June 4, 2024

Corporate Name: AGC Inc.
President & CEO: Yoshinori Hirai
(Code Number: 5201; TSE Prime section)
Contact: Chikako Ogawa, General Manager,
Corporate Communications & Investor Relations
(Tel: +81-3-3218-5603)

AGC's "IR DAY 2024" Presentation Materials

AGC held "IR DAY 2024" today, following the one held on June 3.

Today's presentation materials are attached.

AGC
Your Dreams, Our Challenge

IR DAY 2024

Shinji Miyaji, CFO

AGC Inc.
June 3&4, 2024

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Status quo analysis, direction, and key strategies

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Status quo analysis	■ PER in line with industry average, but ROE well below capital cost and has higher priority for improvement ■ First, achieve and establish a state of x1>P/B ratio by achieving ROE 8%
Direction	■ Accelerate corporate transformation and maximize corporate value ■ Target ROE 8% by 2026 to cover the capital cost
Key Strategies	■ **Evolution of ''ambidextrous strategy''** ■ **Deepening of Sustainability Management** ■ **DX Promotion** ■ **Strengthening of management foundation**

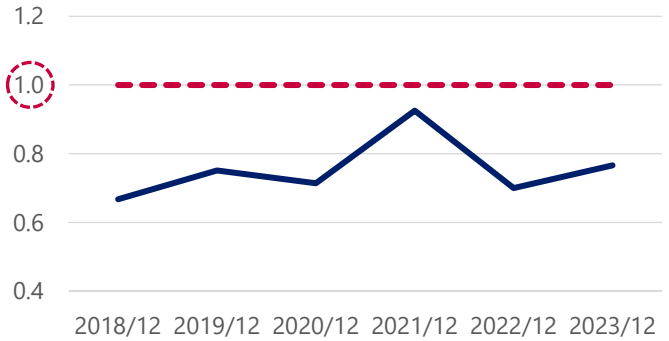
Capital cost and capital return analysis

- **PER in line with industry average, but ROE well below capital cost and has higher priority for improvement**
- **First, achieve and establish a state of 1>P/B ratio by achieving ROE 8%**

Price book-value ratio (PBR)

(Unit: times)

PBR = ROE × PER

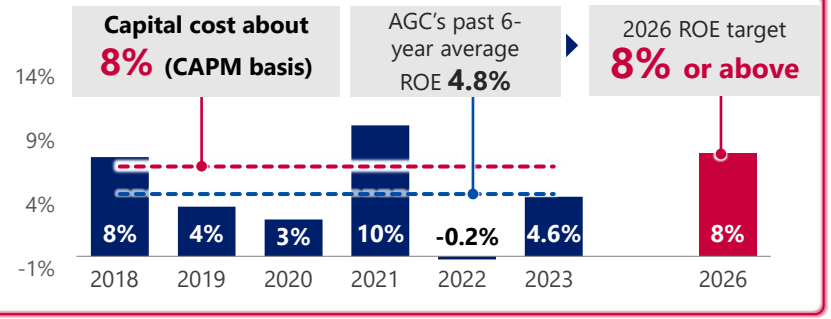


(Reference) Average of 123 chemical companies listed on TSE Prime (December 2023)

Simple average	Weighted average
PBR 1.1x	PBR 1.5x

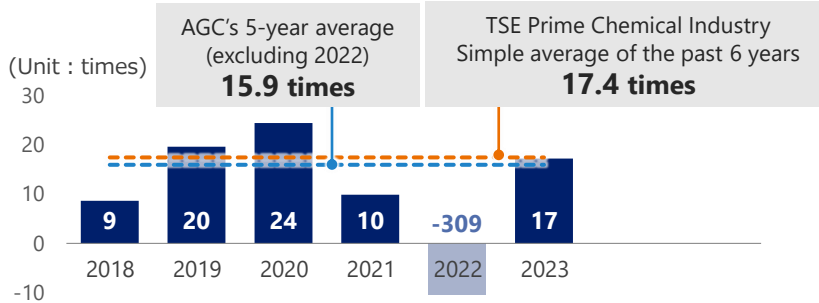
ROE

Return on Equity Ratio



PER

Price Earnings Ratio



Specific measures of key strategies to enhance corporate value

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- "Solid growth in strategic businesses" and "acceleration of structural reforms in core businesses" is the most important measure to improve ROE

Improve and stabilize ROE

- Accelerate portfolio transformation through ambidextrous strategy
- Carefully select investments and implement structural reforms at an early stage
- Continuously improve asset efficiency, including the sale of cross-shareholdings
- **Achieve steady growth in strategic businesses**
- **Accelerate structural reforms of core businesses**

Improve PER

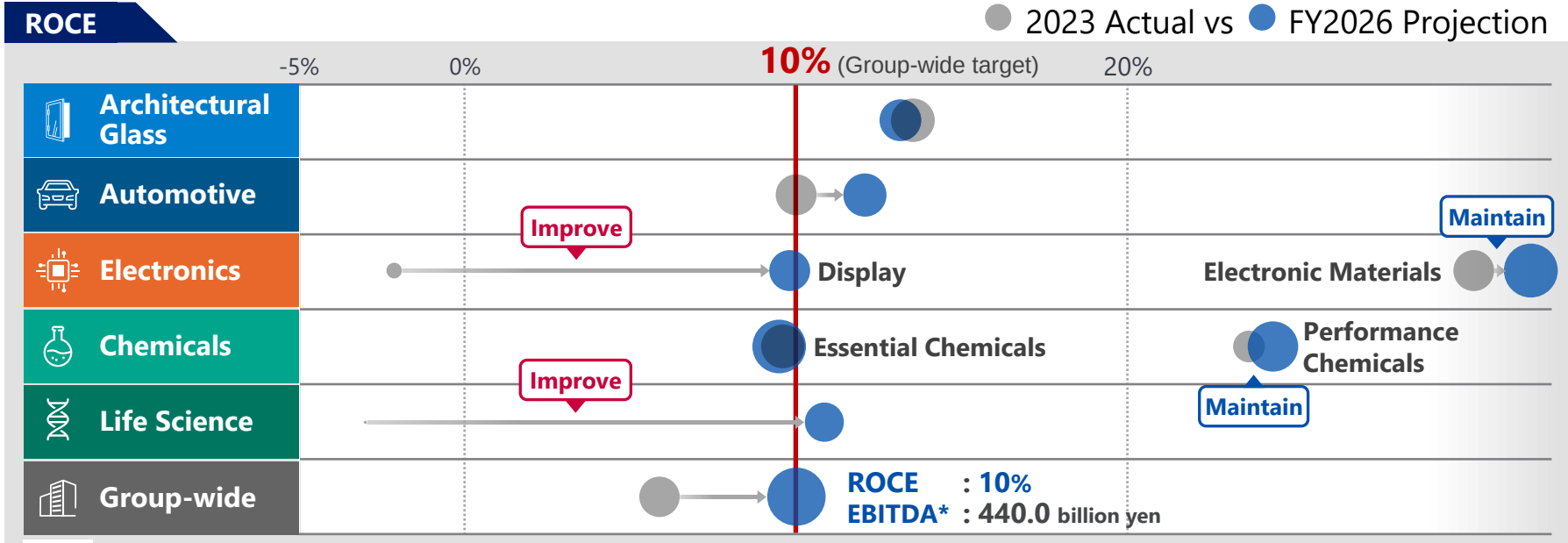
- Sustainability KPI setting, DX promotion
- Continuation of stable dividend (Dividend on equity ratio of approx. 3%)
- Strengthen dialogue with investors (360 individual meetings/year, financial results briefings, business briefings, ESG briefings, meetings with outside directors, etc.)

Improve Corporate Value PBR＞1

Business Indicators for achieving 8% ROE

- Aim for company-wide **ROCE of 10%** or more, which is **equivalent to ROE of 8%.**
- Work to maintain and raise ROCE levels for each business
- Key points are to improve Display and Life Sciences, and maintain the level of Electronic Materials and Performance Chemicals.

ROCE



ROCE : (OP forecast of the year) ÷ (Operating asset forecast at the year-end),
Group-wide OP by business is after allocation of common expenses; OP for each business is before allocation of common expenses

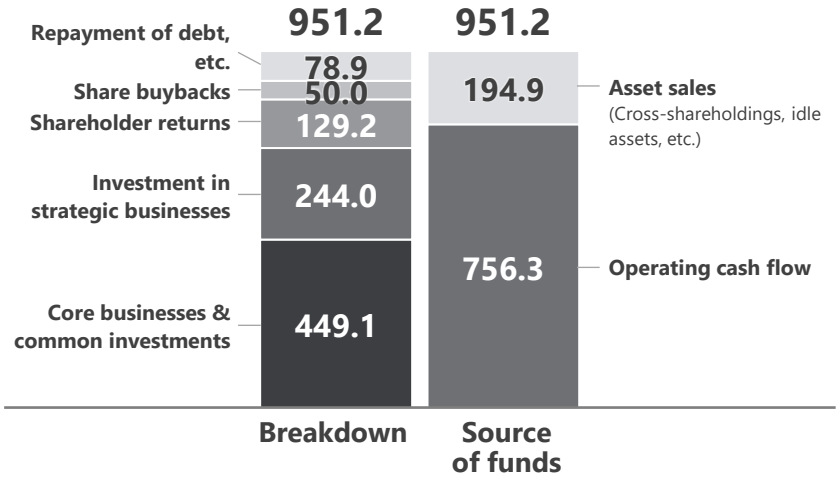
Diameter of each circle (excluding those of the group-wide section) : the size of EBITDA * **EBITDA** = Operating profit + Depreciation

Capital Allocation Policy

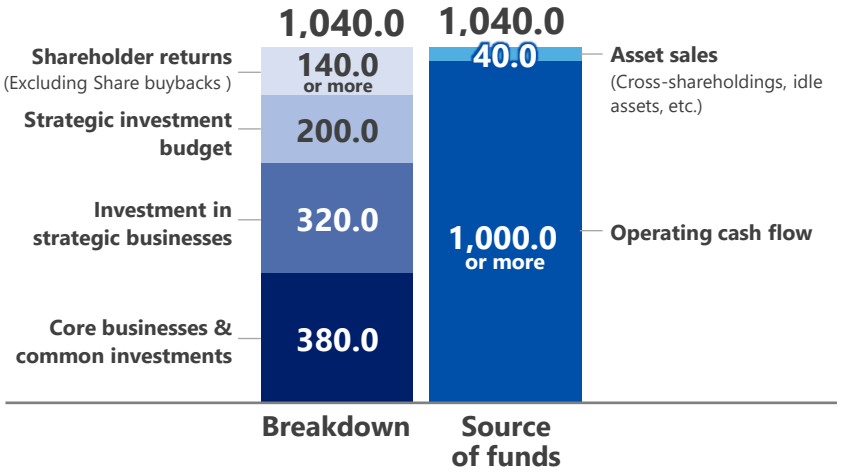
- **Strategic investment budget will be set at 200 billion yen for proactive investment in strategic and growth businesses.**
- **Regarding shareholder returns, stable dividends will be maintained with a target of approx. 3% Dividend on Equity (DOE), and share buybacks will be determined based on a comprehensive consideration of investment projects, cash position and other factors.**

(Unit: Billion yen)

Previous Mid-term Plan period (FY2021-FY2023)



FY2024–FY2026



New Medium-term Management Plan *AGC plus-2026*: Financial KPIs

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- We will continuously grow and evolve our businesses to achieve **stable ROE of 8% or higher**
- We will expand **strategic businesses** to account for the majority of **Group-wide** operating profit by 2026.

Financial KPIs	2023 (Actual)	2024 (Estimate)	2026	2030	2050
OP	128.8 billion yen	150.0 billion yen	**230.0** billion yen	**300.0** billion yen or higher	
Strategic Business OP	56.8 billion yen	80.0 billion yen	**130.0** billion yen	**190.0** billion yen or higher	
EBITDA*	304.1 billion yen	335.0 billion yen	440.0 billion yen		
ROE	4.6%	3.7%	8% or higher	10% or higher	
D/E Ratio	0.42	0.5 or less			

* EBITDA = Operating profit + Depreciation

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END

Disclaimer:

This material is solely for information purposes and should not be construed as a solicitation. Although this material (including the financial projections) has been prepared using information we currently believe reliable, AGC Inc. does not take responsibility for any errors and omissions pertaining to the inherent risks and uncertainties of the material presented.

We ask that you exercise your own judgment in assessing this material. AGC Inc. is not responsible for any losses that may arise from investment decisions based on the forecasts and other numerical targets contained herein.

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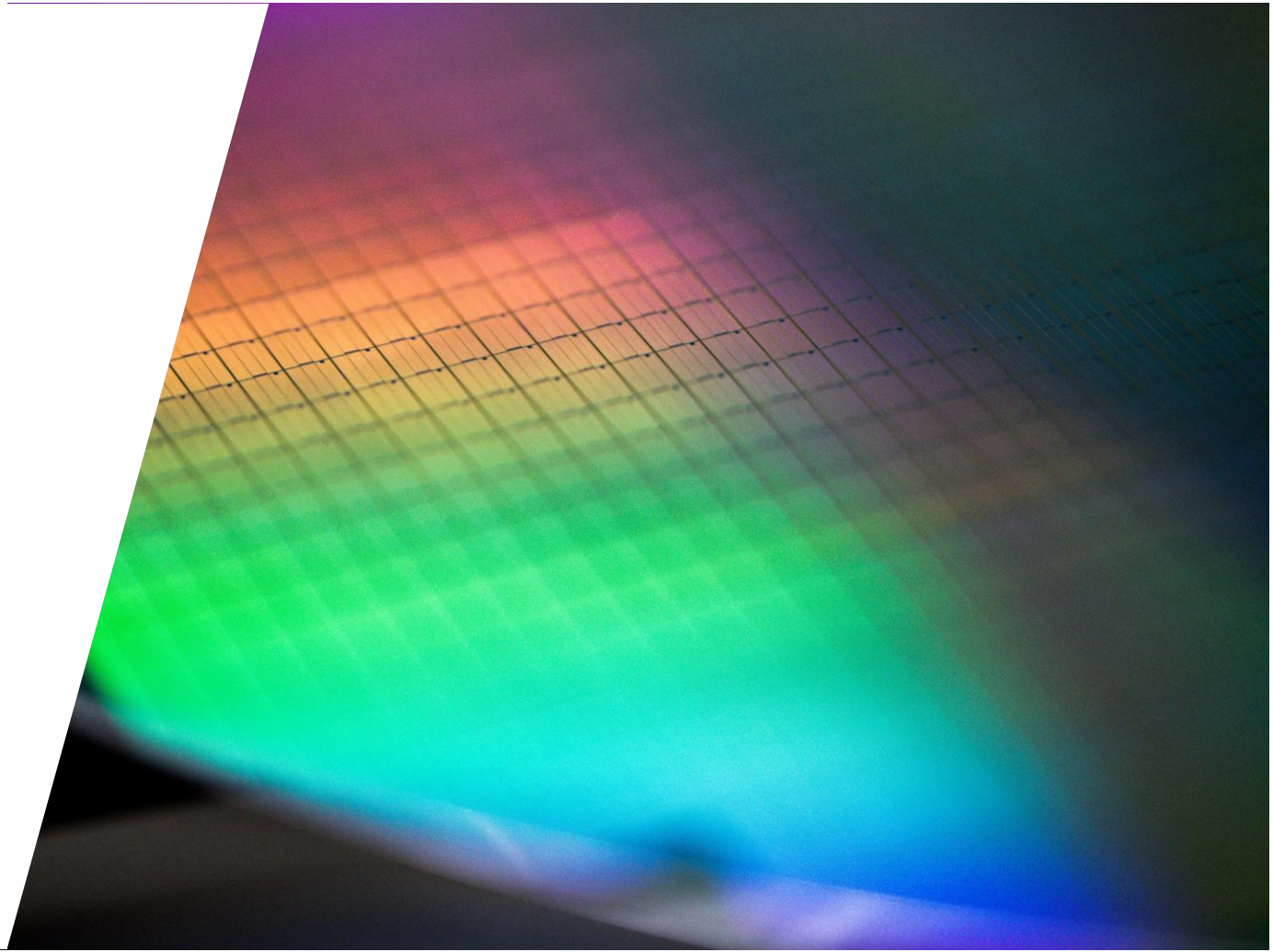
Electronics



AGC Inc.

June 4, 2024

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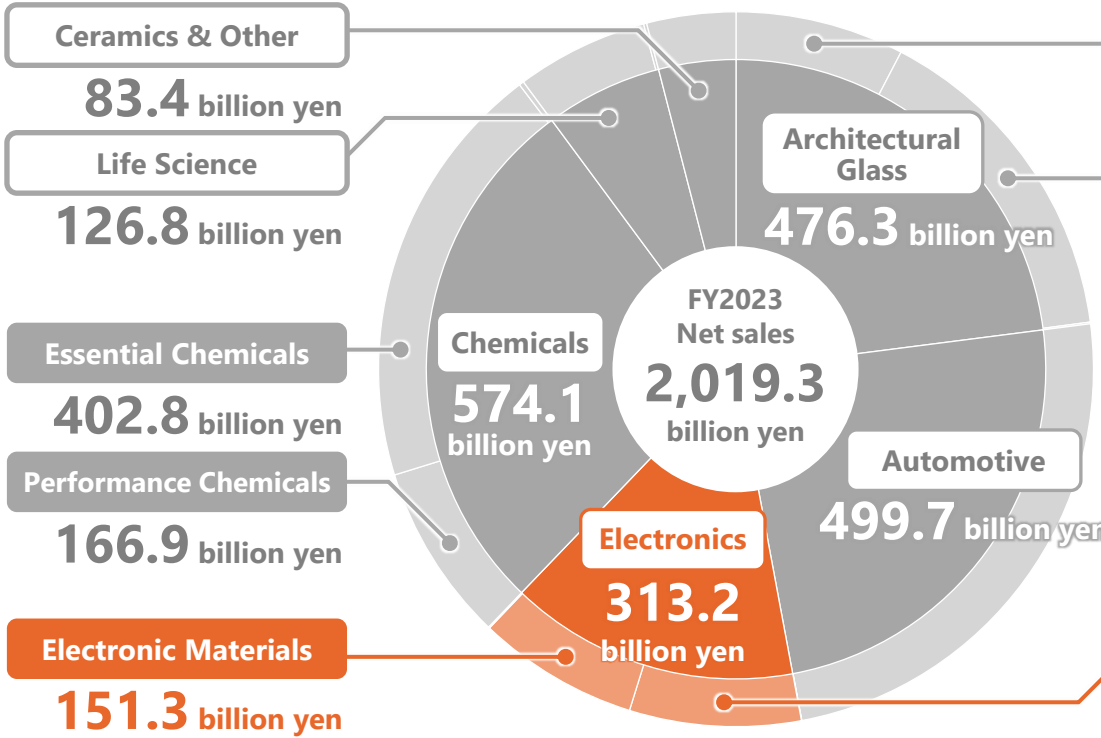
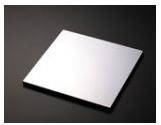
1. Electronics Business Overview

Position in the AGC Group





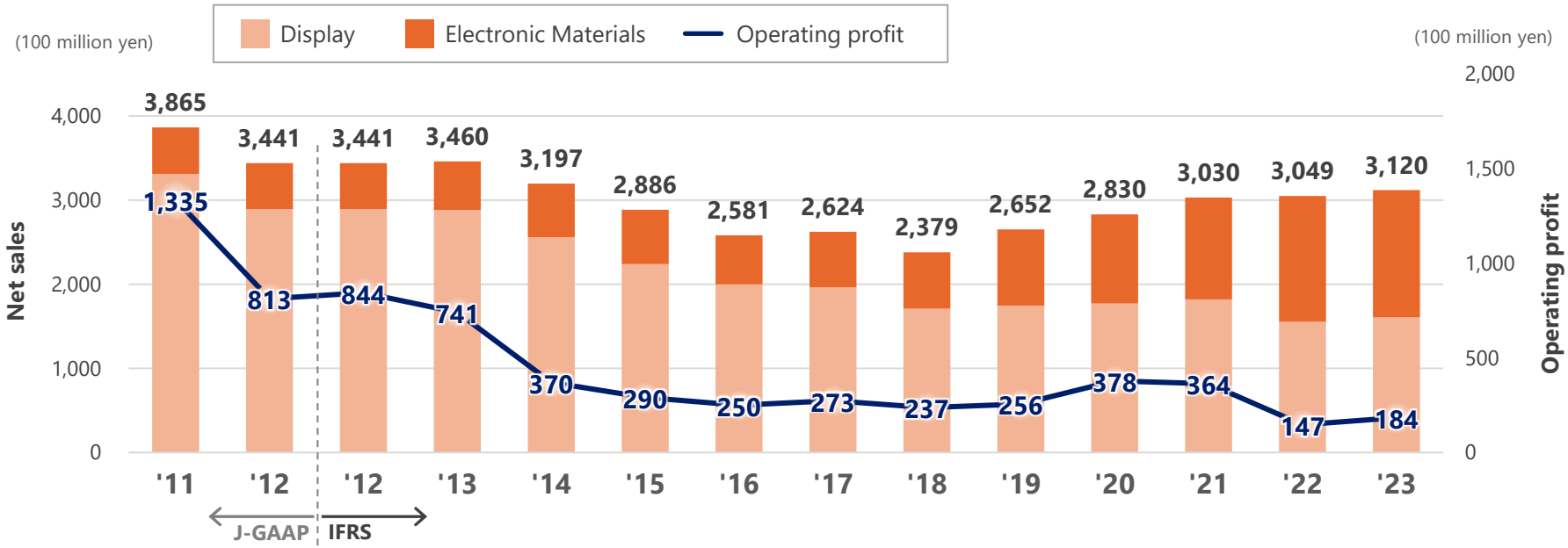
* As net sales by business are figures before eliminations of intersegment sales, the sum of net sales by business does not equal Companywide net sales. Sub-segment sales figures are based on sales to external customers.

