and desired by the customers

Food Business Indicators Summary

Sales Revenue

(oku yen)



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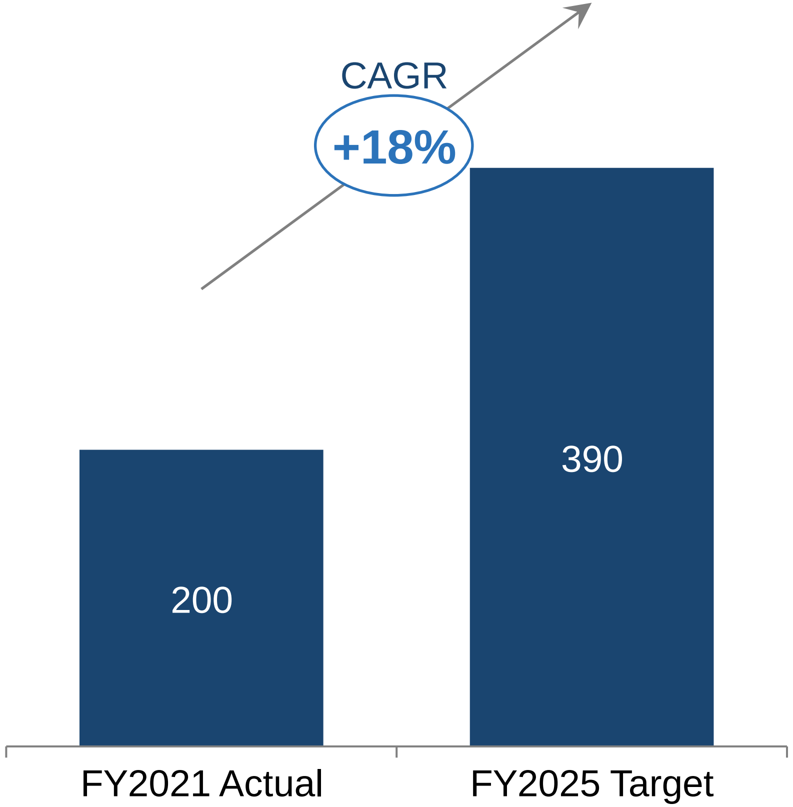
(oku yen)



EV / Mobility

Megatrends | Mobility Trends Drive New Product Needs

Trend | **Customer needs** | **~2030** → **From 2030**

1 Connected cars

5G/6G Communication, Antenna, Optical Fiber Fiber Optics

- 6G communication Technology
- 5G communications in full swing

2 Autonomous driving & Safety

Sensors/Cameras/ Improvement of positioning system performance and accident prevention

- Level 2
- Level 3
- Level 4
- Level 5
- Reduction in traffic accidents

3 Comfortable indoor space

Quietness, damping, and vibration control in the cabin Highly designed/tactile components

- Turning the cabin into an entertainment space
- Emerging Customization

4 Shared

Hygiene/Antibacterial nti-virus material

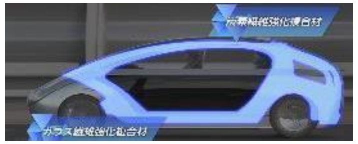
- From owning to sharing
- MaaS

5 Electrification

High capacity / High life span / High safety

- Lithium-ion battery
- All-solid-state battery
- Innovative Battery Technology
- Increased demand for thermal management

6 Mobility diversification and weight reduction



Mass-produced at low cost lightweight materials and multi-materials

- Expanded use of lightweight materials
- Urban Air Mobility Market Expansion
- Expanding use of FCV

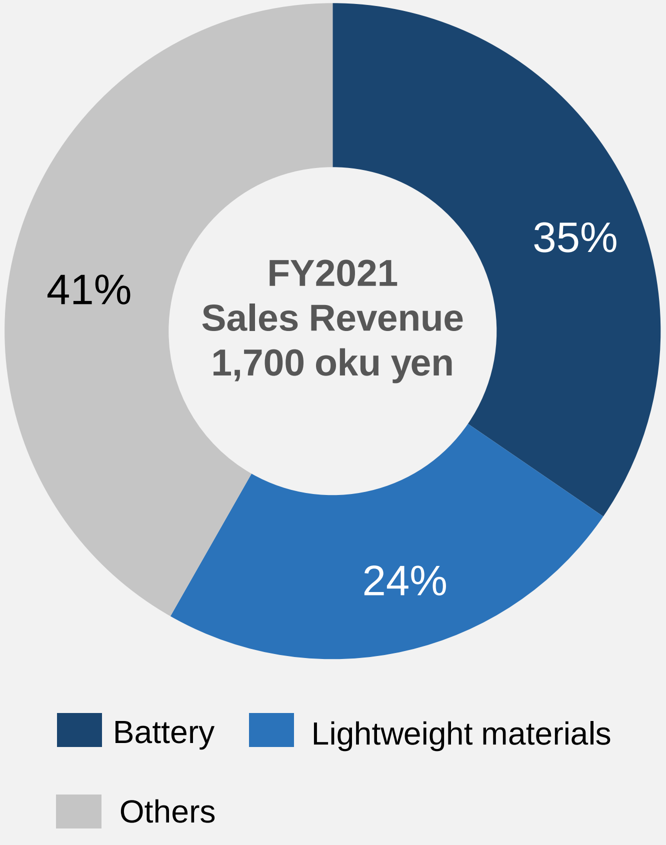
7 Sustainability/ CE

CO_2 reduction recycled and bio-based materials

- Promote SDGs and CO_2 reduction
- Expansion of bio-based materials and recycled materials
- Hydrogen Implementation Society
- Transition to a recycling-oriented society

EV/Mobility-related Businesses | Overview

Sales by product in the EV/Mobility businesses



Explained in detail in the latter part.

	Base products	Growth products	Future products
 Connected Cars		Special resin plating for antennas Various polymers	Electromagnetic wave shielding material
 Autonomous driving & Safety	For airbag cover thermoplastic elastomer	Special coating materials Wavelength selective transparent resin Information display components	Low dielectric loss film
 Electrification		Electrolyte, anode material Insulation film Adhesive resin Engineering plastic molded products Various polymers	Battery thermal control spacer material Thermoplastic composites For battery case
 Comfortable indoor space/Shared	Soundproofing ultrafine acrylic fiber Functional Interior Resins		Anti-reflective film Acoustic metamaterial
 Weight reduction	glass-mat-reinforced thermoplastics Resin materials for wire coating	Carbon Fiber Reinforced Plastic (CFRP) Engineering plastic molded products Various polymers	
 Sustainability/CE	Natural-pulp-based Triacetate fibre	Bio-based engineering plastics Modifiers for recycled resins	Recycled Carbon Fiber

Battery Materials | Battery-related Materials Market Expands through EV Growth

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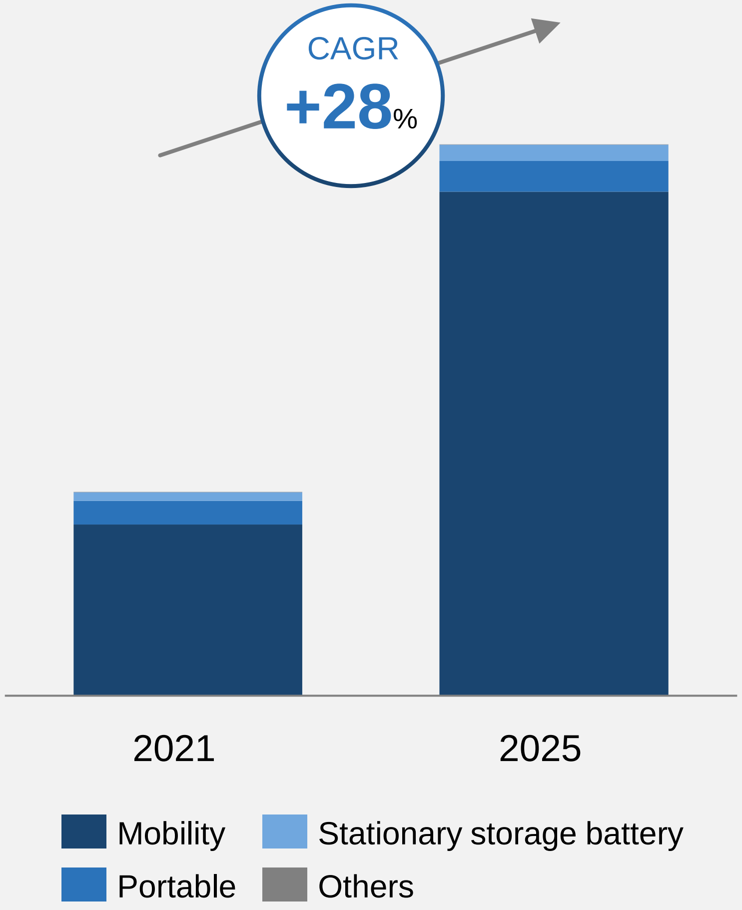
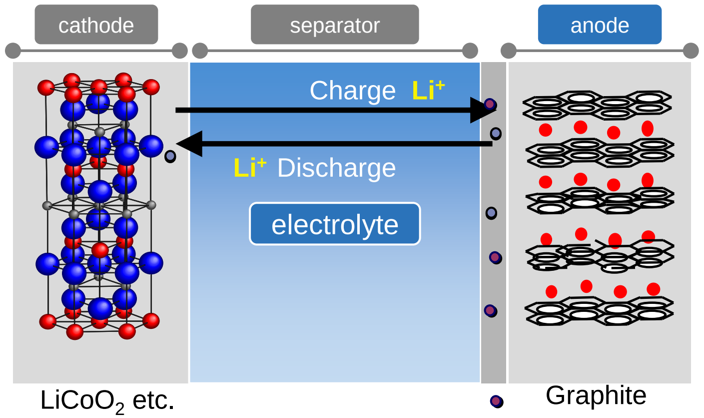
Global LiB Market Trend