Division policy

Under the division policy “Stay in front with SDGs”, we will continue to contribute to a sustainable society as a leading supplier of differentiated material solutions.

Electronics Company Earnings

- Electronic Materials are expanding steadily
- Display is struggling due to the reversion of stay-at-home demand seen during the pandemic



Geographical Coverage

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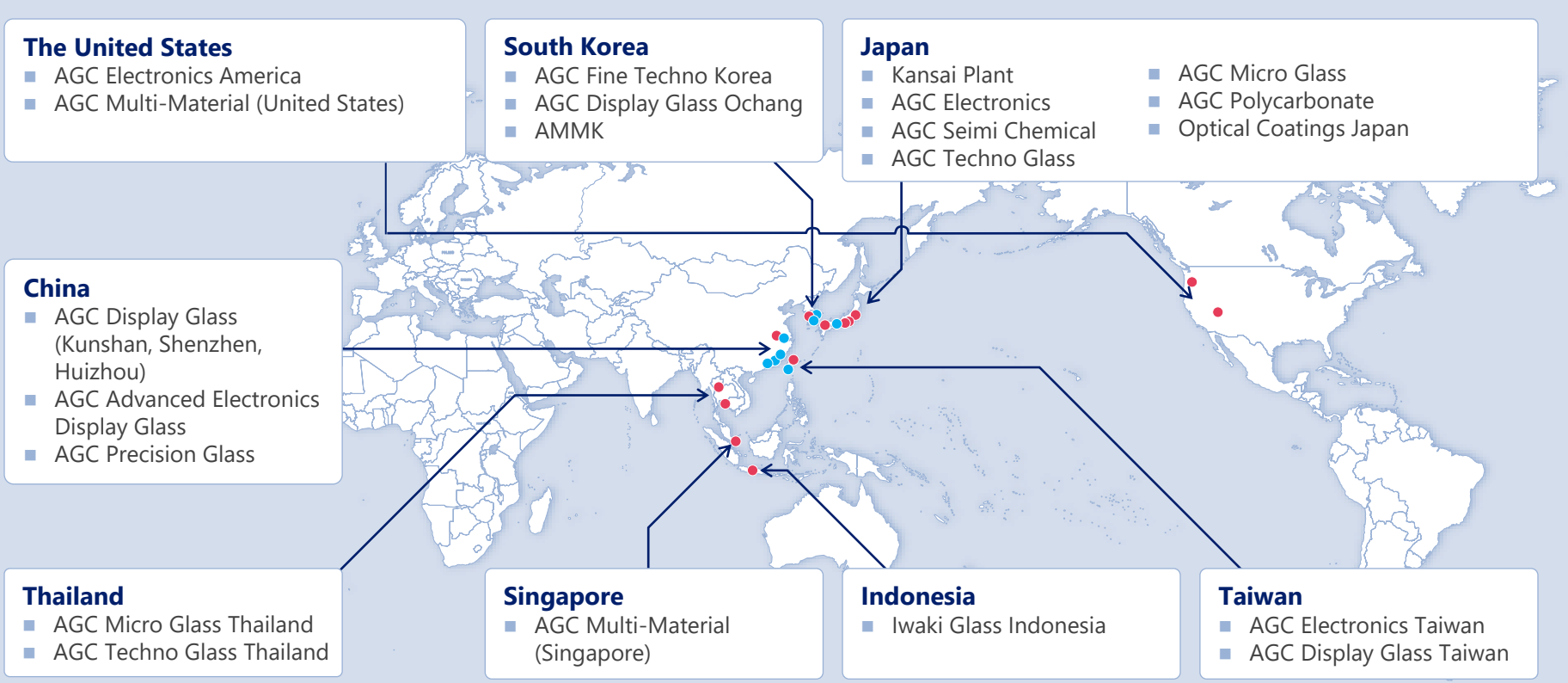

The United States
- AGC Electronics America
- AGC Multi-Material (United States)

South Korea
- AGC Fine Techno Korea
- AGC Display Glass Ochang
- AMMK

Japan
- Kansai Plant
- AGC Electronics
- AGC Seimi Chemical
- AGC Techno Glass
- AGC Micro Glass
- AGC Polycarbonate
- Optical Coatings Japan

China
- AGC Display Glass (Kunshan, Shenzhen, Huizhou)
- AGC Advanced Electronics Display Glass
- AGC Precision Glass

Thailand
- AGC Micro Glass Thailand
- AGC Techno Glass Thailand

Singapore
- AGC Multi-Material (Singapore)

Indonesia
- Iwaki Glass Indonesia

Taiwan
- AGC Electronics Taiwan
- AGC Display Glass Taiwan

●: Electronic Materials ●: Display

2. Display: Issues and Strategies

Main Products: Display

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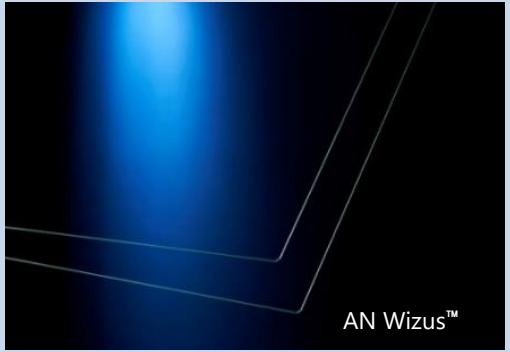
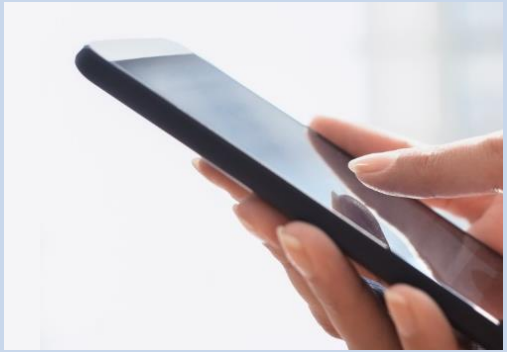
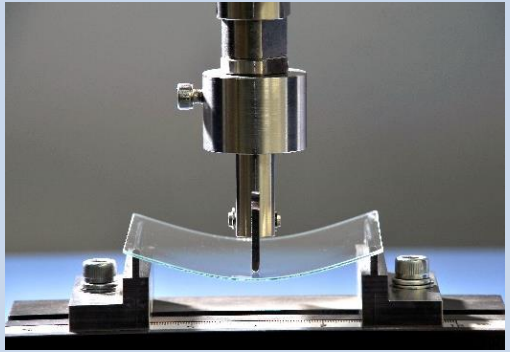
Glass substrates for TFT liquid crystal / organic EL Display



AN100, AN Wizus™, AN Rezosta™

Specialty glass for chemical strengthening





Dragontrail™ series, AS2

Display Business Strategy: Toward the Achievement of 10% ROCE

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- Sales are sluggish due to the reversion of stay-at-home demand seen during the pandemic. In addition, higher raw materials and fuel prices and the yen's depreciation have worsened profitability, resulting in an impairment loss of more than 70 billion yen in FY2022.
- We aim to achieve 10% ROCE by steadily implementing measures to improve profitability during the current medium-term management plan period, thereby generating stable cash flow.

Earnings improvement measures

Revise pricing policy

Strengthen competitiveness through technological innovation

Promote structural reforms to focus on large-sized display panel glass substrates

Earnings Improvement Measures

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Revise pricing policy

- Significant increases in production costs have continued over the long term due to high raw materials and fuel prices and the appreciation of Asian currencies

Implemented price revision last year
Continue to request customers to review prices

Strengthen competitiveness through technological innovation

- Mass production of the competitive new product AN Rezosta™ and deployment of equipment with high combustion efficiency
- Technology development has already been completed and is being progressively rolled out since the beginning of the year
- Expected to contribute to earnings in stages starting in 2024

Earnings Improvement Measures

Promote structural reforms to focus on large-sized display panel glass substrates

Completed

- Partial withdrawal from low-profit sizes
- Suspended operation of LCD glass substrate production line at Takasago plant

Progress

Accelerate production capacity optimization,
aiming for about 20% reduction from the 2022 level by the end of 2024.

Continue to closely monitor the business environment and consider additional measures

Accelerate profit improvement measures

Structural Reform Project

Top management takes the lead to accelerate structural reform measures

* Compared to 2022

3. Electronic Materials: Business Strategy

Strengths of the Electronic Materials business

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Three technologies developed based on “organic materials + inorganic materials” of glass, chemicals, and ceramics

Material technology

Examples

- Glass (composition/melting/molding)
- Polymer
- Color material (dye/coloring)
- Adhesive
- Dry coating material

×

Fabrication technology

Examples

- Processing fabrication
- Microfabrication
- Glass molding
- Wafer process
- Film process
- Imprint process

×

Design/Evaluation/Analysis technology

Examples

- Optical design
- Mechanical and thermal design
- Chemical molecule structure design
- Simulation technology

Provide AGC-specific solutions combining material technologies, fabrication technologies, and design technologies

Contribute to the development of the semiconductor and optoelectronics industries

Main Products

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Semiconductor-related Materials

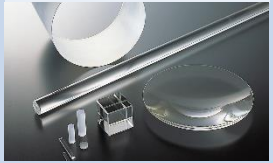
EUV mask blanks

High-quality photomask blanks for cutting-edge lithography

CMP slurry

One of the top manufacturers in the ceria slurry market

Synthetic quartz lens materials



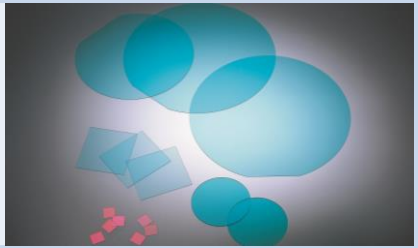
Copper clad laminates

SiC thermal treatment jigs

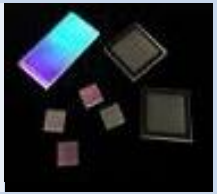
Optoelectronic Materials

IR-cut filter

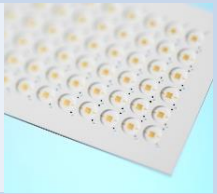
Industry leader in high-performance IR absorbing glass filters



DOE (diffractive optical element) Diffusers



Glass ceramic substrates



High refractive glass

Aspherical glass mold lenses

Semiconductor-related Materials: Business Environment

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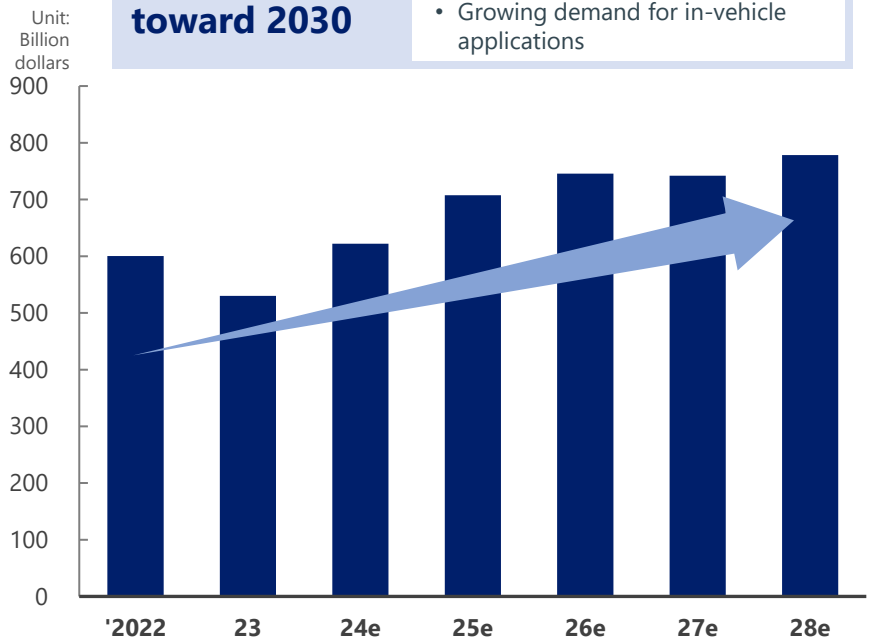
Market environment

- The semiconductor market, AGC's target market, showed negative growth in 2023 compared to 2022, but the medium-term growth trend remains unchanged.
- Demand and AGC product shipments are expected to remain strong over the medium term, as leading-edge major semiconductor manufacturers continue to invest at high levels.

Semiconductor market

Growth drivers toward 2030

- Expansion of AI-related technologies
- Growing demand for in-vehicle applications



Source: Gartner

Semiconductor-related Materials: EUV Mask Blanks

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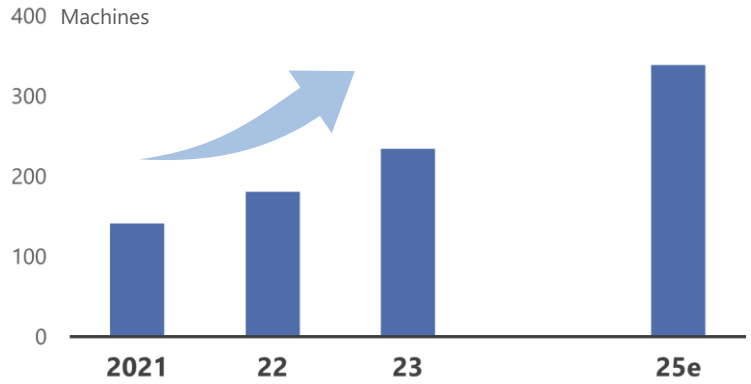
Strengths

- The sole blanks manufacturer in the world that covers the whole production process from glass materials to polishing and deposition
- Strengths include flexibility to customer requests, technical proposals and support to customers

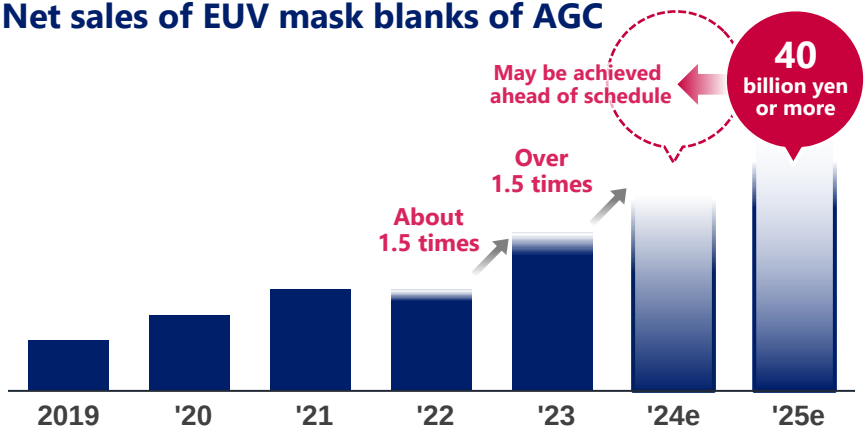
Strategy

- Continue to invest intensively in line with market growth
- Securing competitive advantage in the next generation area with AGC's high technological capabilities

Cumulative number of EUV lithography equipment*



Net sales of EUV mask blanks of AGC



Source: The number of EUV exposure equipment is based on material published by ASML.

Semiconductor-related Materials: CMP Slurry

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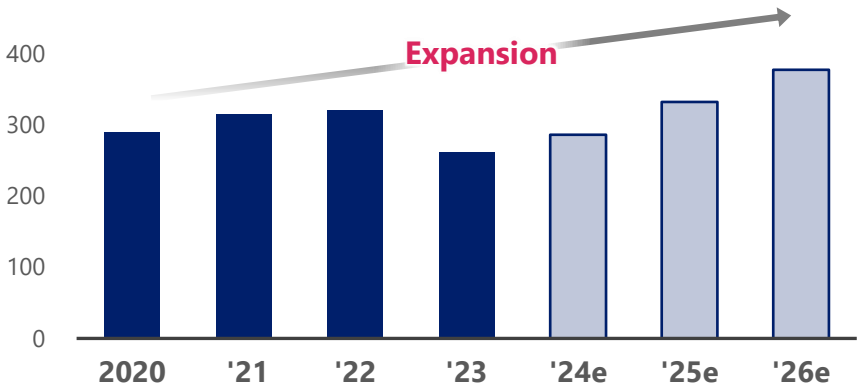
Strengths

- Technological development capabilities that enable integrated production from raw material abrasive powder to slurry
- Providing high-quality slurry and solutions to meet customers' design rules and processes

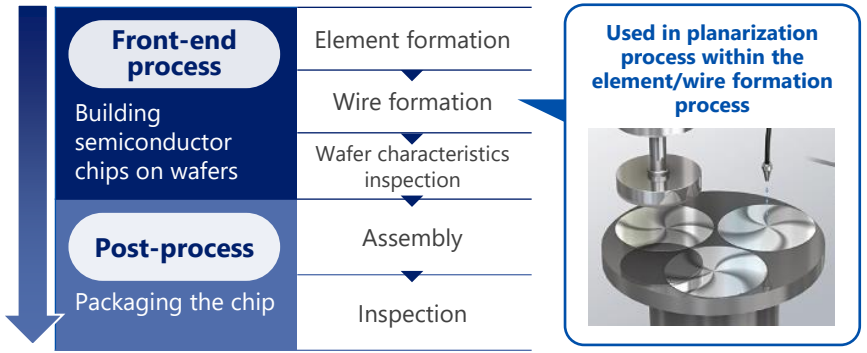
Strategy

- Maintains leading position in ceria slurry
- Expanding sales to new applications (3D mounting, etc.)

Business environment: Ceria slurry market



Use case of CMP slurry in semiconductor manufacturing process

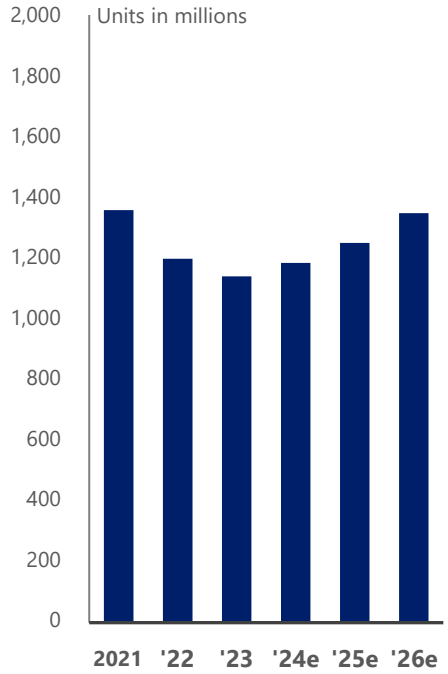


Optoelectronic Materials: Business Environment

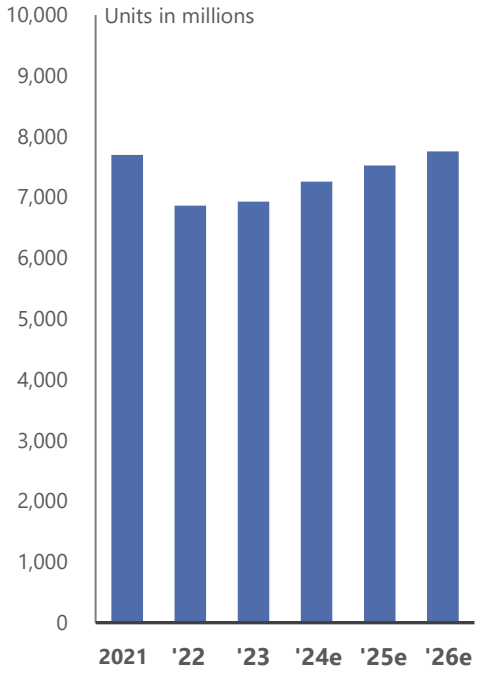
Market environment

- The smartphone market, the target for AGC's main product, IR-cut filters, showed negative growth in 2022-2023 due to the economic slowdown.
- However, this market is projected to grow again in 2024 and beyond.