(based on battery capacity, GWh)



Key LiB Components and Needs

XX MCG's products

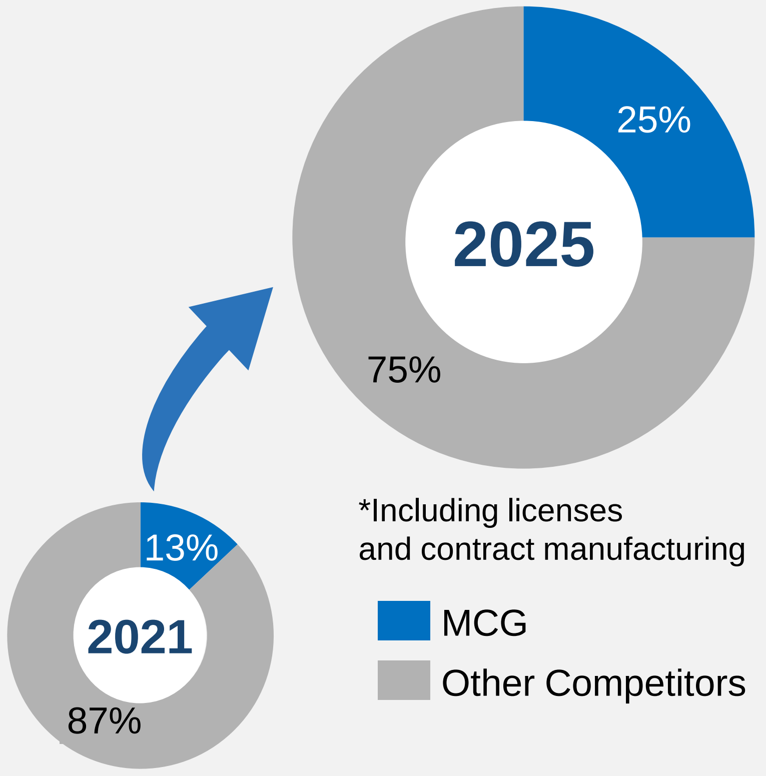


Main components / Customer needs

Main components			Customer needs
Electrolyte	Solution with electrical conductivity		• High Power • Durability, long life, high safety • Control of side reactions at the electrode
Anode material	Accepts lithium during charging to determine battery capacity and power		• High capacity, long life • Stable supply • Materials with low environmental impact amid increasingly strict environmental regulations
Cathode material	Source of lithium ion. Determines battery capacity, power and average voltage		
Separator	Isolates the positive and negative electrodes while maintaining ionic conductivity		

Electrolyte | Aiming to expand market share by leveraging our industry presence, proprietary additives and high design capability

Breakdown of global electrolyte market share



Aiming for growth up to 25% of overall market share by 2025

MCG's Strengths

Possession of competitive additives
High performance additives with a strong patent network

Electrolyte design capability to meet customer needs
Design capability to combine various raw materials to achieve the battery characteristics required by our customers.

Customer relations for capturing the innovation cycle

Anticipating needs from the development stage

Vehicles requirement characteristics
- High Energy density
- Fast charge
- Low cost

Battery requirement characteristics
- Hi-Ni cathode
- Si anode
- High voltage design

Electrolyte development
- Advanced developing products that meet customer needs

Collaboration with cathode and anode material manufacturer

Carbon Fiber Composite Materials | Entering Target Markets with Unique Materials that Combine Lightness and Strength with Productivity

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Customer needs

Weight reduction — Extended distance of lifetime driving /Increased fuel economy

×

High strength — Vehicle safety assurance when collision occurs.

×

Productivity — Cost reduction through simplification of processes

MCG's Strengths

Original technology and Materials

SMC*, which improves productivity while keeping carbon fiber characteristics.
Fast curing prepreg

Business expansion targeting Commercial and luxury vehicles

Thermosetting Process

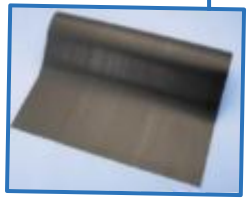
Autoclave/RTM**
- Conventional prepreg
- CF cloth

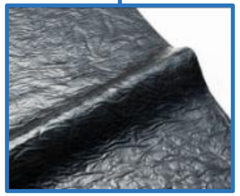
Press molding
- Fast curing prepreg (No. 1)
- Thermoplastic CF Prepreg
- SMC (No. 1)
- Thermoplastic CF fabric

Thermoplastic process

Injection molding
- For structure
- Thermoplastic CF pellet
- General Injection Molding pellets