Smartphone shipments



Number of image sensors for cameras



Optoelectronic Materials: IR-cut Filters

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Strengths

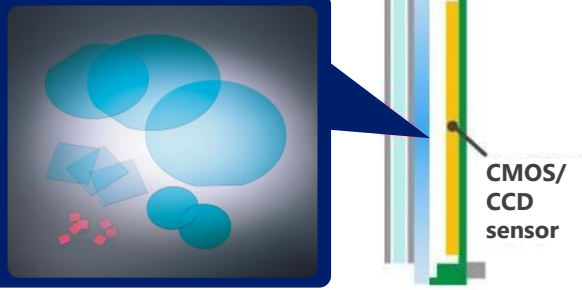
- Realize spectral characteristics that are challenging to achieve by combining glass, disposition and optical design technologies, contributing to a better image quality for cameras

Strategy

- Build strong partnerships with influential customers by leveraging our advanced technological capabilities
- Aiming for even higher added value as mobile camera units become more advanced

Glass filter to match image sensor sensitivity to human visual sensitivity

IR-cut filter for the CMOS/CCDN sensor



Product use cases

Cameras for smartphones

SLR cameras

In-vehicle cameras

New Business Creation Initiatives

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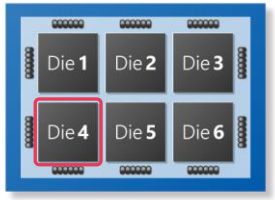
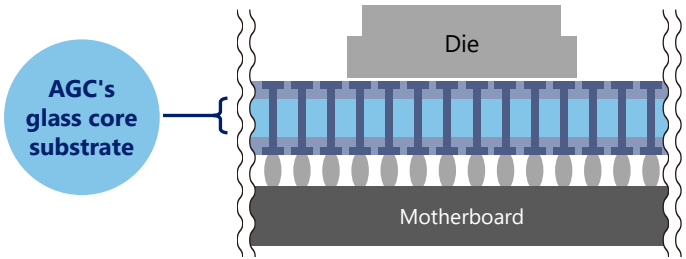
Semiconductor-related materials

Full-scale development of glass core substrates for next-generation semiconductor packaging

Image of next-generation semiconductor packaging



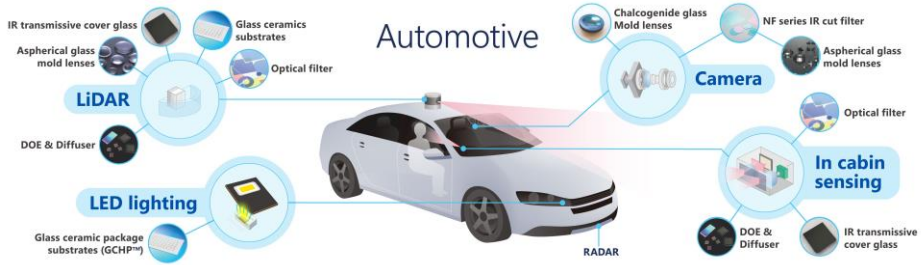
Cross-section of next-generation semiconductor packaging



Optoelectronic materials

Provision of AR/MR glass and other high-performance, high-value-added products

Providing optoelectronic materials necessary for the spread of ADAS and automated driving

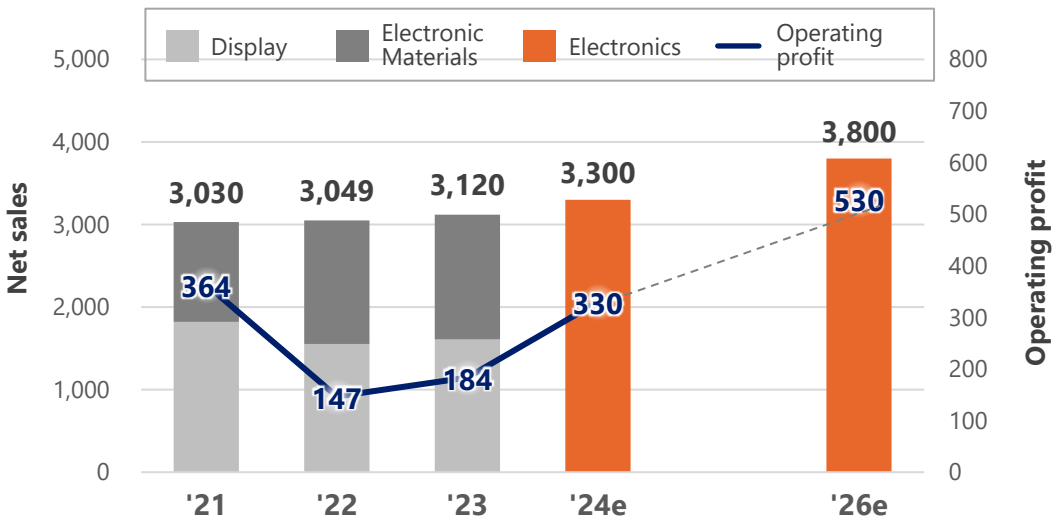


Target

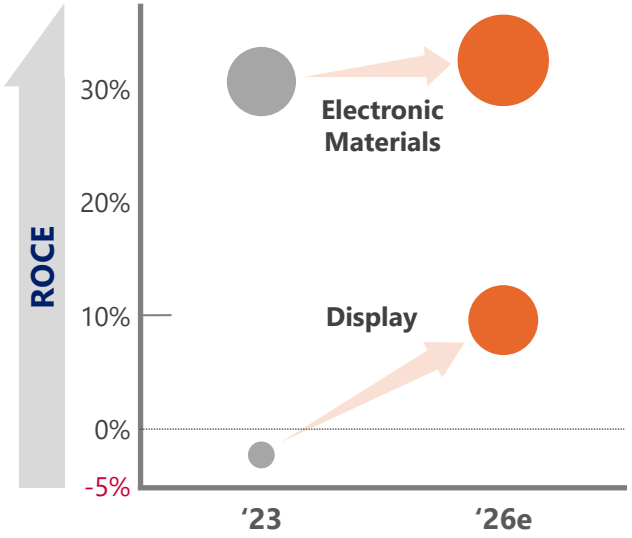
Medium- to Long-Term Performance Image

- In Display, we aim to achieve a 10% ROCE toward 2026 by improving profitability through the three pillar measures while reducing operating assets
- In Electronic Materials, we aim to maintain the 2023 ROCE level by expanding the business centered on semiconductor-related products

Net sales, Operating profit (100 million yen)



ROCE (Diameter of each circle : the size of EBITDA)

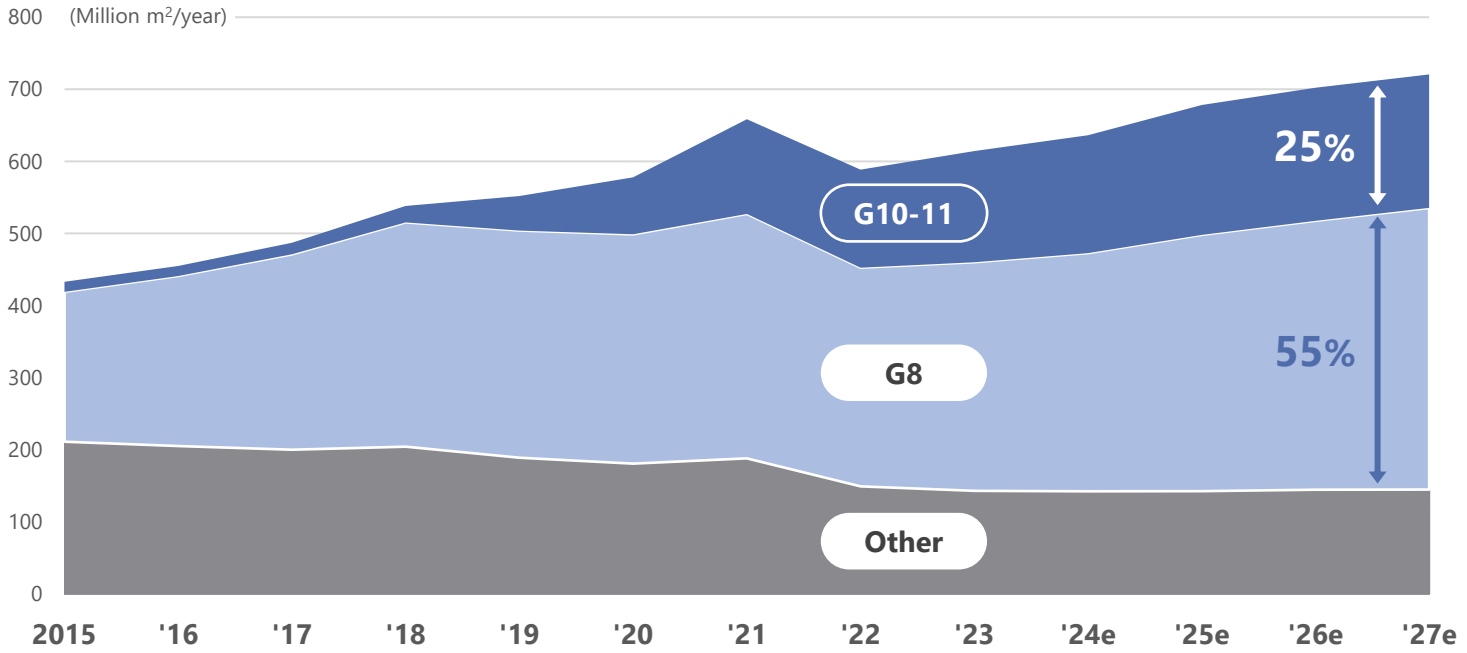


Appendix

Display: Business Environment

- Area based glass demand is expected to maintain annual growth of several percent.

Demand for liquid crystal display glass (generation-specific)



Source: AGC estimates

Semiconductor-related Materials: Business Expansion

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Synthetic quartz

High-purity/high-quality/high-function glass for semiconductor processes

- Manufactured based on the technologies and research and development of fine glass, fine chemicals, and fine ceramics developed by AGC for a long period of time
- Suitable for optical parts of semiconductor processes of exposure devices, etc. and adopted for various optical materials, etc.

SiC thermal treatment jigs

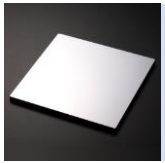
High-purity/high-strength/low-thermal-expansion ceramics

- Track record of 30 or more years mainly as part of semiconductor manufacturing equipment used at a high temperature
- Also adopted for bodies of EUV exposure machines and SiC power devices thanks to excellent thermal resistance

CMP slurry

"High-quality slurry" customized for customers' design rules and processes

- Optimize and supply slurry that realizes a very flat, multi-layer structure and for various purposes such as oxidized films and wiring materials
- Adoption for memory processes mainly for cutting-edge logic



EUV mask blanks

High-quality photo mask blanks compatible with cutting-edge exposure

- Supply products by comprehensive production from glass materials to disposition for cutting-edge EUV exposure processes
- Realized ultra-low defects, ultra flatness, and high-function membranes

Copper clad laminates

The base material for a myriad of circuits and printed circuit boards

- Possessing a wide-ranging product lineup from digital to RF domain
- AGC is expanding into high-speed communications, automotive, and aerospace applications. Utilizing material development, polymer coating, and electrical characteristics evaluation technologies centered on low-dielectric-loss polymer systems.

EUV mask blanks

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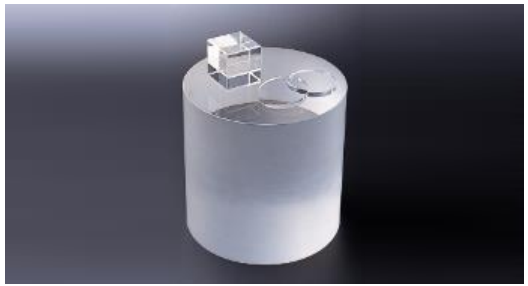
The sole blanks manufacturer in the world that covers the whole production process from glass materials to polishing and deposition

Started development in 2003 and realized technologies that can meet the strict quality standard

Inorganic materials

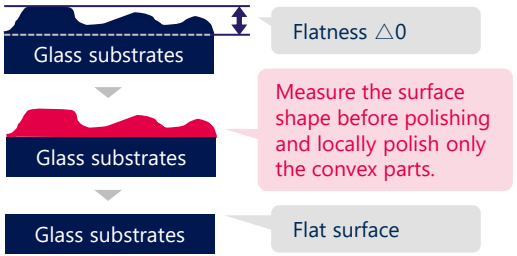
Low-expansion glass substrates

Started the development of synthetic quartz production technologies in 1982 and produces highly pure substrates using technologies and knowledge developed for many years



Polishing

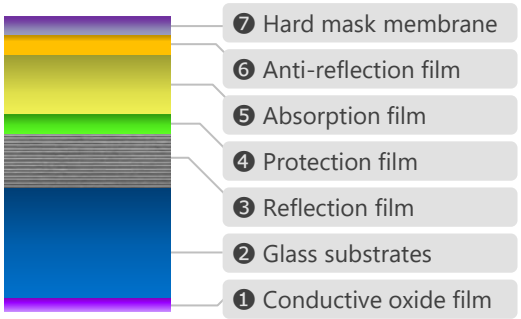
Developed a special polishing method to meet the required quality level (substrate flatness) unique to EUV blanks
Realize ultra-high flatness with comprehensive production of substrates + polishing



Inorganic materials

Deposition

Meet the needs of customers with optimal membrane design capabilities in response to shift to high definition and deposition technologies that reduce defects



CMP slurry

Slurry solution manufacturer that has entire production capability from abrasive grain to slurry

Provide “high-quality slurry” + “solutions” customized for customers’ design rules and processes

Slurry design (grain and composition)

Original abrasive grain whose physical properties are controlled

×

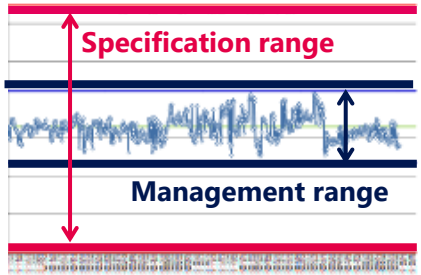
Composition design using mainly an additive that controls the polishing properties

=

CMP slurry

Inorganic materials — Grain manufacturing

Realize stable quality by managing and controlling manufacturing processes



Inorganic / Organic materials — CMP slurry

Customer support

- Track records of applications to cutting-edge processes
- Proposal of solutions including the polishing process
- Quick technical support
- Proposal of continuous improvement

Copper Clad Laminates

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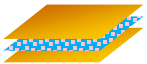
- Providing solutions to customers at the **high-end = low-dielectric CCL (copper clad laminate)**, which is essential for next-generation high-speed communications.

High-end Low-dielectric CCL
(Purposes: millimeter wave, base station for 5G, satellites, servers, routers, etc.)

Middle- and low-end CCL

	Raw materials	Manufacturing / Characteristics evaluation	
CCL material / process	Inorganic filler  Absorbing fluoropolymer (Fluon+™ EA-2000) 	Mixed liquid 	Manufacturing / Characteristics evaluation  **Business foundation established through the acquisitions of Park and Taconic**
CCL technology of AGC	**Technology for handling adhesive fluoropolymers and inorganic fillers** cultivated through the manufacture and processing of ceramics, glass, etc.	**Conversion to composite** ■ Melting/kneading sheet ■ Solvent dispersing liquid ■ Control structure	**Surface control technology** ■ Adhesion mechanism analysis **CCL characteristics evaluation** ■ CTE ■ Dielectric characteristics ■ Peal strength ■ Coefficient of thermal conductivity ■ Transmission loss
Application example of AGC	**Automotive 5G + In-vehicle antennas**	**Architectural glass base station antennas**	etc.

Optoelectronic Materials: Product lineup

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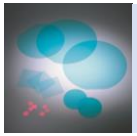
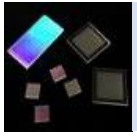


Infrared cut filter

Glass filter that realizes spectral characteristics that are difficult to realize

- Lead the industry of high-performance glass filters to adjust the sensitivities of image sensors called CCD and CMOS used for digital cameras such as cameras of cell phones, monitoring cameras, and in-vehicle cameras in the visible range of light



DOE/Diffuser

Glass micro-optical elements that realize high performance, high reliability, and high light stability

- Diffractive optical elements used for 3D sensing, Lidar, face authentication, etc. (DOE) + glass diffuser
- Propose proprietary optical design, microfabrication technologies, and mass production technologies developed through elements for light pickup and communication

Highly refractive glass

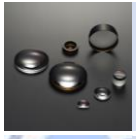
Glass substrates used for next-generation displays

- Propose a wide range of new high-refractive and high-transmission glass substrates with used for AR (Augmented Reality) glass and MR (Mixed Reality) glass, smart glass, etc.

Glass ceramics substrates

Contribute to the brightness of LED and semiconductor laser and power improvement

- Realize high reliability regarding heat dissipation and discoloration and contribute to power improvement and durability improvement of LED products of a wide range of wavelengths
- Contribute to brightness improvement because the reflectance is about 20% that of an aluminum substrate in the visible light area



Glass mold lens

Aspherical glass lens that improves the performance of optical equipment

- Aspherical glass manufactured by precise glass molding technologies greatly improves the performance of optical equipment

Optical membranes

Optical membranes compatible with a wide range of wavelengths from UV to IR

- Supply a wide range of optical membranes that can demonstrate their functions and performance in various fields such as medicine, measurement, videos, exposure, industrial equipment, space/astronomy, bio products, home appliances, and lighting

Infrared cut filter

Filter manufacturer that covers the whole production process from glass melting to molding and fabrication

Realized spectral characteristics that are difficult to realize by combining glass, disposition and optical design technologies, contributing to a better image quality for cameras

Melting

Inorganic materials

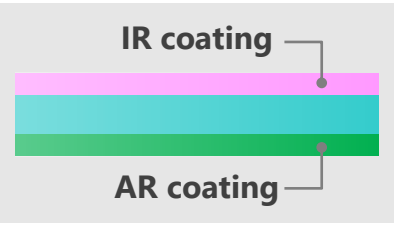
Realized sharp absorption characteristics of the infrared region by adopting fluorophosphate glass and introducing copper ions

Polishing

Deposition

Inorganic / Organic materials

Realized various spectral characteristics by disposition of multiple optical thin films with different refractive index rates



Cutting

Realized high-quality cut surfaces with AGC's unique cutting methods

Examples of Social Value provided by Electronics Business

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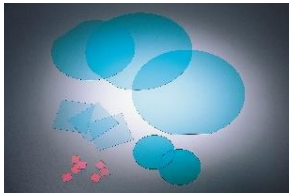
Innovation

Specialty glass
(Silica glass / lenses, etc.)

Semiconductor-related materials



Optoelectronic materials

High-speed communication materials

Next-generation areas

Information communication

TFT LCD glass

Specialty glass for chemical strengthening

Well-being

Image of Performance by Segment

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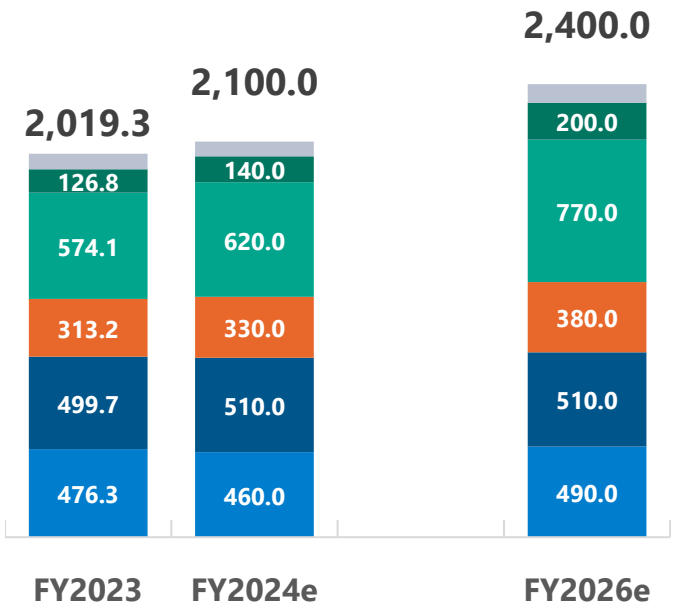
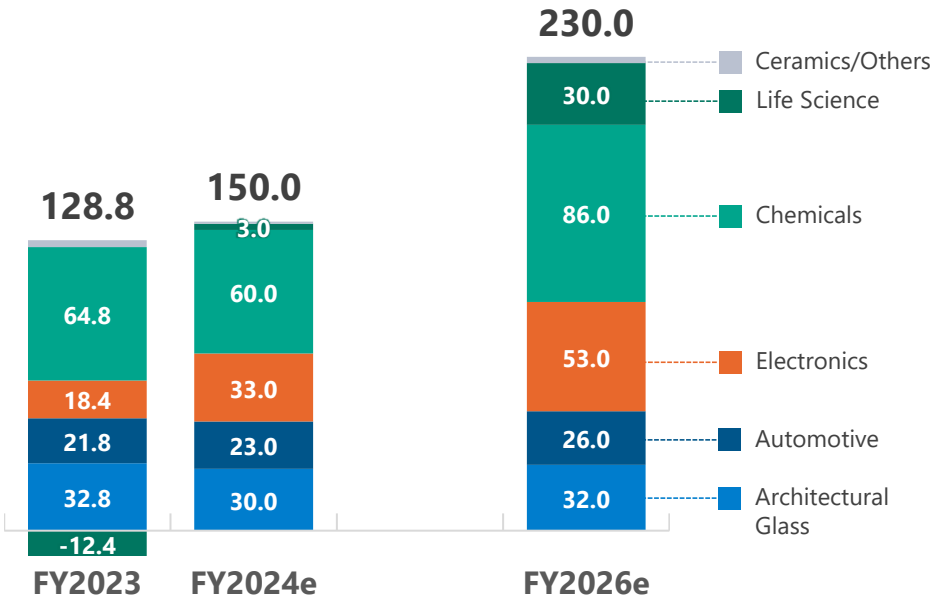
Net sales (Billion yen)