Strength & Rigidity





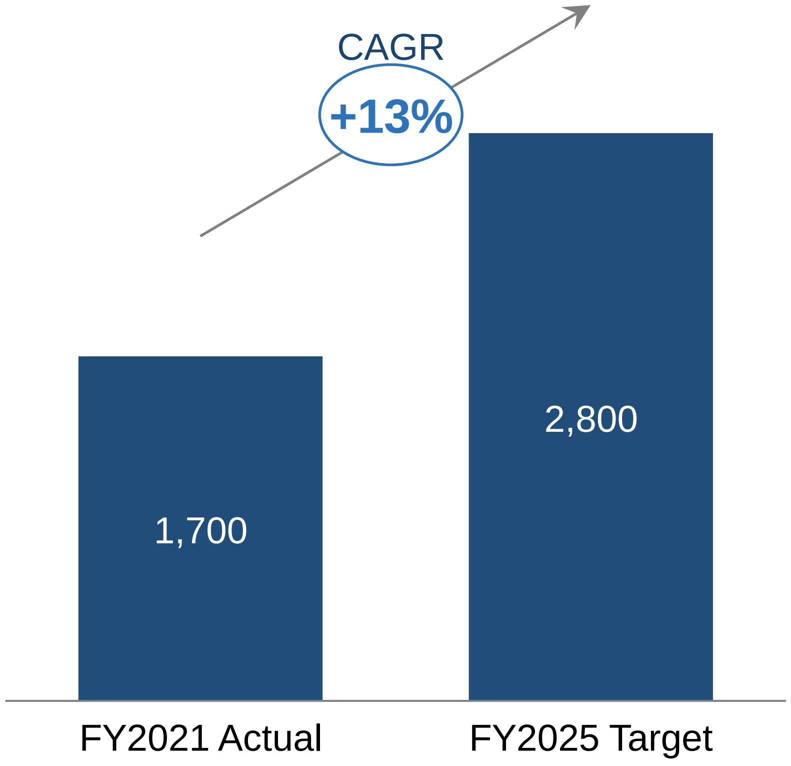
Moldability and mass production

*Sheet Molding Compound
**Resin Transfer Molding

EV/Mobility Business Indicators Summary

Sales Revenue

(oku yen)



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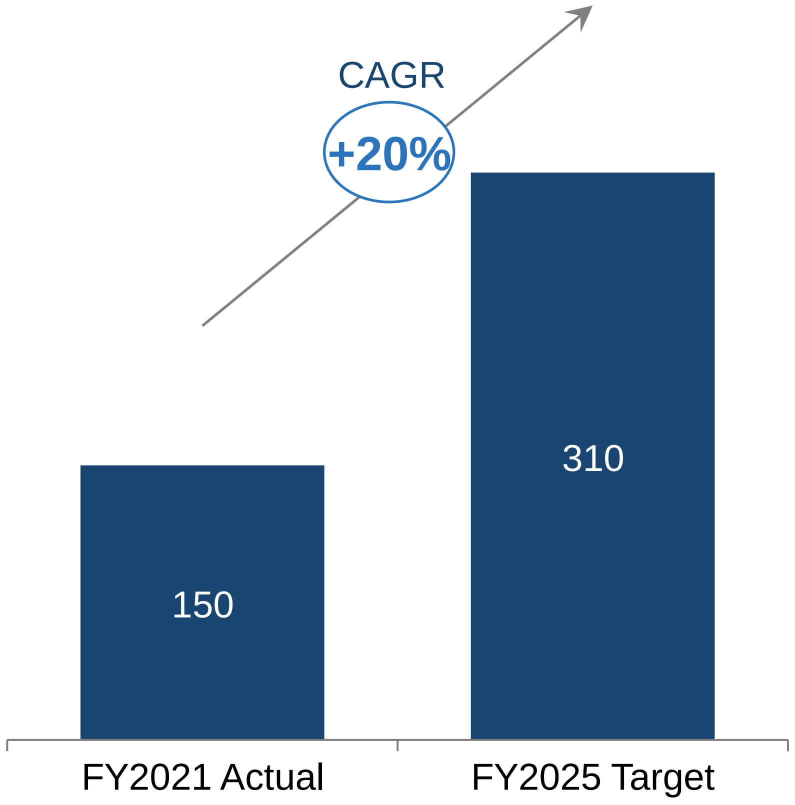
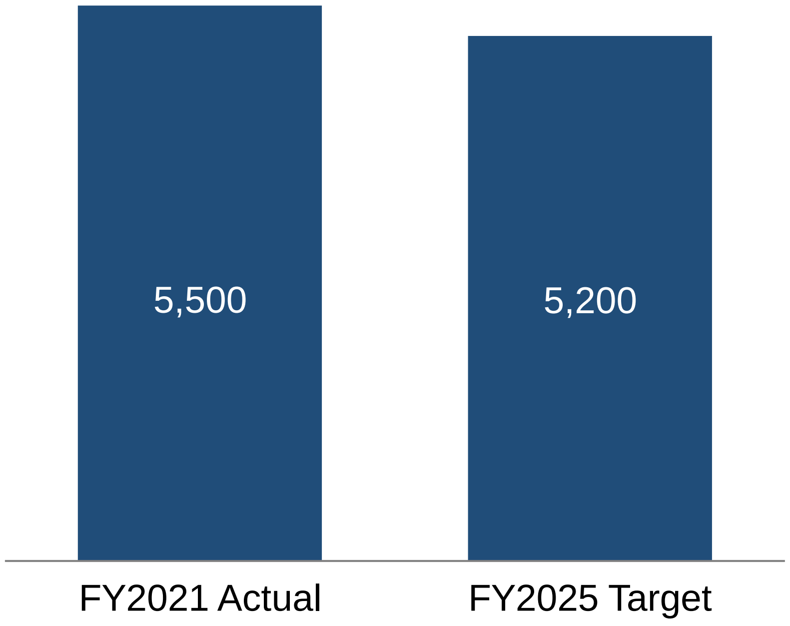
(oku yen)