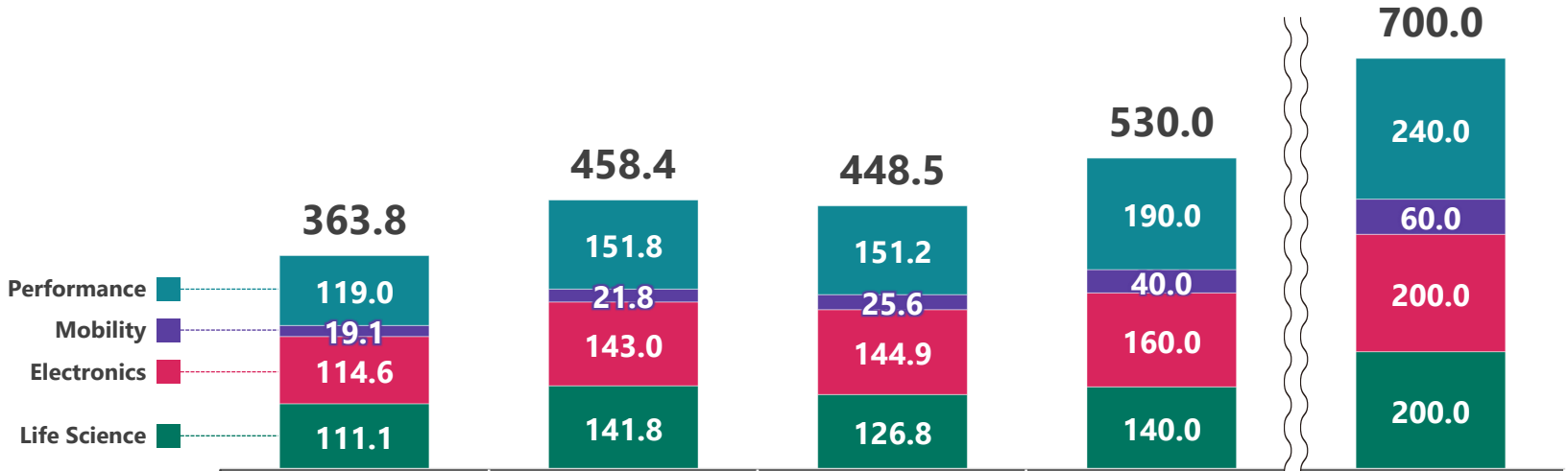


OP (Billion yen)



Strategic Business Performance Image

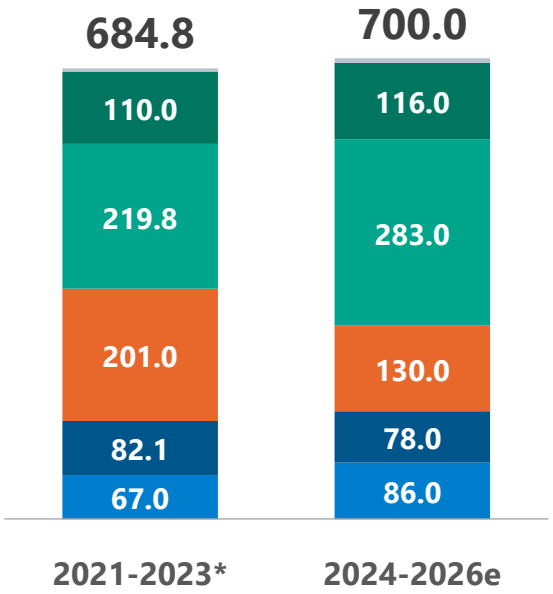
Strategic business net sales (Billion yen)



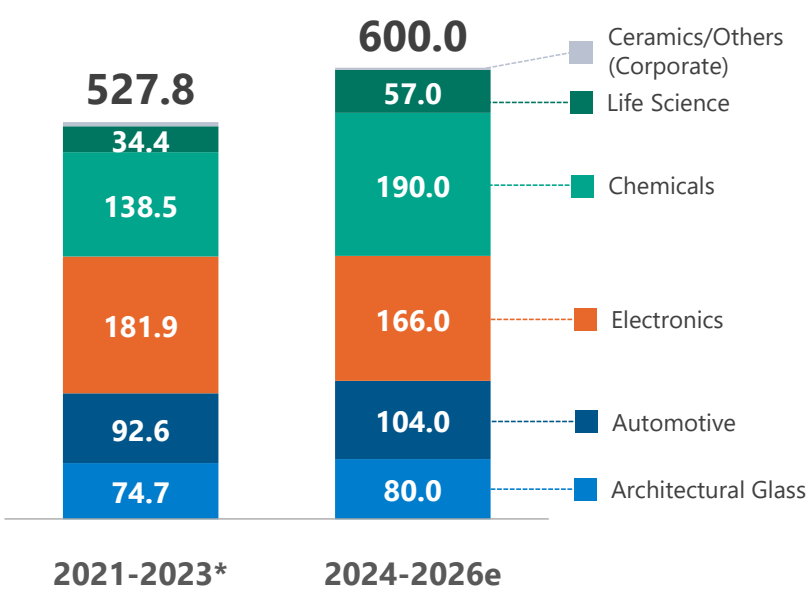
OP (Billion yen)	2021	2022	2023	2024e	2026e
New definition	64.7	93.9	56.8	80.0	130.0
Previous definition	53.8	70.9	38.2		

AGC plus-2026 CAPEX and Depreciation & Amortization

CAPEX (Billion yen)



Depreciation & amortization (Billion yen)



* Breakdowns of each segment in 2021 are shown as calculated for reference only.

ROCE of Each Business

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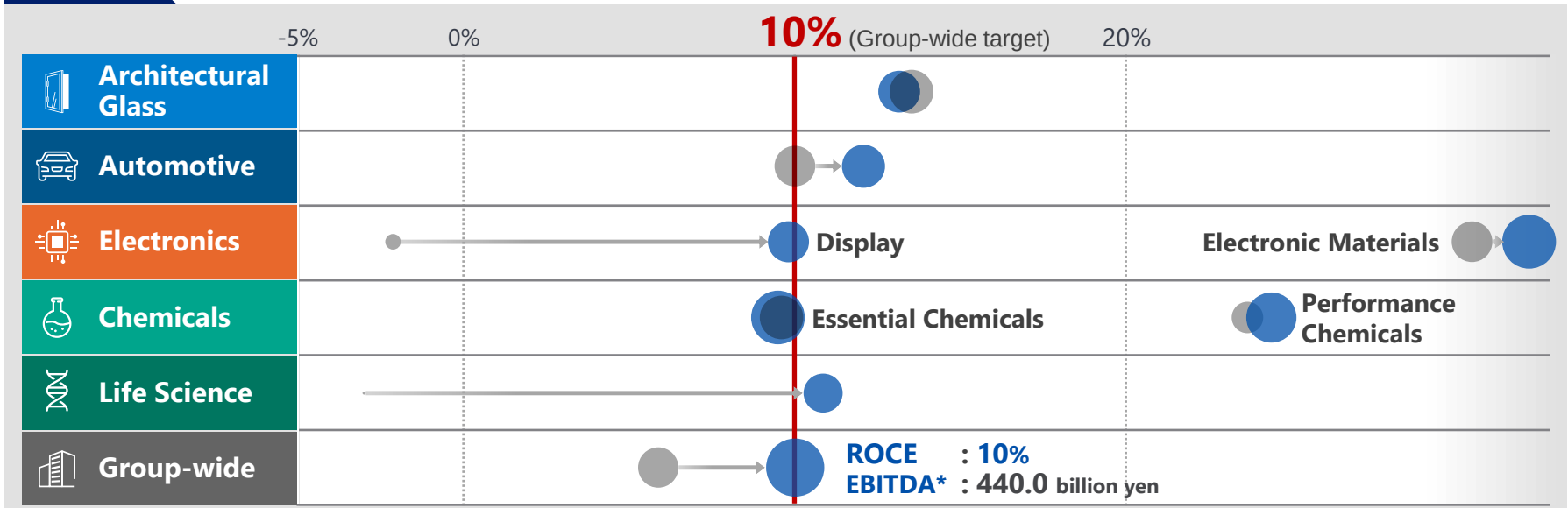
- We will continue to aim for a Group-wide ROCE of **10% or higher**

ROCE ● 2023 Actual vs ● FY2026 Projection



ROCE : (OP forecast of the year) ÷ (Operating asset forecast at the year-end),
Group-wide OP by business is after allocation of common expenses; OP for each business is before allocation of common expenses

Diameter of each circle (excluding those of the group-wide section) : the size of EBITDA * **EBITDA** = Operating profit + Depreciation

Disclaimer:

This material is solely for information purposes and should not be construed as a solicitation. Although this material (including the financial projections) has been prepared using information we currently believe reliable, AGC Inc. does not take responsibility for any errors and omissions pertaining to the inherent risks and uncertainties of the material presented.

We ask that you exercise your own judgment in assessing this material. AGC Inc. is not responsible for any losses that may arise from investment decisions based on the forecasts and other numerical targets contained herein.

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IR DAY 2024

Chemicals

AGC Inc.

June 4, 2024

Contents

1. Overview of the Chemicals Business

Business Scale of the Chemicals Business

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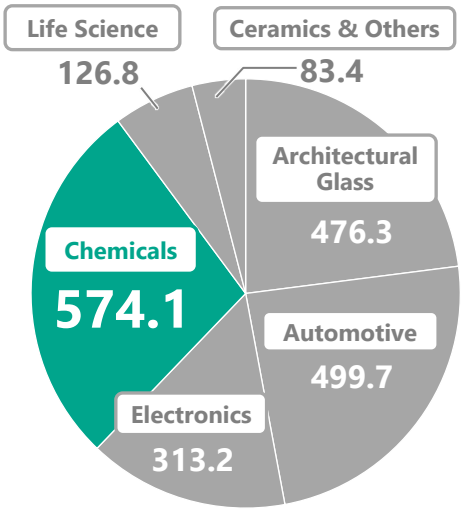
■ Composed of two sub-segments: Essential Chemicals and Performance Chemicals

2023 Net sales (Billion yen)

AGC Group 2,019.3 billion yen



Sub-segments and main business

Essential Chemicals (402.8 billion yen)

Business category	Major products	Main areas of demand
Chlor-alkali	Caustic soda, vinyl chloride resin etc.	■ Chemical fibers ■ Electric wire ■ Paper/pulp ■ Architecture ■ Water pipes etc.
Urethane	Polyols, polyurethane sealant materials etc.	■ Architecture ■ Electronic equipment ■ Automotive etc.

Performance Chemicals (166.9 billion yen)

Business category	Major products	Main areas of demand
Fluorochemicals*	Fluoropolymers, fluoropolymer films, fluorinated elastomers, fluoropolymer resin for coatings fluorinated gases and solvents, etc.	■ Transportation equipment ■ Energy ■ Electronics ■ Aerospace ■ Architecture ■ Textiles/Paper ■ Agriculture etc.
Specialty	Iodine and iodine-related products	■ Medical/ Pharmaceutical ■ Precision / Electrical equipment etc.

* Includes some products not made from fluorine

Product Flow in the Chemicals Business

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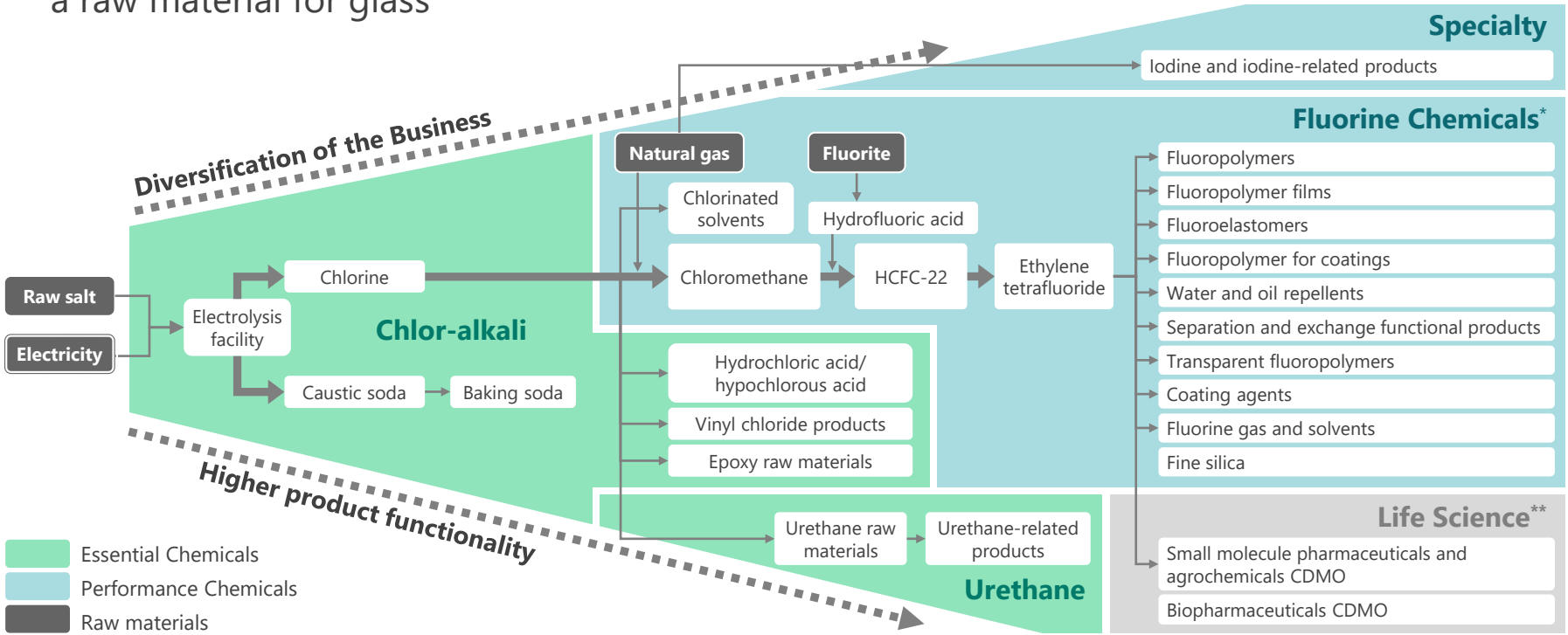
- Unique chemical chain formed over the past 100 years, starting from production of soda ash, a raw material for glass

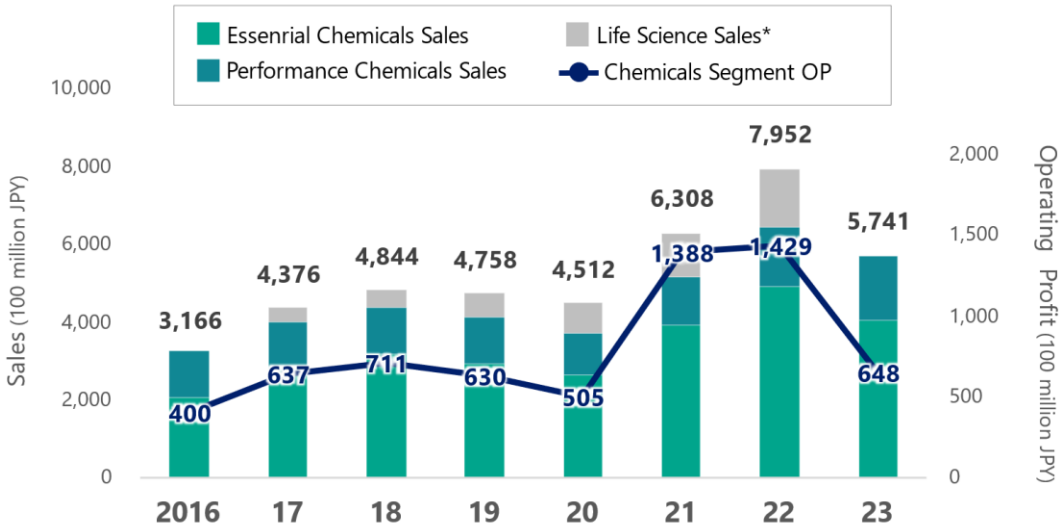


* Includes some products not made from fluorine ** Became a stand-alone segment after 2022

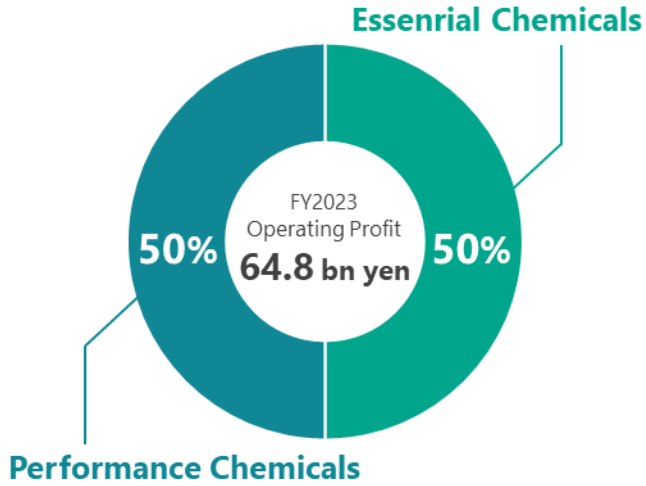
Chemicals Business Performance

- Although profits temporarily declined in FY2023 due to the slumping chlor-alkali market in Southeast Asia, both sub-segments steadily expanded their business scale through intensive investment.

Net sales and operating profit



FY2023 Breakdown of operating profit by sub-segment**



* Life Science is disclosed as a separate segment from 2023 ** Before common expense allocation

History of the Chemicals Business

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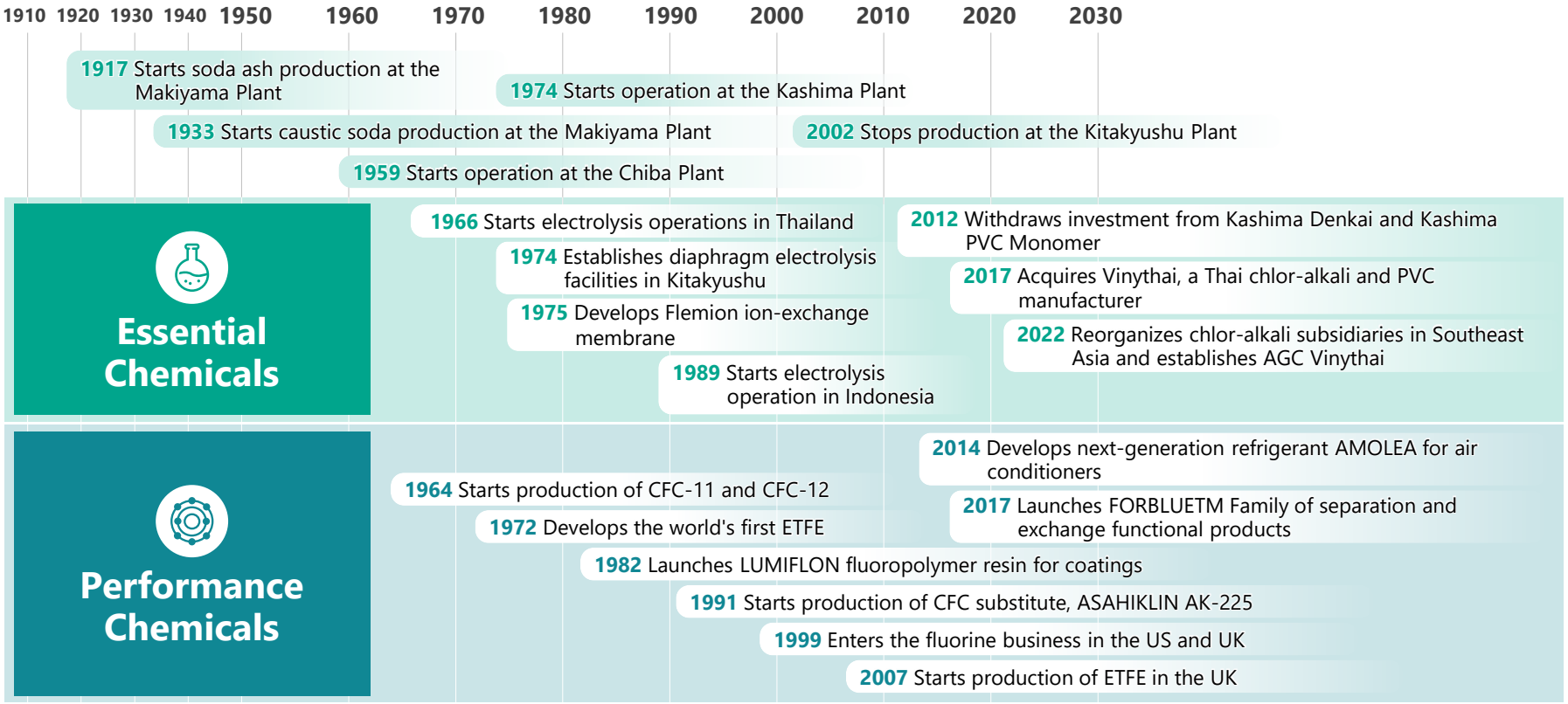


2. Strategies by Sub-segments

- **Essential Chemicals**
- Performance Chemicals

Major Products

- Chlor-alkali products such as caustic soda, PVC, and epichlorohydrin hold the top shares in the growing Southeast Asia market
- Also expanding urethane-related products, such as polyols and modified silicone