Industrial, Medical, Consumer goods, Building & Construction etc. Business Indicators Summary

Sales Revenue

(oku yen)



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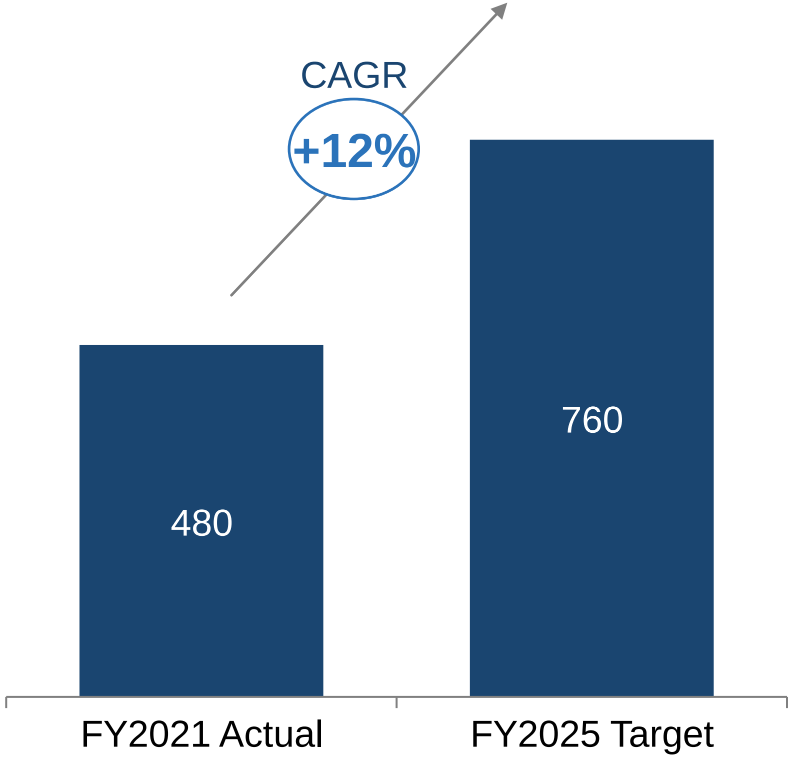
(oku yen)



Sustainability

Our focus markets in Performance Products

1st session | 2nd session

	Digital	Food	EV/Mobility	Sustainability
Sales Revenue (oku yen, FY2021)	Approx. 2,500	Approx. 1,700	Approx. 1,700	Approx. 4,600*
Key Businesses	• Semiconductor materials/services • Electronic devices	• Food packaging materials • Food additives	• Batteries • Lightweight materials	• Recycled and bio-materials • Product life extension
Products to be introduced today	• Cleaning materials & services • Epoxy • Black bank materials for OLED • Light guide plate materials for AR glass	• Sugar esters • Barrier film for food	• Electrolyte • Carbon Fiber composite materials	• EVOH • Bio-based polycarbonate