Caustic soda

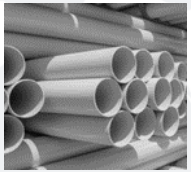
No. 1* in Southeast Asia

Mountain of salt used as raw material

Main applications: Chemical textiles, paper/pulp

PVC

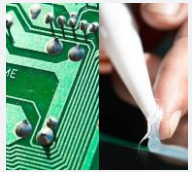
No. 1* in Southeast Asia



Main applications: Water pipes, electrical wires

Epichlorohydrin

No. 1* in Southeast Asia



Main applications:
Adhesives, coatings, electronic materials

Sodium bicarbonate

Main applications:
Pharmaceuticals, bath salts, baking powder

Polyols

Main applications:
Urethane foam, elastomers, adhesives

Modified silicone

Main applications: Sealants, adhesives

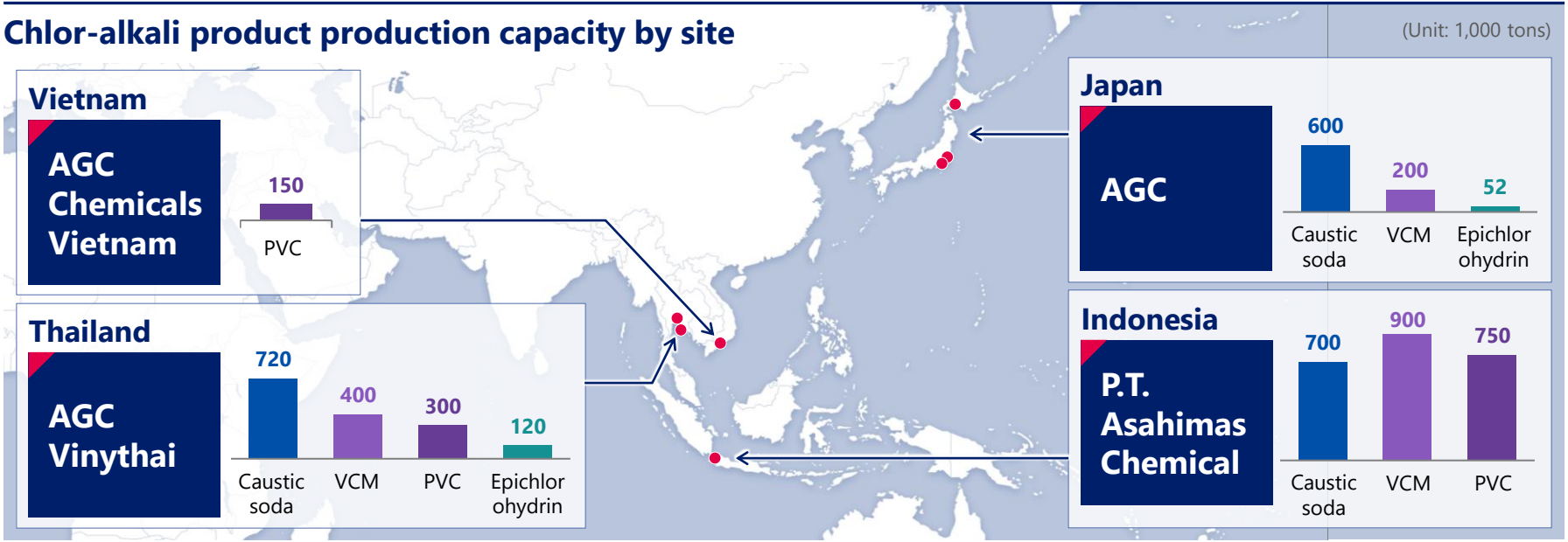
* AGC estimate as of January 2024 (based on production capacity)

Regional Expansion

- Expanding business in Southeast Asia and Japan
- Expanding chlor-alkali business in the growing Southeast Asian market

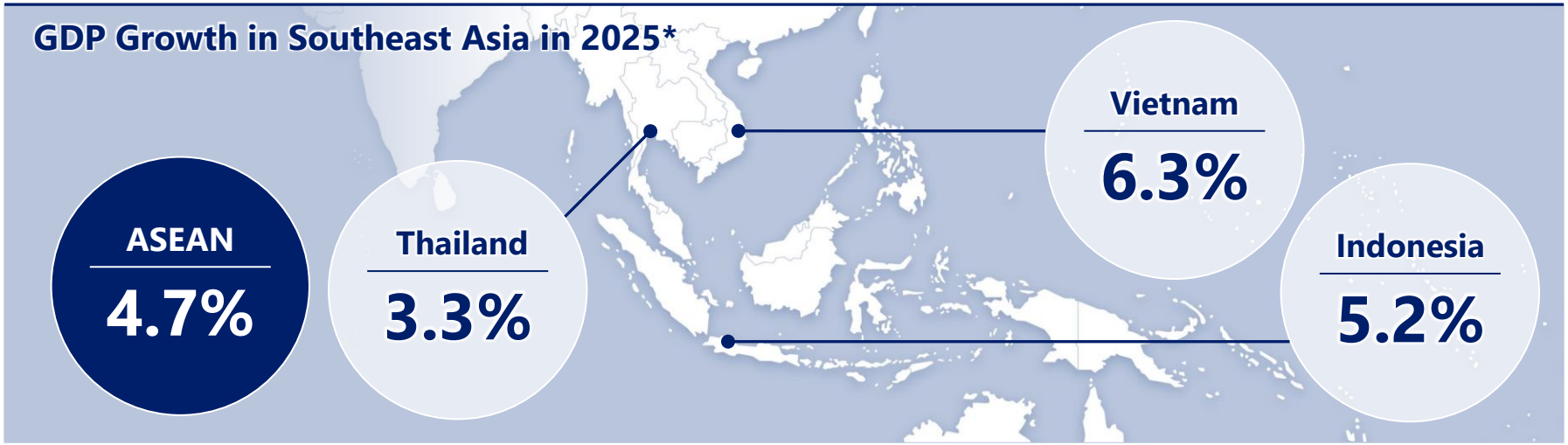
Chlor-alkali product production capacity by site

(Unit: 1,000 tons)



Supply/Demand Outlook

- Demand for caustic soda and PVC in Southeast Asia is growing at an average of about 4% a year
- Southeast Asia is projected to continue importing chlor-alkali products
- Large-scale projects for alumina, nickel, etc. are expected to boost demand for caustic soda
- Demand for PVC is expected to grow in tandem with GDP owing to infrastructure investment, etc.



* Source: S&P Global Market Intelligence

Vision and AGC's Strengths

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Vision

Contribute to the growth and development of the region by providing a stable supply of products to the growing Southeast Asian market

Strengths

1. **High market share thanks to the largest production capacity in Southeast Asia**
2. **Stable sales and supply capabilities through a solid sales and logistics network built over many years**
3. **Stable production through advanced operational technology**

Strategies and Measures

Strategies	Measures
1 **Continue to focus in Southeast Asia**	■ Expand chlor-alkali product manufacturing facilities in Thailand* ■ Further strengthen linkages among sites in the Southeast Asian region
2 **Further strengthen the business foundation**	■ Strengthen the stable operation system by implementing DX at manufacturing plants ■ Strengthen stable supply system by further developing and securing sales and logistics network
3 **Improve sustainability by promoting climate change solutions**	■ Study deployment of biomass co-firing in our own power generation facilities ■ Conclude contracts to purchase electricity derived from renewable energy sources ■ Expand sales of bio-derived products

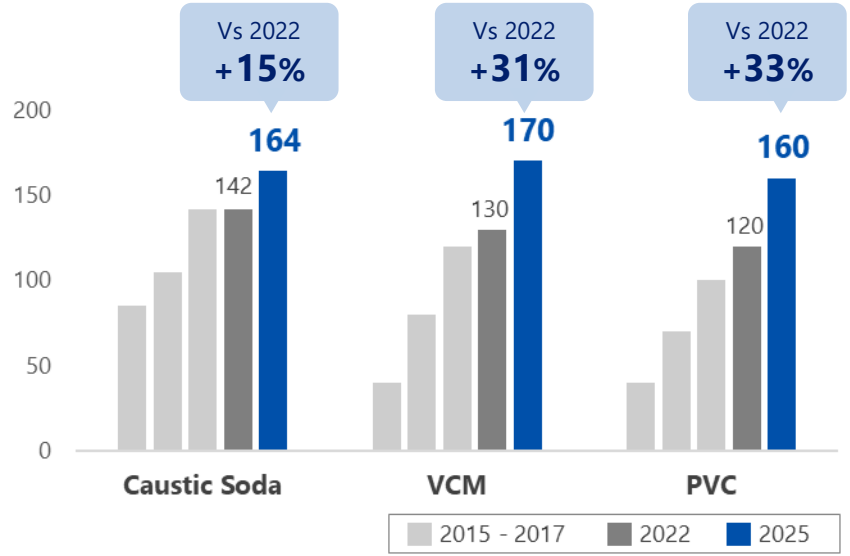
* Related news release

Capacity and Market Share in Southeast Asia

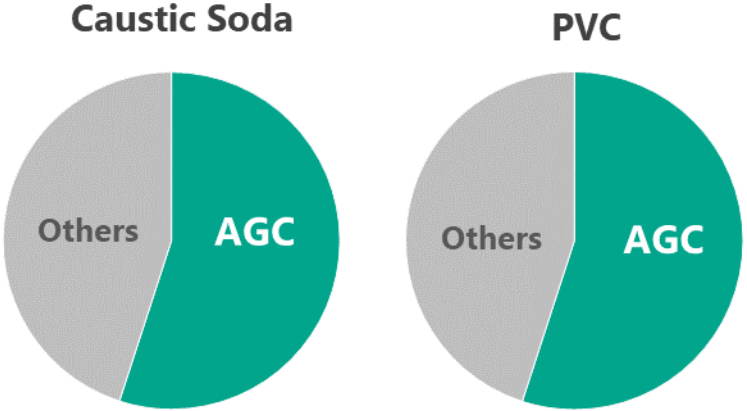
- The undergoing expansion of our plant in Thailand will further enhance AGC's position in Southeast Asia.

Chlor-alkali production capacity in Southeast Asia

(Unit: 10,000 tons)



Market share based on production capacity in Southeast Asia* (after expansion)



* Market share based on production capacity: Caustic soda does not include Australia/NZ in the region, PVC includes Australia/NZ in the region

2. Strategies by Sub-segments

- Essential Chemicals
- **Performance Chemicals**

Main Products

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- Almost all the sales comes from Fluorinated products, many of which have top global market shares.
- Indispensable materials to realize a decarbonized and digital society

ETFE resin (Fluorinated resin)

No. 1 Globally*

Main applications: Electric wires, tubes, lining and coating materials

ETFE film

Main applications: Releasing films for membrane structures and electronics

Fluorinated electrolyte polymer for fuel cells

No. 1 Globally*

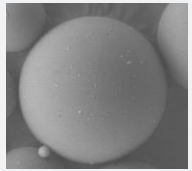
Ion-exchange membrane for chlor-alkali electrolysis

No. 1 Globally*

Fluoropolymers for on-site coating

No. 1 Globally*

Fine silica



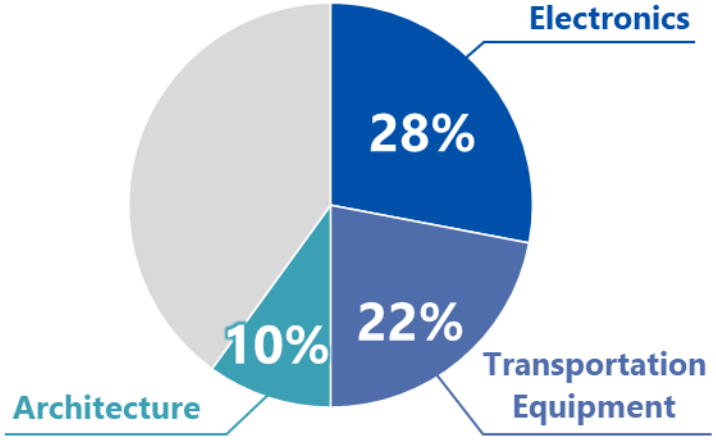
Main applications: Cosmetics, analytical equipment, electronic materials, coatings

* AGC estimates as of January 2024 (based on sales)

Main Demand Sectors

- About 60% of the demand is in the sectors of transportation equipment and architecture; where the products are mainly applied in electronics, automobiles, aircraft, etc.
- The remainder consists of diverse and specialized sectors

Sales ratio by application (2022)



Vision and AGC's Strengths

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Vision

Contribute to the realization of a sustainable society and grow by further deepening and developing the technologies AGC has cultivated through addressing environmental and other social issues

Strengths

1. **Global niche strategy aiming for No. 1 in specific markets with high profitability**
2. **Global network of manufacturing, sales, and product development functions**
3. **Ability to develop new products and technologies to meet the needs of cutting-edge fields**

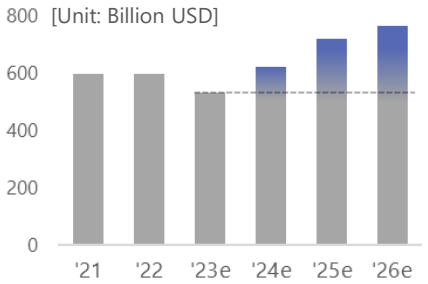
Strategy and Measures (Semiconductor-related Products)

- As semiconductors become highly functional, the materials' specifications become more sophisticated. Growing demand for fluorinated products with special properties
- Developing new products and technologies to support even higher speed and capacity in telecommunications

Strategies

Stably supply existing products to the semiconductor market, which is expected to expand, and enhance presence through the introduction of new products

Semiconductor market scale*



Measures

Increase manufacturing capacity for high-performance resin products in Japan**

Increase manufacturing capacity of fluorinated products at the Chiba Plant to address robust demand, especially for semiconductor-related applications

Investment	**Approx. 35 billion yen**
Scheduled to start operation	**2Q 2025**

Launch products that meet market demand

Fluon+™ EA-2000 as a PCB material, silica products as inorganic fillers, etc.

* Graph created by AGC based on Gartner data. Gartner®, Semiconductors and Electronics Forecast Database, Worldwide, 3Q23 Update, Rajeev Rajput et al., 4 October 2023, Semiconductor Revenue by Electronic Equipment basis.

** Related news release

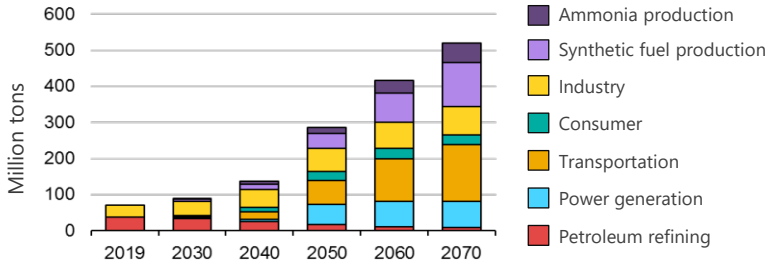
Strategies and Measures (Hydrogen Market)

- In anticipation of the coming hydrogen society, we will supply materials that demonstrate superior performance in the production of hydrogen producing water electrolysis devices and fuel cells that use hydrogen.

Strategies

Establish an overwhelmingly No. 1 position in fluorinated electrolysis polymers for fuel cells and ion-exchange membranes for hydrogen production

Trends in hydrogen demand*



Hydrogen-related: Including synthetic fuels through ammonia, methanation, etc.

Measures

Building a new production facility to manufacture fluorinated ion-exchange membranes suitable for producing green hydrogen**

- Establish a new manufacturing facility at Kitakyushu site as the third domestic chemical site
- Investment of approx. 15 billion yen
- Scheduled to be operational in 2Q 2026

* Source: IEA Energy Technologies Perspectives 2020 ** Related news release

Conceptual Image of Medium- to Long-term Earnings

- In addition to existing applications, we aim to capture cutting-edge needs and achieve sales of 300 billion yen or more by 2030

Performance Chemicals: Sales image

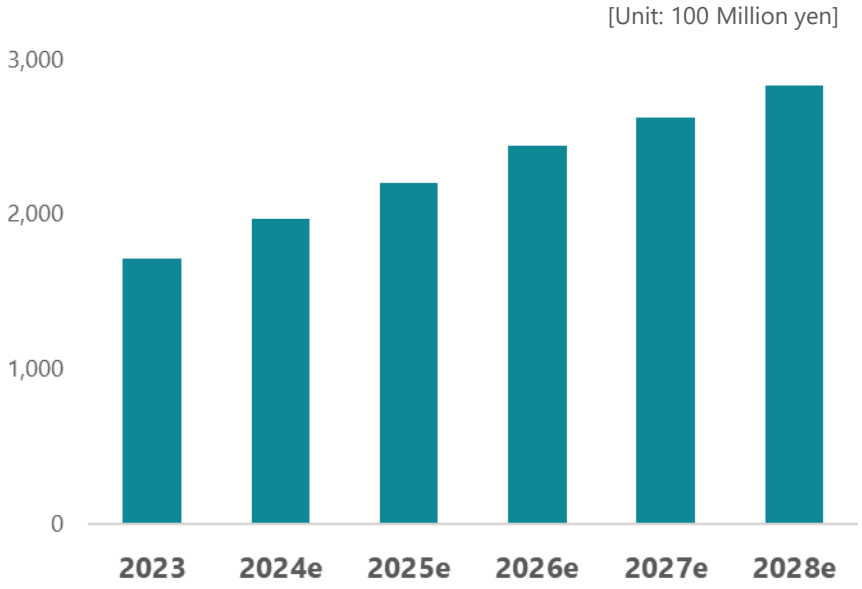
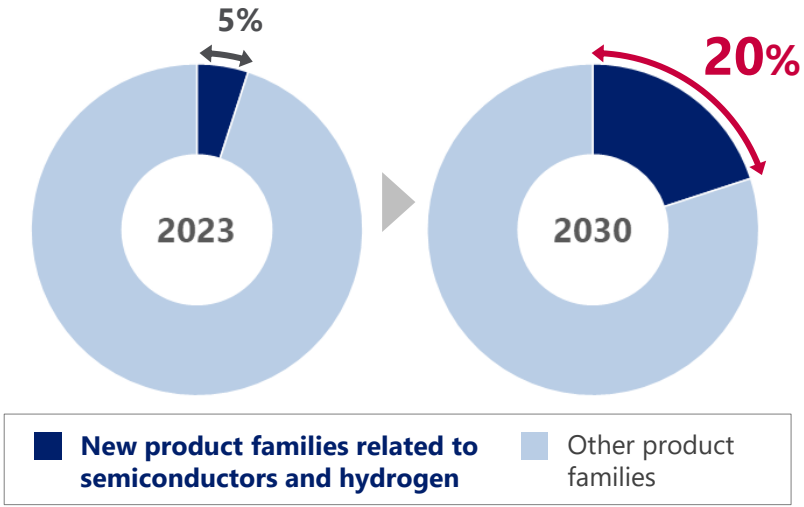


Image of sales ratio of new product families related to semiconductor and hydrogen

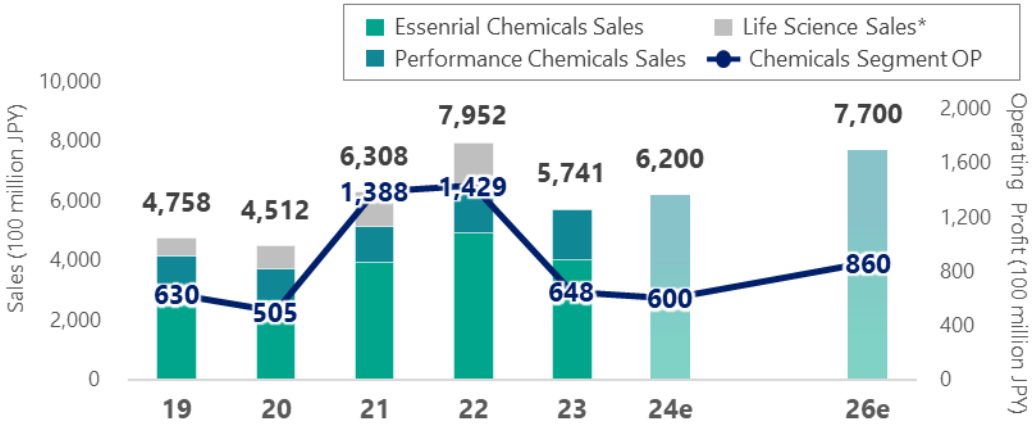


3. Performance Targets

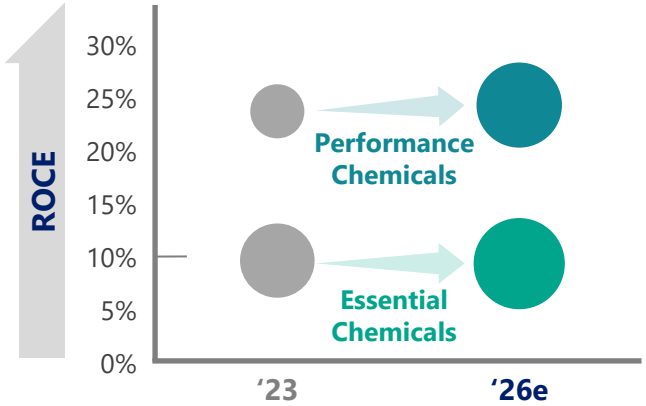
Chemicals Segment Performance Targets

- Essential Chemicals will maintain its strategy to put focus in the growing market of Southeast Asia.
- Performance Chemicals will provide high-performance materials for electronics, including semiconductors, and environmental and energy fields. We will capture demand in global niche markets through the provision of further added value and business domain expansion.
- By 2026, realize operating income of 86 billion yen and maintain ROCE of about 10% in Essential Chemicals and more than 20% in Performance Chemicals

Image of business performance



Change in ROCE and EBITDA**



* Life Science is disclosed as a separate segment from 2023 **Diameter of each circle : the size of EBITDA

4. PFAS Regulations

PFAS and Regulations

- Of the PFAS (umbrella term for approximately 12,000 types of fluorine compounds), three substances are listed as Persistent Organic Pollutants under the Stockholm Convention, and AGC does not currently handle any of these listed substances.
- To fulfill its corporate social responsibility, AGC Group is working to minimize environmental impacts resulting from our business activities and contribute to resolving global environmental issues through our products, based on scientific evidence.

AGC's main products

Fluoropolymers

Qualify the criteria for polymers of low concern* i.e., low environmental or human health impacts

Ion-exchange membranes

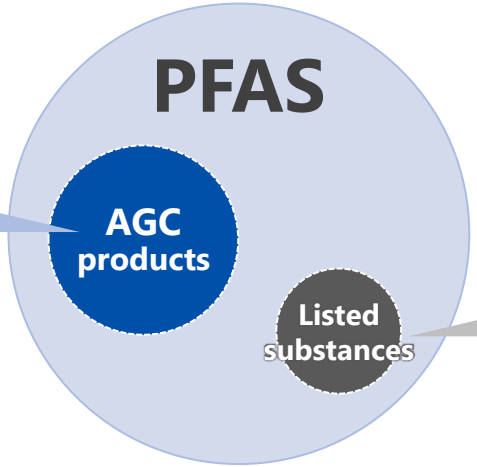
Fluorinated resins

Pharmaceutical and agrochemical API and intermediates

Safety has been assessed or monitored in accordance with applicable laws related to pharmaceuticals or agrochemicals in each country or region

Pharmaceuticals

Agrochemicals



Listed substances

PFOS	AGC has never manufactured or sold PFOS
PFOA	AGC ceased manufacturing and sales of PFOA before the end of 2015
PFHxS	AGC has never manufactured or sold PFHxS

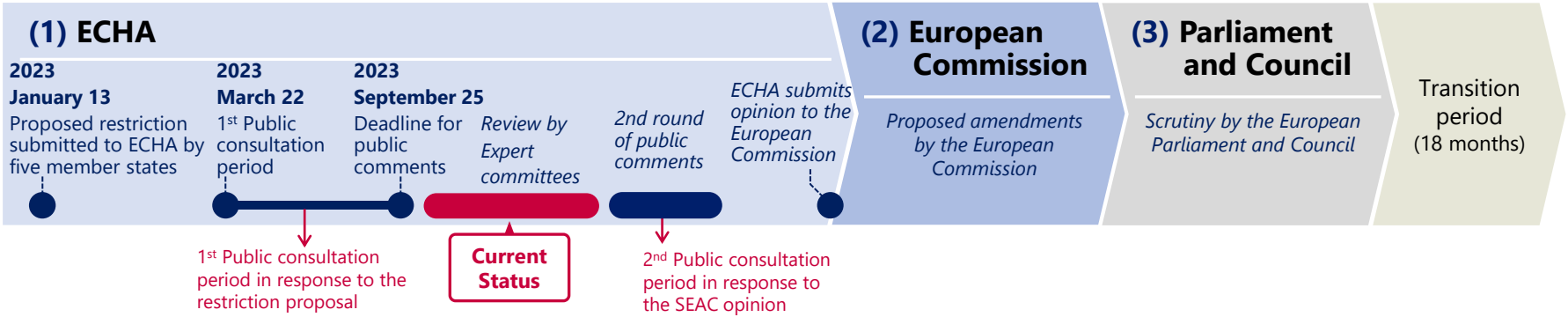
* B J Henry 2018 A Critical Review of the Application of Polymer of Low Concern and Regulatory Criteria to Fluoropolymers

Regulatory trends in Europe

- The expert committees of the European Chemicals Agency (ECHA) is currently reviewing the proposal of the universal PFAS restriction.
- The ECHA's review process is taking time due to the significant number of public comments received, and the timing of the second public consultation and the time flame for the subsequent regulatory process is currently unclear.
- AGC Group has submitted our public comments for the 1st public consultation.

Review process of the proposal of the universal PFAS regulation in Europe

(1) After two rounds of public consultation by ECHA, the expert committee submits their final opinion
(2) The European Commission prepares a draft regulation referring the final opinion submitted, and the REACH Committee, consisting of member states, deliberates on and adopts the draft.
(3) The adopted legislation enters into force after being scrutinized by the European Parliament and Council



5. Appendix

Capital Investment Projects in the Chemicals Segment

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Your Dreams, Our Challenge

- We aim to further expand our business by intensively investing in growth areas.

Products	Capital investment details	Investment	Scheduled to start operation
Caustic soda, PVC (Thailand)	■ Increasing production capacity for chlor-alkali products at two sites in AGC Vinythai Public Company Limited, an integrated chlor-alkali company in the Indochina Peninsula ■ Largest capital investment ever made by the AGC Group	**Over 100 billion yen**	1Q 2025
Fluorine-related products (Chiba, Japan)	■ Expanding the production capacity of high-performance resin products at the Chiba Plant to meet brisk demand for semiconductors and other products	**Approx. 35 billion yen**	2Q 2025
Fluorine-based ion-exchange membranes (Kitakyushu, Japan)	■ New manufacturing facility for the FORBLUETM S series fluorine-based ion-exchange membrane suitable for green hydrogen* production ■ Will be the third domestic chemical site following the Chiba and Kashima plants	**Approx. 15 billion yen**	June 2026

* Hydrogen produced using renewable energy and without CO_2 emissions in the manufacturing process
(Source: Agency for Natural Resources and Energy; Ministry of Economy, Trade and Industry website)

Business Confidence by Demand Sector

- Further earnings growth through steady demand growth in each application, mainly in Europe and the U.S., as well as increased demand and expansion of new applications in the electronics, transportation equipment, construction, energy-related and other fields, mainly in emerging countries

Demand sector		Current status	Future demand outlook
Electronics	Semi-conductor	Semiconductor cycle has bottomed out and demand is gradually recovering	Continued growth due to strong demand for 5G-related products and data centers.
Architecture		Slumping demand due to high interest rates, soaring material prices, real estate market conditions in China, etc.	Demand to remain firm over the long term due to growing environmental awareness
Trans-portation equipment	Automobile	Recovery to 2019 level and demand expansion due to the shift toward EVs	Demand remained strong
	Aircraft	Recovering from the impact of COVID-19	Demand is expected to exceed 2019 levels by the end of 2024 and is expected to grow steadily thereafter

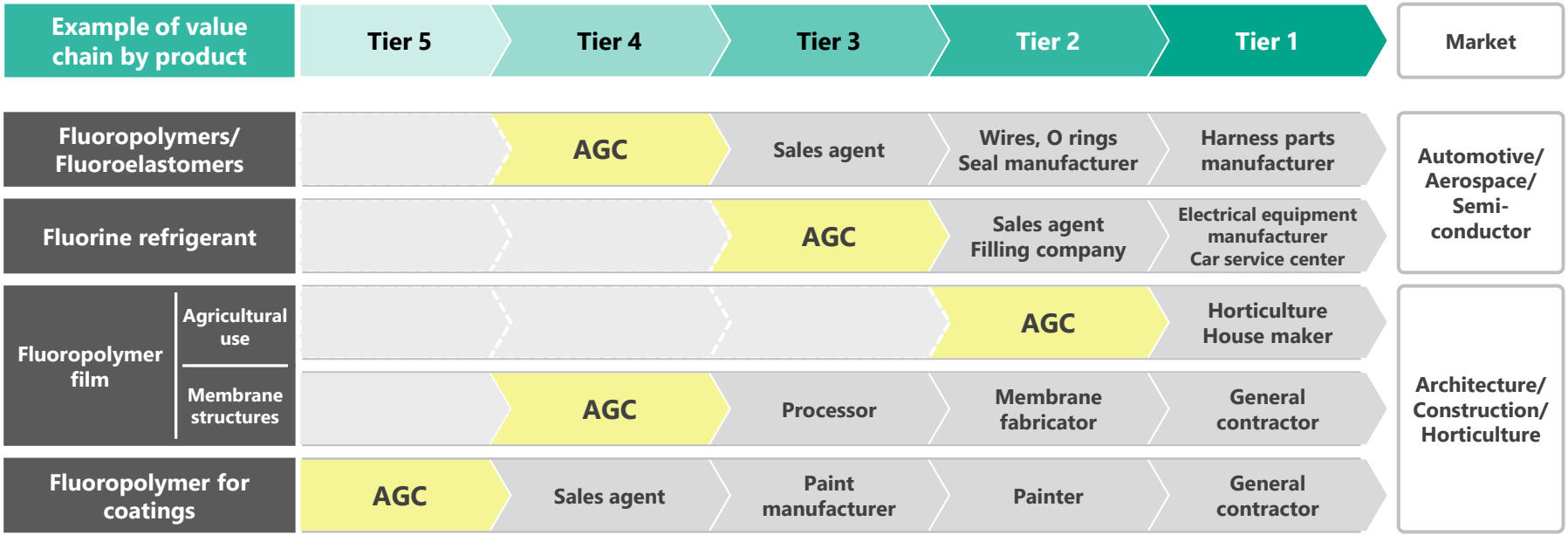
Excellent Characteristics of Fluorochemicals

- Our products with two or more superior characteristics differentiate them from rivals and are used in a wide range of industrial fields
- We continue to develop new markets with the technology to control characteristics

Major characteristics and sample applications for fluorochemicals		Heat resistance Resistance to cold	Chemical resistance	Weatherability Durability	Water and oil repellency Anti-stick properties	Mechanical characteristics	Electrical characteristics	Optical characteristics
Automobiles Transport equipment	Oil filters				●			
	Wire covering/fuel hoses	●		●		●	●	
	Oscillation components	●	●	●	●		●	
	O rings	●	●	●				
Electronics Tele-communications	Semiconductor packaging	●			●		●	
	Semiconductor manufacturing equipment components		●	●				
	Optical lenses				●			●
	Touch panels			●	●			
	Film for LED production processes				●			
	Printed circuit boards	●			●			
	Wire covering	●		●		●	●	
	OA equipment components	●			●			
Architecture materials	Coatings			●	●			
	Interior/exterior materials			●	●			
	Metal construction material coatings			●	●			
	Roof/exterior wall/membrane structures			●	●			
Energy	Solar cell materials			●			●	
	Power plant cables	●	●			●		
Infrastructure Plants	Bridge/steel tower coatings			●				
	Chimney/pipe sealing		●	●				
Industrial materials	Various sealants	●	●					
	Tubes/hoses	●	●					
Medical & lifestyle industries	Surgical gowns/medical masks				●			
	Food packages/containers				●			

Positioning in the Supply Chain

- These products are positioned in the upstream of the supply chain, and are difficult to be recognized from the final consumer product side
- Market demand trends tend to appear late



AGC's Strengths

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Global niche strategy

1

Global niche strategy targeting the No. 1 position in specific markets by developing high-performance materials and leveraging mass production technology

Global offering

2

Globally offering functions for production, marketing, technical service and product development

New product and technology development capabilities

3

Capture demand in global niche markets, including cutting-edge fields, and establish a highly profitable business base

Global niche strategy

- Fluoropolymers, AGC's mainstay product, are used in applications with special physical properties and have a high sales price level
- Due to the increasingly sophisticated final products in growing markets such as automobiles and semiconductors, the required specifications for materials have become more sophisticated, and the market is expanding.

Fluoropolymers in the resin market

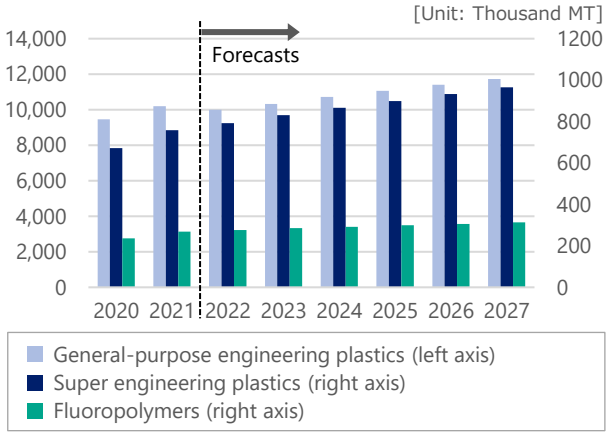
Overall plastic market
Market size: 300 million tons/year

- **Thermo-elastic resins**
- **Thermosetting resins**
  - Phenol resin (PF)
  - Melamine resin (MF)
  - etc...

Engineering plastics
Market size: 10 million tons

- **General-purpose plastics**
  Distribution price: 100-400 yen/kg
  - Polyethylene (PE)
  - Polypropylene (PP)
  - Polyvinyl chloride (PVC)
  - etc...
- **General-purpose engineering plastics**
  Market size: 9 million tons
  Distribution price: 400-1,000 yen/kg
  - Polyamide (PA)
  - Poly-carbonate (PC)
  - etc...
- **Super engineering plastics**
  Market size: 1 million tons
  Distribution price: 1,000 yen/kg
  - Polyphenylene sulfide (PPS)
  - Liquid crystal polymer (LCP)
  - Polyimide (PI)
  - etc...
- **Fluoropolymers**
  Market size: 200,000-300,000 tons
  Distribution price: 3,000-4,000 yen/kg

Engineering plastics and fluoropolymer market trends



Source: Fuji Keizai, "2023 Engineering Plastic Market Outlook and Global Strategy" (Part 1 and 2)

Global Footprint

- Globally offering functions for manufacturing, marketing, technical service and product development
- Considering to build strategy planning teams in each area to focus on initiatives for medium- to long-term themes

New product and technology development capabilities

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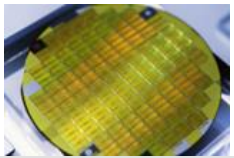
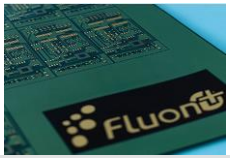
- Increasing market requirement of higher specifications for materials in growth markets such as hydrogen and semiconductors with higher product functionality
- Developing new products and technologies with fluorine technology cultivated over many years to meet needs

	Hydrogen business	Semiconductor business
Consumer goods	■ Hydrogen power generation ■ Alternative fuel feedstock ■ Fuel-cell vehicle 	■ High-speed and high-capacity communications ■ Millimeter wave band utilization expansion 
Required technology	■ Water electrolysis devices to produce hydrogen ■ Fuel cells requiring hydrogen	■ Achievement of low dielectric constant and low dissipation factor of dielectric materials, reduction of transmission loss
Necessary materials	■ Electrolytic membrane for water electrolysis ■ Electrolyte polymer solution for fuel cells 	■ Silica products as inorganic filler and EA-2000 as printed circuit board material 

Products Expected to Grow in the Future:
(1) Fluorinated electrolyte polymers for fuel cells

FORBLUE™ i-SERIES

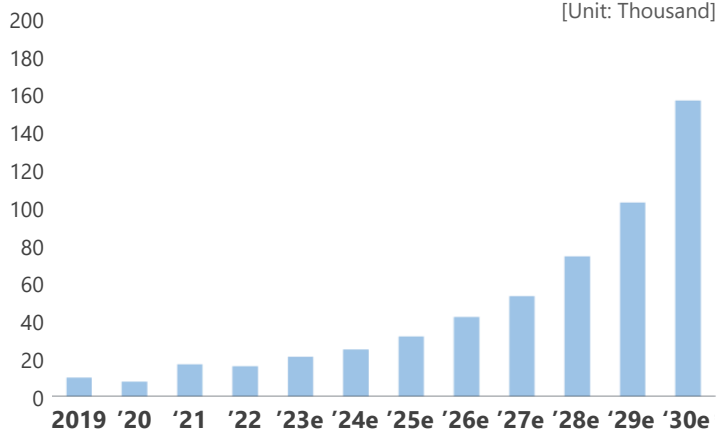
AGC Your Dreams, Our Challenge

- Demand growth is accelerating due to the diffusion of fuel cell vehicles and technological development toward the realization of a hydrogen society.
- AGC supplies **fluorinated electrolyte polymers for fuel cells**, which are indispensable for fuel cells
- High quality that combines high power generation performance and durability achieved by differentiated technological capabilities to establish an **overwhelming No. 1 position**

AGC Group's Strengths

Issues with conventional products	AGC Group's Strengths
Battery cooling required due to insufficient thermal resistance of electrolytes	Developed electrolyte with excellent heat resistance
Electrolyte degradation during power generation	Durability is also dramatically improved by AGC's original technology (NPC* technology)
Increased cost due to the use of platinum as a catalyst	Molecular design technology that significantly reduces platinum usage

Fuel cell vehicle production volume**



* New Polymer Composite ** Compiled from S&P Global data

Products Expected to Grow in the Future:
(2) Fluorinated sulfonate ion-exchange membranes

FORBLUE™ S-SERIES

AGC Your Dreams, Our Challenge

- Growing demand for electricity derived from renewable energy accelerating introduction of water electrolysis devices for hydrogen production
- AGC has integrated its electrolyte technologies for fuel cells and ion-exchange membrane technologies for chloroform electrolysis to supply electrolyte membranes for water electrolysis with the **world's highest efficiency and safety performance**

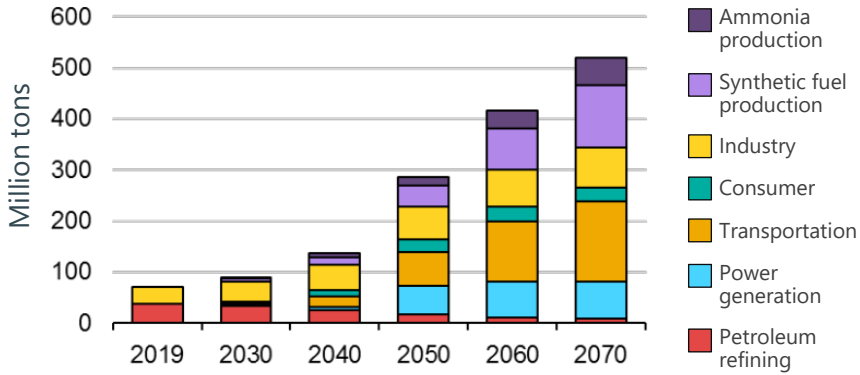
AGC Group's Strengths

Minimal electrical resistance, which improves efficiency of water electrolysis

Low hydrogen leakage, suitable for safe operation of water electrolysis

Excellent handling and dimensional stability due to reinforced body

Trends in hydrogen demand *



* Hydrogen-related: Including synthetic fuels through ammonia, methanation, etc.

* Ministry of Economy, Trade and Industry, Future Hydrogen Policy Issues and Directions for Response (2021)

Products Expected to Grow in the Future:
(3) Fluon＋TM EA-2000 / Silica for inorganic fillers

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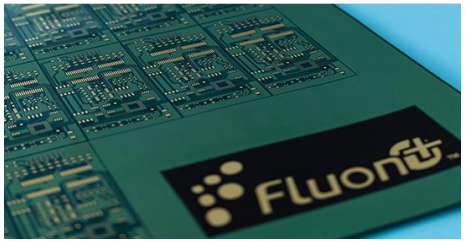
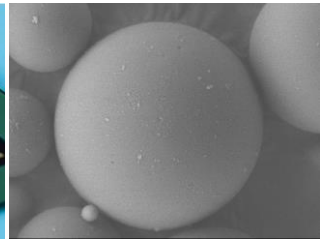
- As communication speeds and capacities increase, there is a need for substrate materials with low dielectric constant, low dielectric dissipation factor, and reduced transmission loss

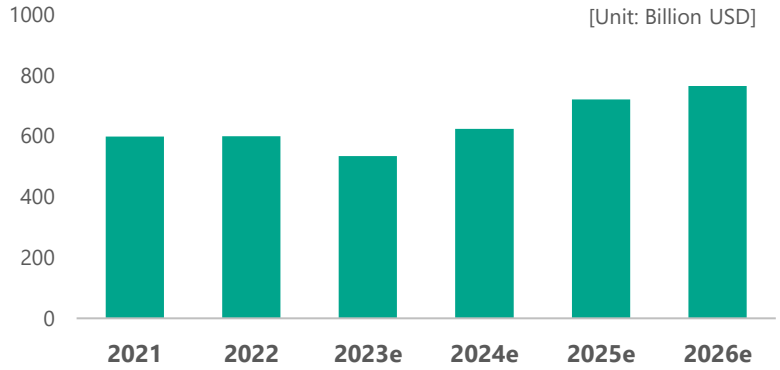




AGC Group's Strengths

Fluon＋™ EA-2000	Unique characteristics of low-dielectricity fluoropolymer with adhesive properties, enabling printed circuit boards with composite low-transmission-loss materials
	Available in various forms such as powders, films, and dispersions according to customer needs
Silica for inorganic fillers	Lowest dielectric constant and dissipation factor in the industry with AGC's proprietary silica technology
	Available in a wide range of applications, including printed circuit boards and semiconductor sealants

Semiconductor market size*



* Chart created by AGC based on Gartner data. Gartner®, Semiconductors and Electronics Forecast Database, Worldwide, 3Q23 Update, Rajeev Rajput et al., 4 October 2023, Semiconductor Revenue by Electronic Equipment basis.
Gartner is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally, and is used herein with permission. All rights reserved.

Fluorinated resin Fluon® ETFE

- Fluoropolymers **with ease of forming and fabrication while keeping the excellent characteristics** of fluorine. **Widely used in diverse and specific industrial fields**, namely transport equipment, electronics, construction, and energy.
- Extrusion molding, injection molding, and powder coating are possible. **Used in severe usage environment where thermal resistance, chemical durability, insulation, etc. are required** such as wire coatings, tubes, and coating materials.
- With ETFE, film fabrication is also easy. **Used as a mold-releasing film for membrane structure materials and other various fields**

Materials

Pellets

Powders

Fabrication materials

Wire coatings

Lining/coating products

Transfusion tubes

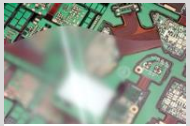
Transfusion tubes

Membrane structure material/ Mold releasing film

Industrial fields

Automobile

Train



Semiconductors

Aircraft

Electronic equipment

Energy

Membrane structures

Protected horticulture

Characteristics and strengths of the ETFE business

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Total solution provider of ETFE

Fluon® ETFE

- Trust built up for 50 years since the start of sales
- **Global sales share of 70% or more**
- Overwhelming manufacturing capacity

Fluon® ETFE FILM

- **Comprehensive production from raw material resin**
- Full line-up of products including for industrial mold-releasing and surface protection through membrane structure materials as the No.1 ETFE film supplier

Fluon+®

- **Grant and extra functions to expand application domains**
- Adhesive series with adhesiveness
- MPC (Melt Processable Compounds) series with functions added thanks to filler

- In 2021, enhanced the manufacturing capacity by 1.5 times compared with 2020
- Meet the demand for expanded semiconductor, transport equipment, and electronics/information communication markets, etc.