*A portion of revenue is duplicated in each market

MCG Solutions | Creating a Larger Recycling Loop

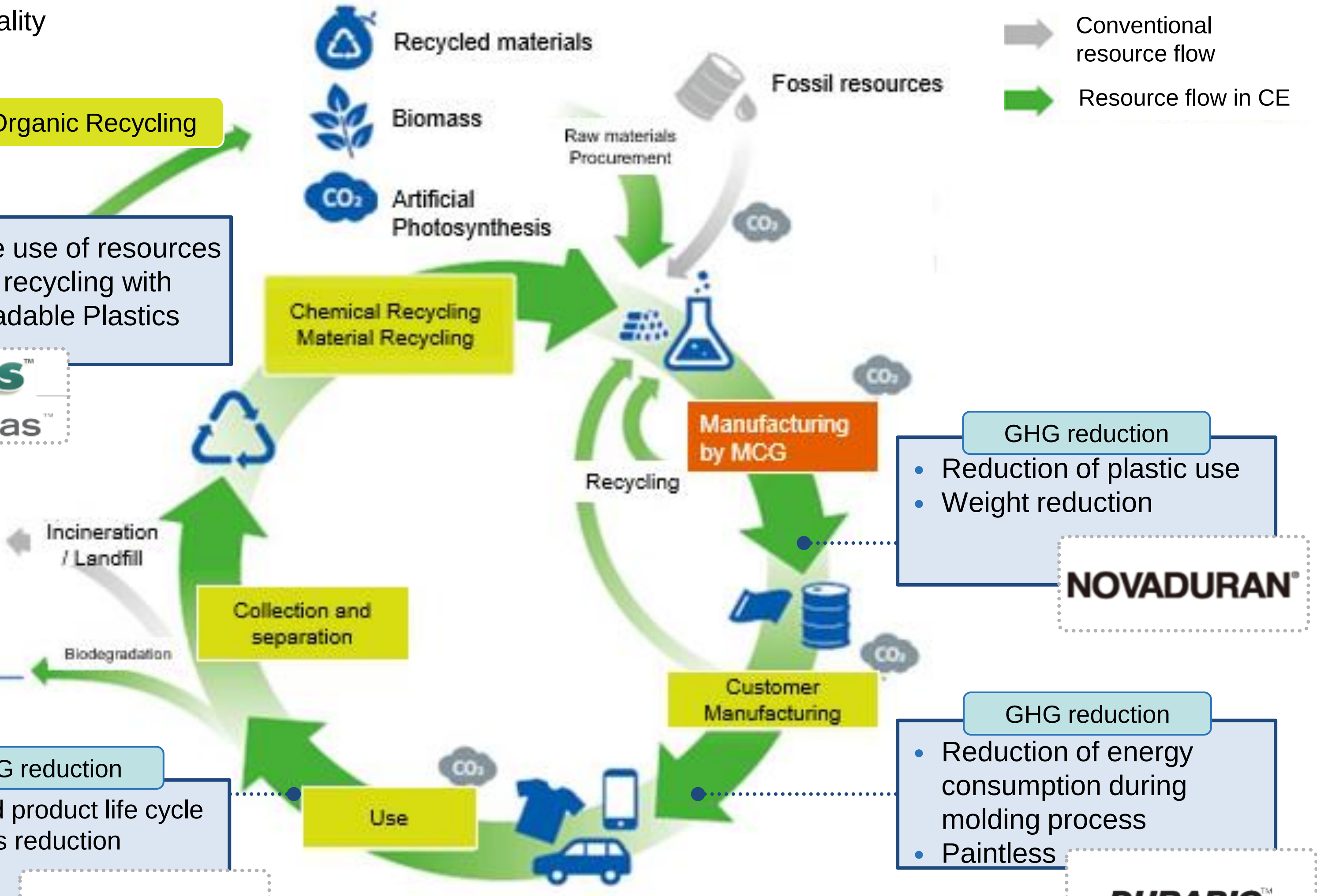
Flow of initiatives to realize CN*

*Carbon neutrality

- Effective use of resources
- Organic recycling with biodegradable Plastics

BioPBS™ Forzeas™

Nichigo G-Polymer™



GHG reduction

- Reduction of plastic use
- Weight reduction

NOVADURAN®

GHG reduction

- Reduction of energy consumption during molding process
- Paintless

DURABIO™

GHG reduction

- Extended product life cycle
- Food loss reduction

Soarnol

Steps to realize CN*

Efforts to reduce GHG emissions

- Reduction of plastic usage and weight reduction by high functionality

Realization of the resource circulation model

- The creation of a mechanism based on recycling technology

Contribution to the realization of CN

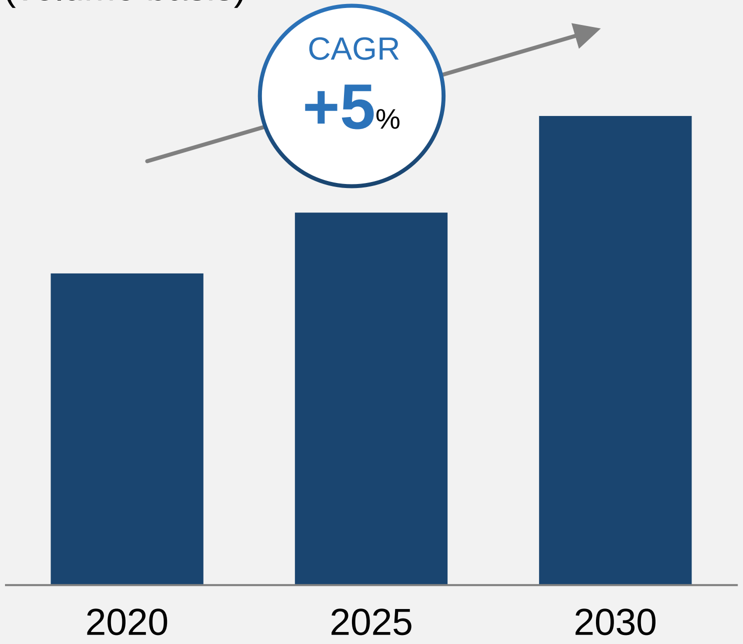
- Development of manufacturing process with low environmental impact
- Utilization of biomass feedstock and sustainable resources

EVOH's Perceptions of the Market Environment |

In addition to population growth and growing awareness of food loss reduction, packaging materials are also required to contribute to GHG reduction

Global Market Trend of EVOH

(volume basis)



Further growth is expected in the future by contributing to the circular economy.

Market Trends

Food

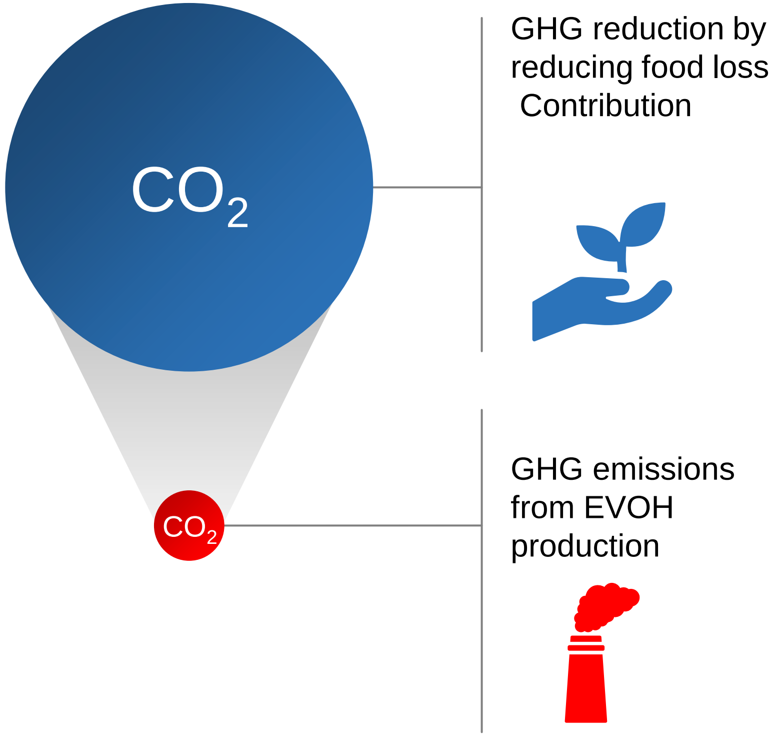
Acceleration of individual packaging and processed foods

Extending expiration dates to reduce food loss

More sophisticated freshness-retaining packaging materials

EVOH's contribution to carbon neutrality

The food loss reduction effect of EVOH is dozens of times greater than GHG emissions from resin production (our estimate).



EVOH | Maintain and enhance global presence by expanding production capacity in Europe

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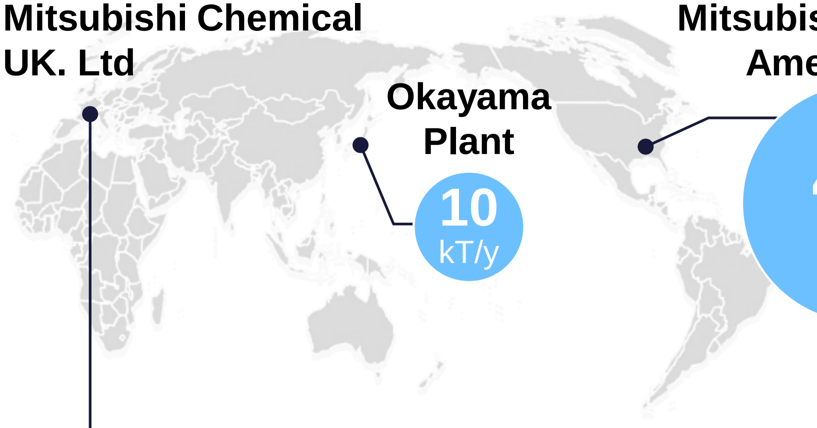
MCG's supply system

Establish a global 90,000-ton production system in 2025



Soarnol Div. Mitsubishi Chemical UK. Ltd

Okayama Plant

10 kT/y

Soarnol Div. Mitsubishi Chemical America, Inc.

41 kT/y

global market share

Approx. 40

Investment in capacity expansion

FY2022	FY2025
18 kT/y	39 kT/y

Soarnol ™

Extrudable
Gas barrier
material

MCG's Strengths

- Molecular and formulation design technology for compatibilization
- Recycled certified by European institutions
  - Multilayer olefin film containing the recycling aid Soaresin™ added to Soarnol™.
  - Institute Cycle-HTP GmbH
    Recycle Certification from Cycle-HTP GmbH

Institute cyclos-HTP GmbH
Institute for recyclability
and product sustainability

Biopolycarbonate Market Trends

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Customer Industry Trends and Needs

Conversion to EV	Weight reduction, battery technology, changes in required SPEC
Autonomous driving	Camera and sensor technology, millimeter wave radar, LiDAR
Connected	Larger in-vehicle displays and integration with interiors

Folderble	Thinner technology, durability
High-definition	Spread of 4K/8K broadcasting
High speed and high capacity	Terminal and base station upgrading, 5G
Cashless	Terminal, sensor and authentication technologies

Energy-saving	High-insulation building materials (plastic), lightweight solar cells
SDGs	LCA