- Customers considering switch from other fluorinated resin increased in response to recent lack of fluorinated resin other than ETFE
- Already started to consider next production increase as a global top niche supplier

* AGC's estimate

Companywide Strategic Positioning

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- Performance Chemicals, which provides high-performance materials for a variety of cutting-edge applications*, is now integrated into strategic businesses.

Core Business

Establishing long-term, stable sources of earnings by increasing competitiveness of each business

- Architectural Glass
- Automotive (Existing)
- Display
- Essential Chemicals
- Performance Chemicals
- Ceramics

Strategic Business

Create and expand highly profitable businesses that will become future pillars by using AGC's strengths in high-growth fields

Electronics

Mobility

Life Science

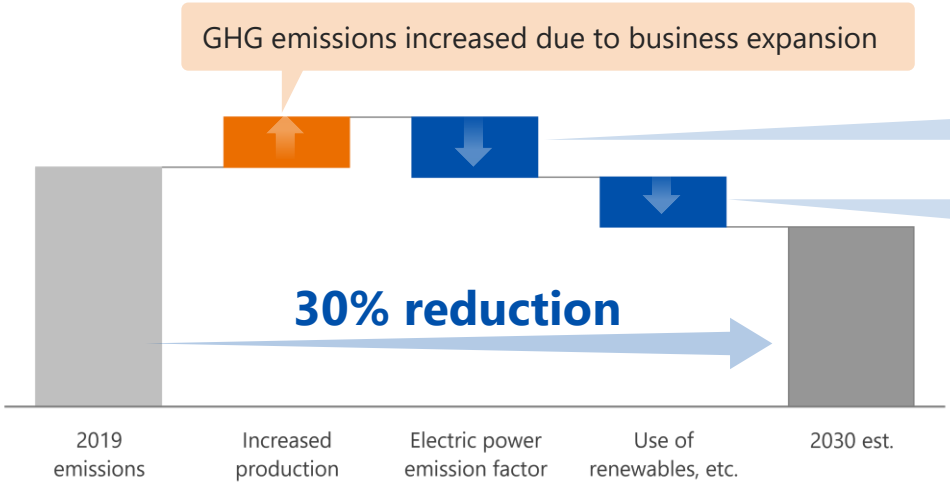
Performance Chemicals **New**

* Environment and energy, electronics including semiconductors, mobility, life sciences, etc.

Reducing GHG Emissions

- Undertaking initiatives to reduce GHG emissions globally, including domestic and overseas subsidiaries
- Despite the increase in emissions due to business expansion, AGC has drawn a roadmap for a 30% reduction in GHG emissions (Scope 1+2) in 2030 (versus 2019) through the use of renewable energy and other measures.

Image of future trends in GHG emissions (Scope1+2)



Reduced GHG emissions due to lower electricity emission factor for purchased electricity

Actively reduce GHG emissions through measures such as the use of renewable energy, recycling, energy conservation, and reduction of CFC emissions

Contributing to a Sustainable Society

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1

Promote development of products and technologies that contribute to GHG emission reductions

Fluorine-based ion-exchange membranes for PEM water hydrolysis

FORBLUE™ S-SERIES

Fluorine-based ion-exchange membranes for PEM water hydrolysis

FORBLUE™ i-SERIES

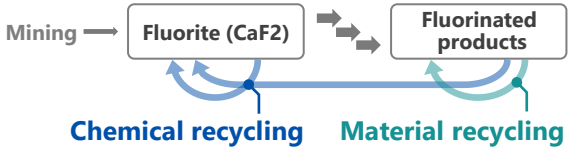
2

Reduce use of newly mined resources by extending product life and recycling activities

Green house film

F-CLEAN

Effective use of fluorine resources



Contributing to a Sustainable Society

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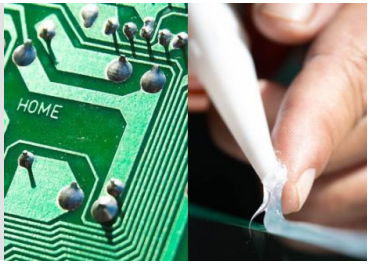
3 Contributing to the reduction of GHG emissions generated from the entire life cycle through the introduction of bio-based feedstock

epinity

Epichlorohydrin, a bio-derived raw material for epoxy resins



4 Studying GHG emission reduction through the introduction of carbon neutral fuels

P.T. Asahimas Chemical
Studying the use of PKS co-firing for own thermal power generation

5 Actively promoting mangrove planting activities and coral reef conservation activities in Southeast Asia

AGC Vinythai
Coral reef conservation project

Examples of Social Value Provided by the Chemicals Business

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- Contribute to all three areas of social value through all products and technologies

Blue planet

Low-GWP gas solvents

Bio-derived epichlorohydrin

Technology to utilize collected fluorite

Resin recycling technology (development)

Next-generation areas

Semiconductor-related materials

Hydrogen-related materials

Fluoropolymer resin for highly durable coatings

High power efficiency electrolytic membranes

Highly durable fluorinated film for agriculture

Vinyl chloride piping materials

Sodium hypochlorite

Urethane materials

Innovation

Well-being

Image of Performance by Segment

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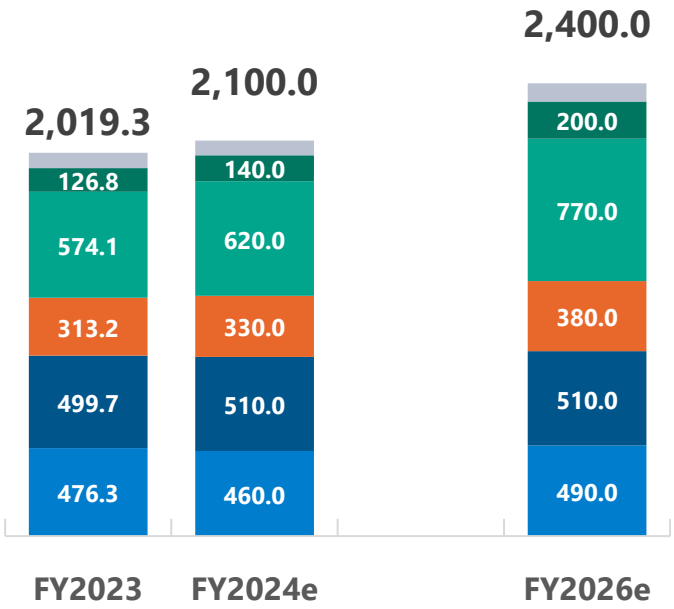
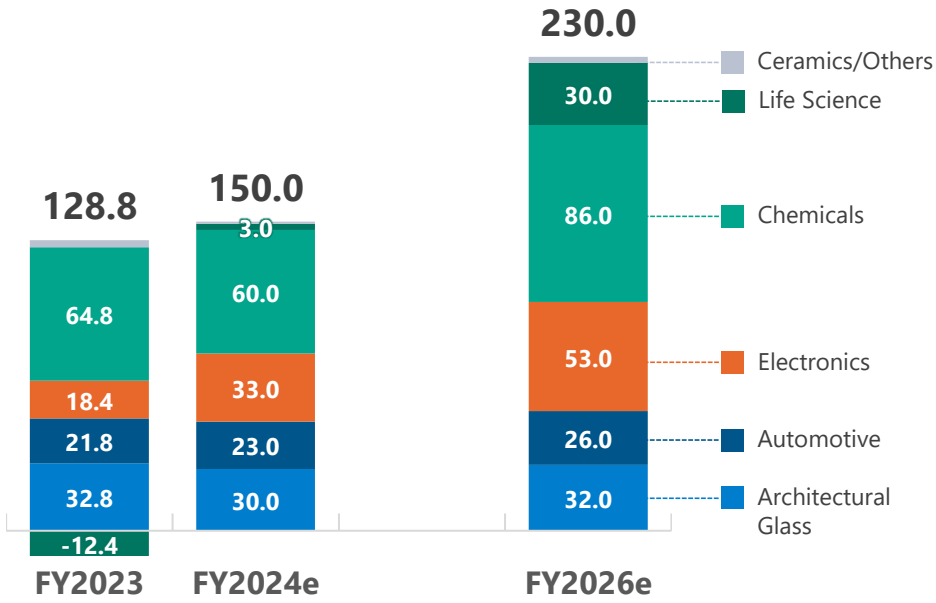
Net sales (Billion yen)

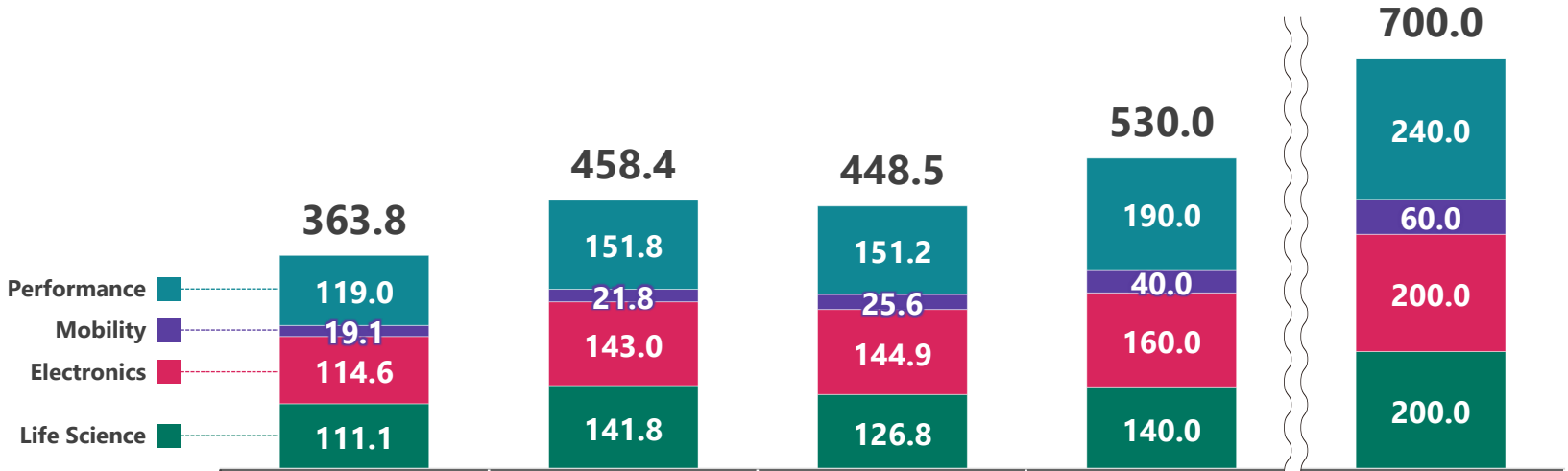


OP (Billion yen)



Strategic Business Performance Image

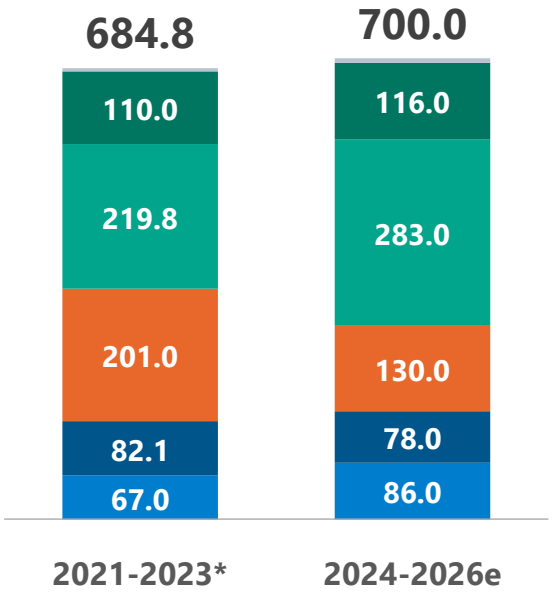
Strategic business net sales (Billion yen)



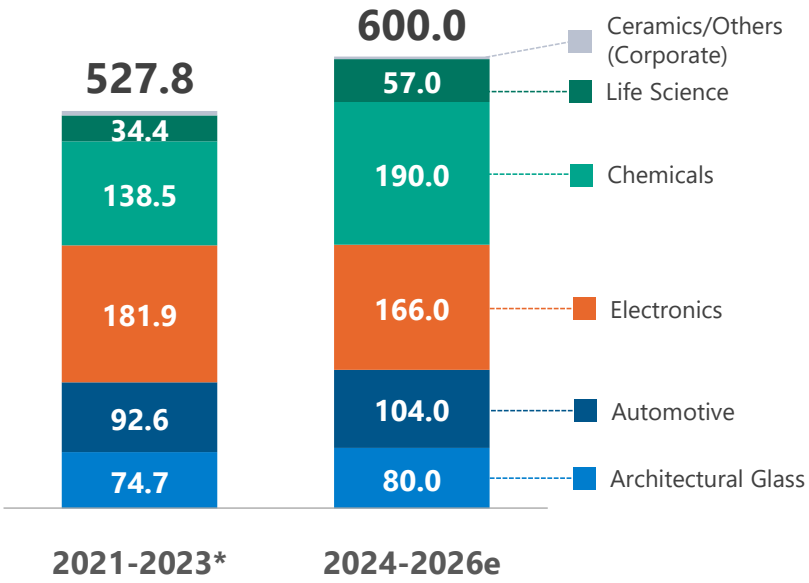
OP (Billion yen)	2021	2022	2023	2024e	2026e
New definition	64.7	93.9	56.8	80.0	130.0
Previous definition	53.8	70.9	38.2		

AGC plus-2026 CAPEX and Depreciation & Amortization

CAPEX (Billion yen)



Depreciation & amortization (Billion yen)



* Breakdowns of each segment in 2021 are shown as calculated for reference only.

ROCE of Each Business

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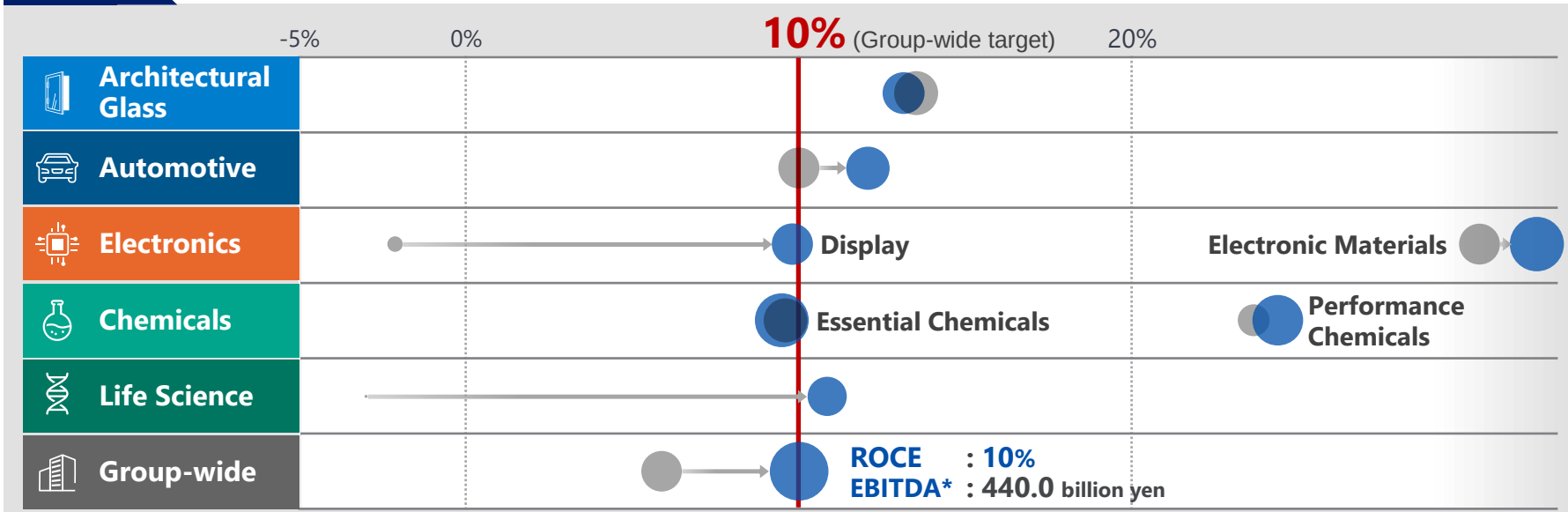
- We will continue to aim for a Group-wide ROCE of **10% or higher**

ROCE ● 2023 Actual vs ● FY2026 Projection



ROCE : (OP forecast of the year) ÷ (Operating asset forecast at the year-end),
Group-wide OP by business is after allocation of common expenses; OP for each business is before allocation of common expenses

Diameter of each circle (excluding those of the group-wide section) : the size of EBITDA * **EBITDA** = Operating profit + Depreciation

Disclaimer:

- This material is solely for information purposes and should not be construed as a solicitation. Although this material (including the financial projections) has been prepared using information we currently believe reliable, AGC Inc. does not take responsibility for any errors and omissions pertaining to the inherent risks and uncertainties of the material presented.
- We ask that you exercise your own judgment in assessing this material. AGC Inc. is not responsible for any losses that may arise from investment decisions based on the forecasts and other numerical targets contained herein.
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IR DAY 2024

Life Science

AGC Inc.

June 4, 2024

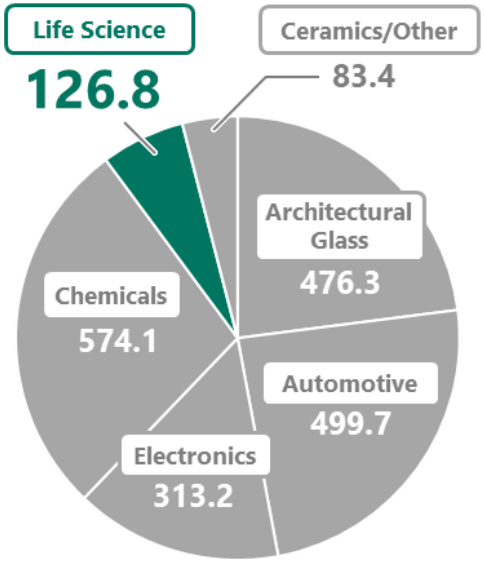
Contents

1. Overview of Life Science Business

Business Overview

FY2023 Sales (Billion Yen)

AGC Group **2019.3 billion yen**



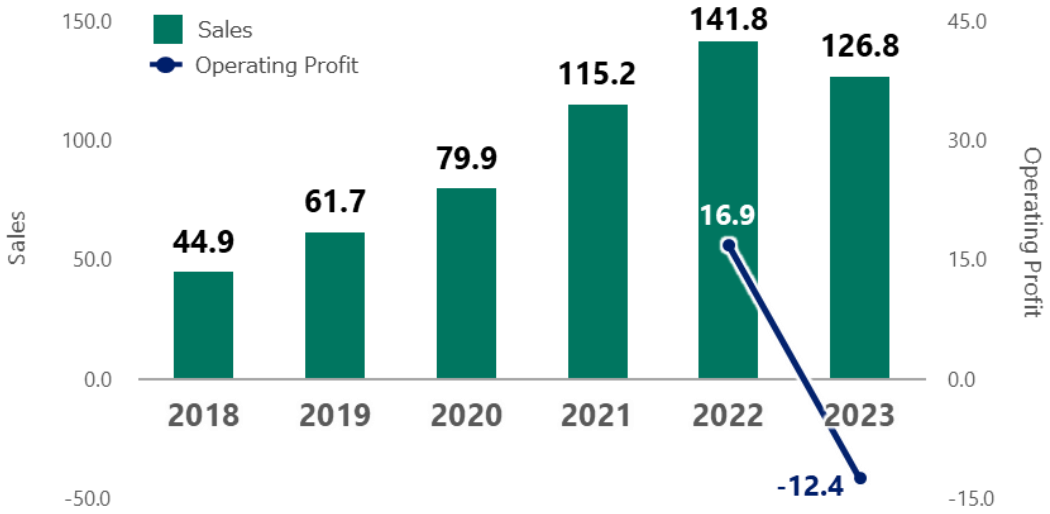
Main Life Science businesses

Business domain		Service overview
Small molecule pharmaceuticals and agrochemicals CDMO	Small molecule pharmaceuticals CDMO	■ Contract development and manufacturing of small molecule pharmaceuticals
	Agrochemicals CDMO	■ Contract development and manufacturing of agrochemicals
Biopharmaceuticals CDMO		■ Contract development and manufacturing of biopharmaceuticals (microbial, mammalian cell culture, gene and cell therapy, pDNA, mRNA, exosomes)

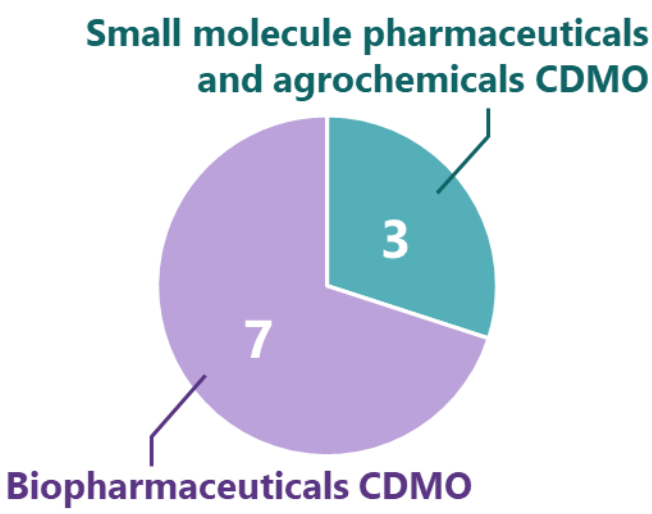
Financial Performance

- In 2023, sales and profits declined due to the delay in the launch of new US lines and the deterioration in the market environment, but the scale of the business increased steadily thanks to intensive investment.