Polycarbonate Needs

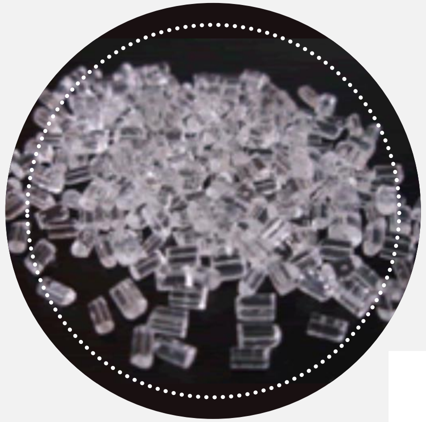
Environment-friendly: Low environmental impact materials

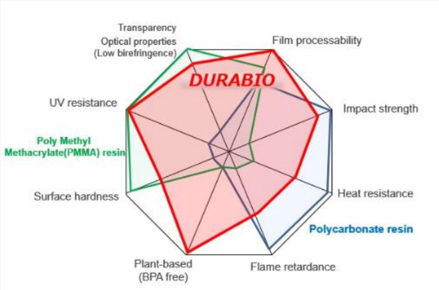
High functionality: Materials with excellent transparency and optical properties

Biobased Polycarbonate

Paint-free production streamlines customer manufacturing processes, improves fuel efficiency, and promotes material recycling.

DURABIO TM





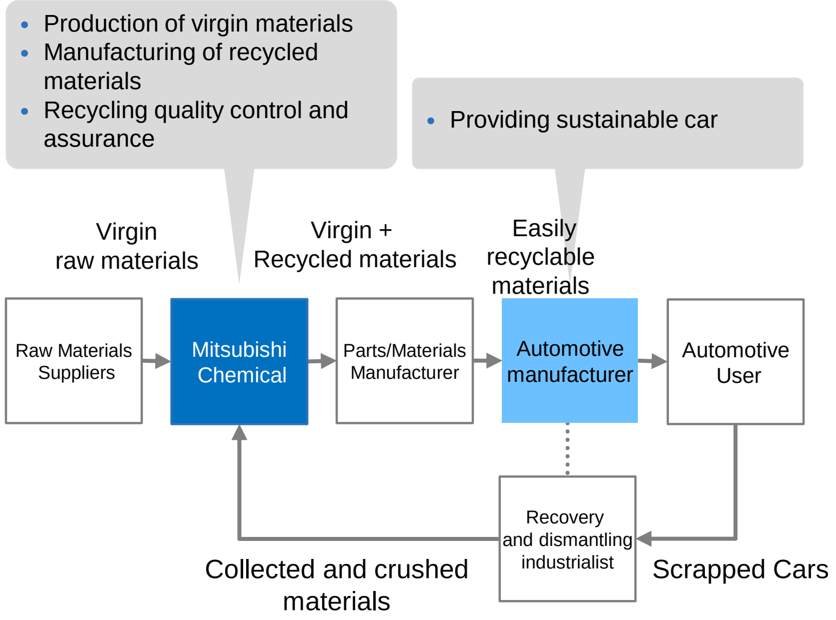
- Transparent engineering plastics used for high performance plant-derived material developed by our company
- It has excellent optical properties, lightfastness and surface properties, and can be used as a substitute for glass.

MCG's Strengths

Demand for reduced VOC and GHG emissions due to lighter vehicle bodies and paint-free paint

DURABIO's paint-free production promotes material recycling

- Eliminates the negative effects of the paint layer



Today’s agenda

15:00 - 15:05	Opening remarks	Jean-Marc Gilson Representative Corporate Executive Officer, President and Chief Executive Officer
15:05 - 16:10	i. Our starting point	**Jean-Marc Gilson**
	ii. Performance Products – spearhead of implementation	Johei Takimoto Executive Vice President, Head of Advanced Solutions
	iii. Key takeaways and outlook	Hitoshi Sasaki Executive Vice President, Head of Polymers & Compounds / MMA
16:10 - 16:20	Break	
16:20 - 17:20	Q&A session	
17:20 - 17:30	Closing remarks	Jean-Marc Gilson

Key messages of today’s perspective on Performance Products

Change is happening

- Driving the changes outlined on bring re-focus, accelerate margin growth and cost & cash excellence
- Already seeing successes of our efforts with increased speed after organizational changes have settled

Speed of execution is accelerating

- Set up an Office of Strategic Project Management to drive, track and accelerate the Forging the future transformation
- Bankable plan in development and quick wins identified

Growing profitability first

- Focusing on accelerating top-line growth – but will grow our profitability first
- Will grow absolute EBITDA and margin to create value for our shareholders

Driving the change sustainably

- Pursuing change management and capability building throughout the organization

Outlook – what we will show in February 2023

- Comprehensive Forging the future implementation roadmap along the key strategic priorities for MCG overall
- Holistic financial performance view on MCG and all businesses
- Detailed bankable plan for productivity improvements and cost reductions
- Quick wins already implemented
- Description of cultural shift under way