Sales and Operating Profit (Billion Yen)



FY2023 Sales Breakdown



*Sub-segment information within the Chemicals segment is disclosed before 2021 (sales only), and on a stand-alone segment basis after 2022 (2022 figures are for reference only).

History of Life Science Business

- In 1973, the Life Science Team was launched as a research unit, and commercial operations began in the 80s.

1973 Launched The Life Science Team to investigate the applicability of AGC's fluorination technology to pharmaceutical & agrochemical production

Small molecule pharmaceuticals/agrochemicals

- **1985** Started contract manufacture/supply of fluorinated intermediates for use in antibiotics
- **1997** Established AGC Wakasa Fine Chemicals (currently AGC Wakasa Chemicals)
- **2003** Established a GMP-compliant manufacturing facility for clinical stage drug substances & intermediates at Chiba Plant
- **2008** Obtained marketing approval for tafluprost, an anti-glaucoma drug substance
- **2013** Established a new plant, Kaminaka Plant, in the Wakasa Techno-Valley (AGC Wakasa Chemicals)
- **2019 Acquired** drug substance manufacturing plant in Spain (currently AGC Pharma Chemicals Europe)
- **2019** Increased GMP compliant production capacity 10-fold at Chiba Plant
- **2020** Decided to expand facilities at AGC Pharma Chemicals Europe
- **2021** Decided to expand facilities at Kaminaka Plant of AGC Wakasa Chemicals
- **2022** Decided to expand facilities at AGC Pharma Chemicals Europe

Biopharmaceuticals

- **1984** Formed the Biochemical Group focused on biopharmaceutical development
- **2000** Formally launched the protein contract manufacturing business
- **2008** Established a new facility at Chiba Plant with 10-fold higher capacity
- **2016 Acquired** biopharmaceuticals CDMO in German (currently Heidelberg site)
- **2017 Acquired** biopharmaceuticals CDMO with sites in Europe and US (currently Seattle & Copenhagen sites)
- **2020** Established new mammalian cell culture facility at Chiba Plant
- **2020 Acquired** biopharmaceutical drug substance manufacturing plant in US (currently Boulder site)
- **2020 Acquired** gene/cell therapy CDMO in Italia (currently Milan site)
- **2021 Acquired** U.S. gene therapy manufacturing plant (currently Longmont site)
- **2023** Started mRNA CDMO service (Heidelberg site)

2. Current Situation and Outlook

Current Situation and Outlook of Biopharmaceuticals CDMO

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- The impact of the reduced capital inflows into biotech ventures continues. Although the business environment is recovering, **its recovery pace requires close monitoring**. **The situation going forward will be assessed and necessary measures will be taken.**
- New lines in the U.S. has **resumed commercial operations and is expected to contribute to improvement in earnings from 2024.**

	Business environment	Launch of new lines in the U.S.
Issues	Temporary leveling off due to repercussions of Covid-related special demand and reduced capital inflows into biotech ventures	Delay in launching new lines at Boulder site in the U.S.
Current Situation*	**Continue to be affected by reduced capital inflows into biotech ventures, but recovery signs are seen. Implemented a rationalization to improve business performance**	**Drastic measures implemented and resumed commercial operations in end of 2023**
Outlook	**Business environment is recovering, but the recovery pace will be closely monitored to consider and take additional measures according to market situation**	**Slowly contributes to improvement in earnings from 2024**

* As of June 4, 2024

3. Business Strategy and Performance Targets

Business Environment Outlook

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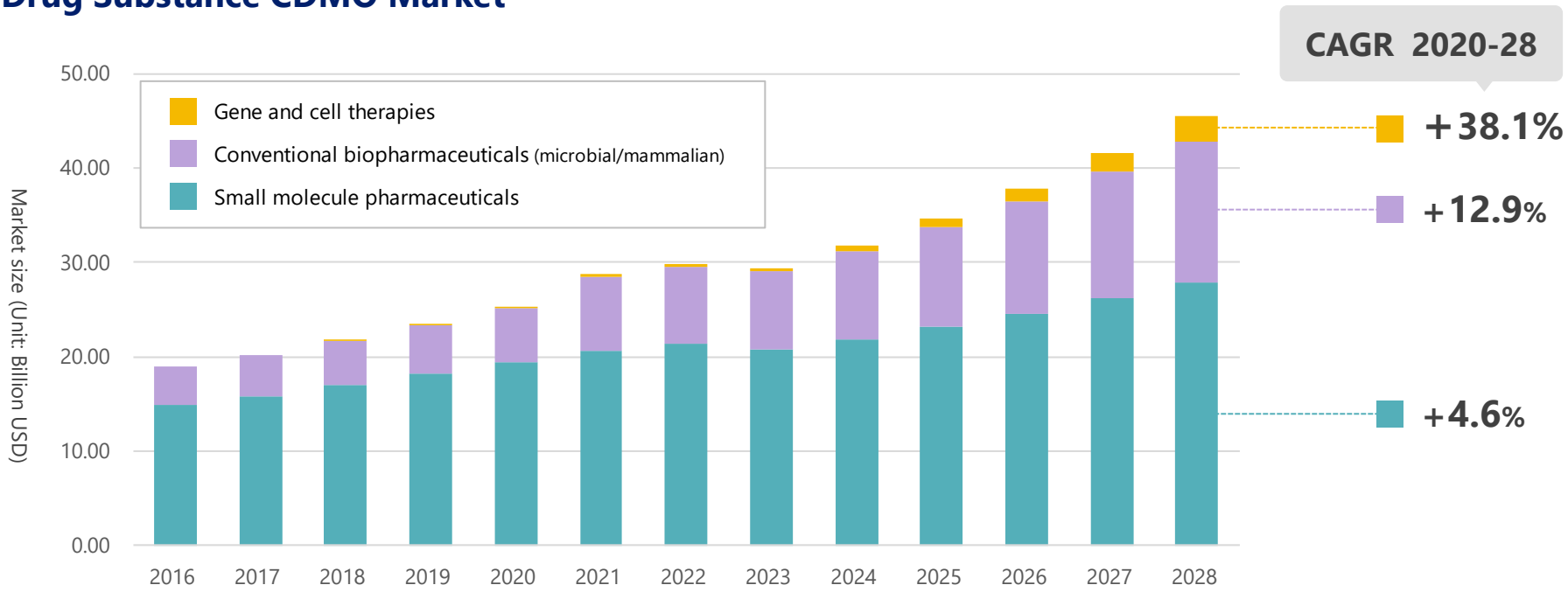
- With the trend towards increased outsourcing, the CDMO market is expanding steadily.

Drug Substance CDMO Market



Source: Estimated by AGC based on EvaluatePharma®

Vision and AGC's Strengths

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Vision

To contribute to bettering the world, by providing high-quality life-science related services & products, that require high-level expertise & competence

Strengths

1. **Providing a high standard of services integrated from 10 sites in three regions of Japan, the US, and Europe**
2. **Flexible production system providing services from early-stage development to commercial phase**
3. **Extensive Manufacturing and Inspection Track Record**

Strengths | Flexible to production needs from early-stage development to commercial scale

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- Addresses a wide range of production scale needs that vary in accordance with the progress of the development phase of the drug product

Small molecule pharmaceuticals	We have both pilot facilities suitable for small-volume production in the early stages of development and large reactors for commercial phase.
Biopharmaceuticals	AGC is a pioneer in the introduction of **SUB**s, which enable flexible production of small- to medium-scale production, and has the industry's top-class production capacity*. **Large-scale SUS** was introduced in 2020 to accommodate large-scale commercial production.

Bioreactors used for biopharmaceutical production

The main bioreactors used for biopharmaceutical production are **"SUB"** and **"Large-scale SUS."**

SUB (Single-use bag)

A bioreactor that uses single-use bags, which are disposable containers. Since no washing of the bioreactor is required, it is highly efficient and suitable for small- to medium-scale multi-product production.

Large-scale SUS

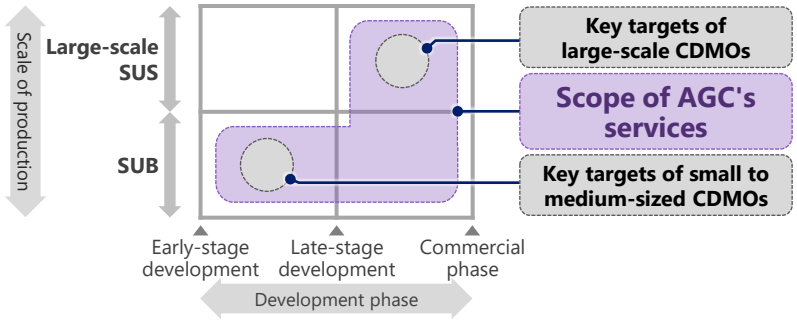
Large stainless steel bioreactors
Suitable for large scale commercial production

Scale of production

2,000L — 12,000L — 20,000L

Scope of AGC's services in the biopharmaceutical CDMO business

Combination of SUB and large SUS to meet a **wide range of production scale and development phase.**

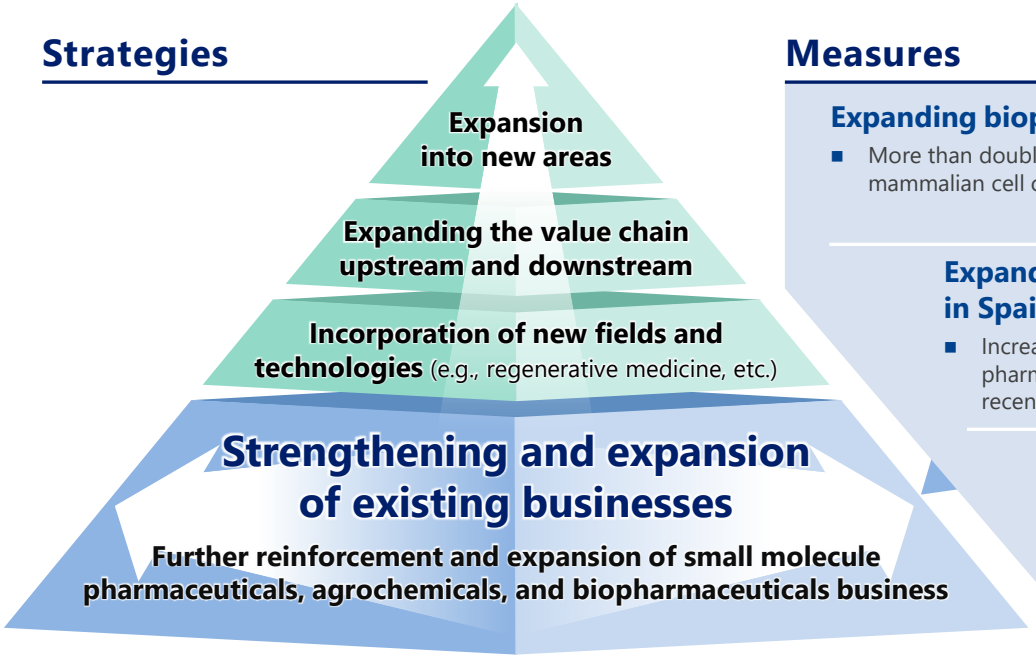


* AGC estimates

Strategies and measures

- **Further strengthen and expand the core CDMO business for small molecule pharmaceuticals, agrochemicals, and biopharmaceuticals** and consider expansion of services and business areas at an appropriate timing

Strategies



Measures

Expanding biopharmaceuticals CDMO capabilities in Denmark

- More than doubling the manufacturing capacity of the site with the addition of SUB mammalian cell culture bioreactors* Targeted to start operation in 2024.

Expanding small molecule pharmaceuticals CDMO capabilities in Spain

- Increasing manufacturing capacity by 30%. Facilities for highly potent active pharmaceutical ingredients (HPAPI), for which demand has been increasing in recent years, will also be added. Targeted to start operation in 2025.

Expanding biopharmaceuticals CDMO capabilities in Japan

- In addition to mammalian cell culture bioreactors which have one of the largest capacity as a CDMO in Japan, the expansion will also include facilities for leading-edge field of mRNA pharmaceuticals and gene and cell therapies. Services are targeted to start gradually in 2025.

*Bioreactors using disposable containers called single-use bags

Business strategy based on the market maturity of each modality

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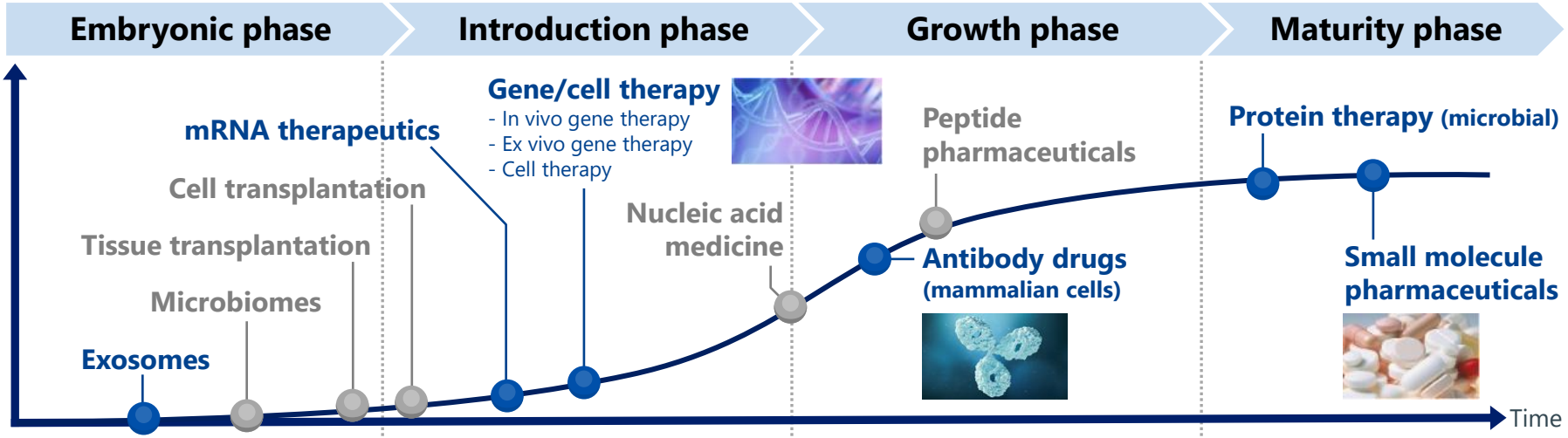


- Exploring and identifying promising new fields and preparing for commercialization

- Establishing a manufacturing platform
- Three global regions Rapid establishment of service platform
- Track record in contracted services

- Improvement of customer experience
- Aggressive capacity expansion
- Increase in the proportion of commercial products

- Capacity expansion in line with market growth
- Improvement of operations

: Modalities* already provided by AGC

: Modalities to be considered for entry in the future

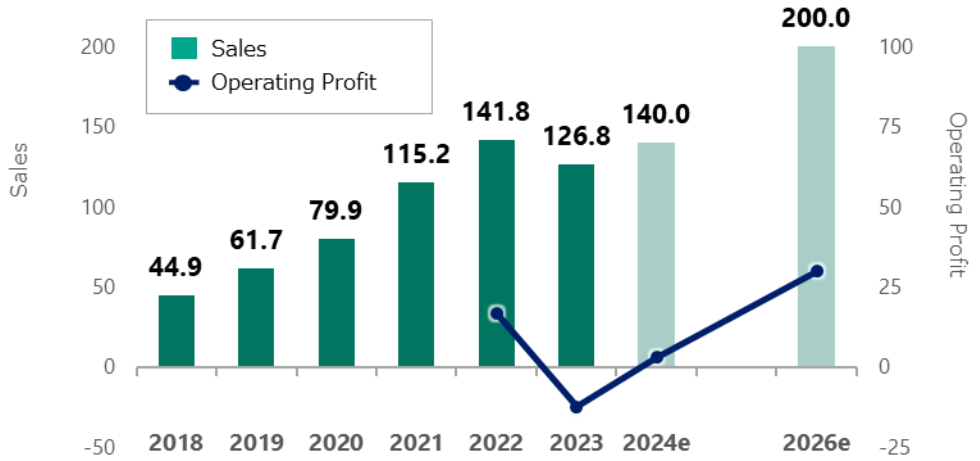
* Modality: the classification of methods and means of basic technologies for drug discovery for pharmaceuticals

Reference: Arthur D Little, December 23, 2020, Pharmaceutical Development Council document, "Survey on Issues and Initiatives Necessary to Resolve Issues Toward the Industrialization of Pharmaceutical-Related Industries."

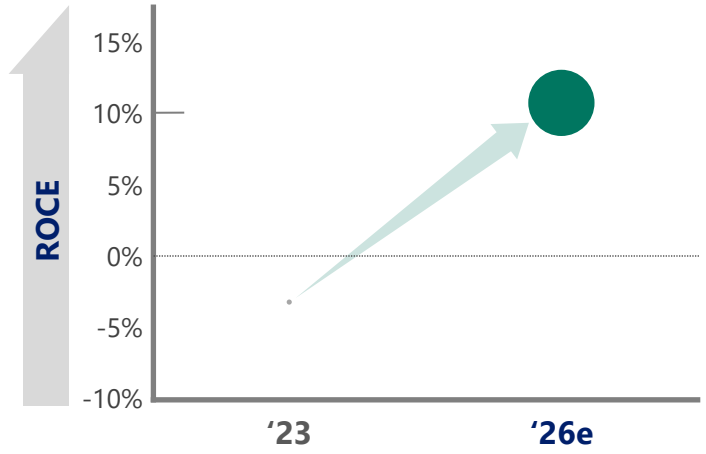
Life Science Segment Performance Targets

- We aim to achieve operating profit of over 30 billion yen and ROCE of over 10% by 2026.
- Continue to consider and take measures to improve business performance based on the current extremely severe business environment.

Image of business performance (Billion Yen)



Change in ROCE and EBITDA**

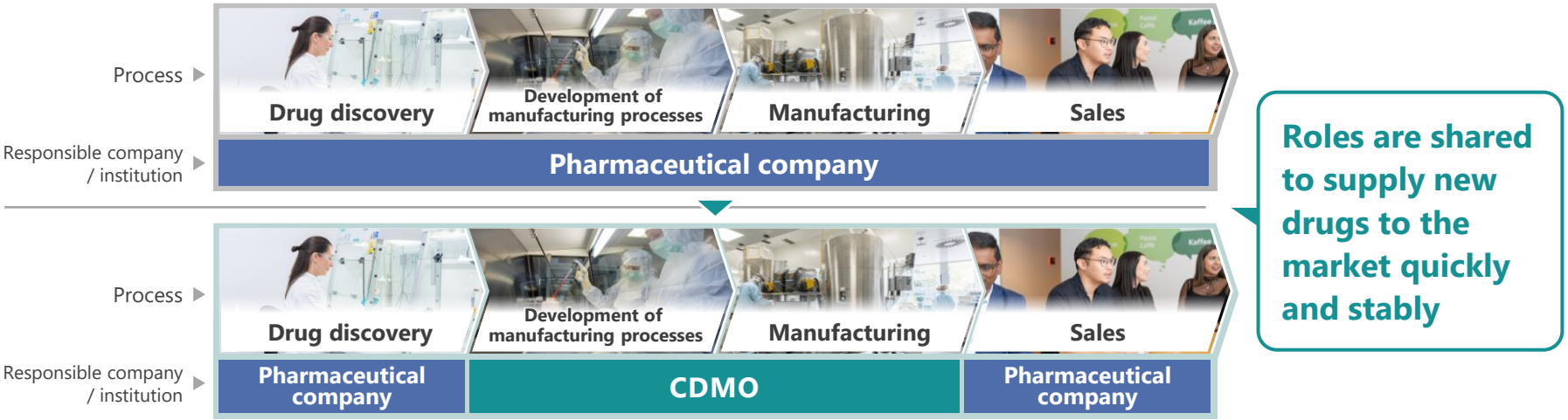


* Sub-segment information within the Chemicals segment is disclosed before 2021 (sales only), and on a stand-alone segment basis after 2022 (2022 figures are for reference only).
**Diameter of each circle : the size of EBITDA

4. Appendix

What is CDMO?

- CDMO: Contract Development & Manufacturing Organization. A company which is a partner to pharmaceutical companies **contracted to provide pharmaceutical manufacturing services and to develop manufacturing processes**.
- As the **structure and manufacturing technology of pharmaceuticals become more complex**, and **huge investments** are required in R&D for new drugs, pharmaceutical companies are increasingly focusing on research to create new drugs and their marketing and **outsourcing the manufacturing and development of the manufacturing process to CDMOs**.



Conventional Biopharmaceuticals CDMO

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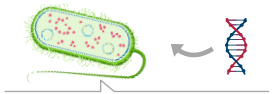
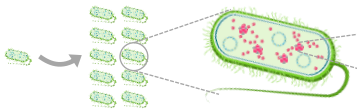
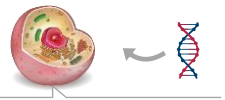
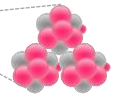
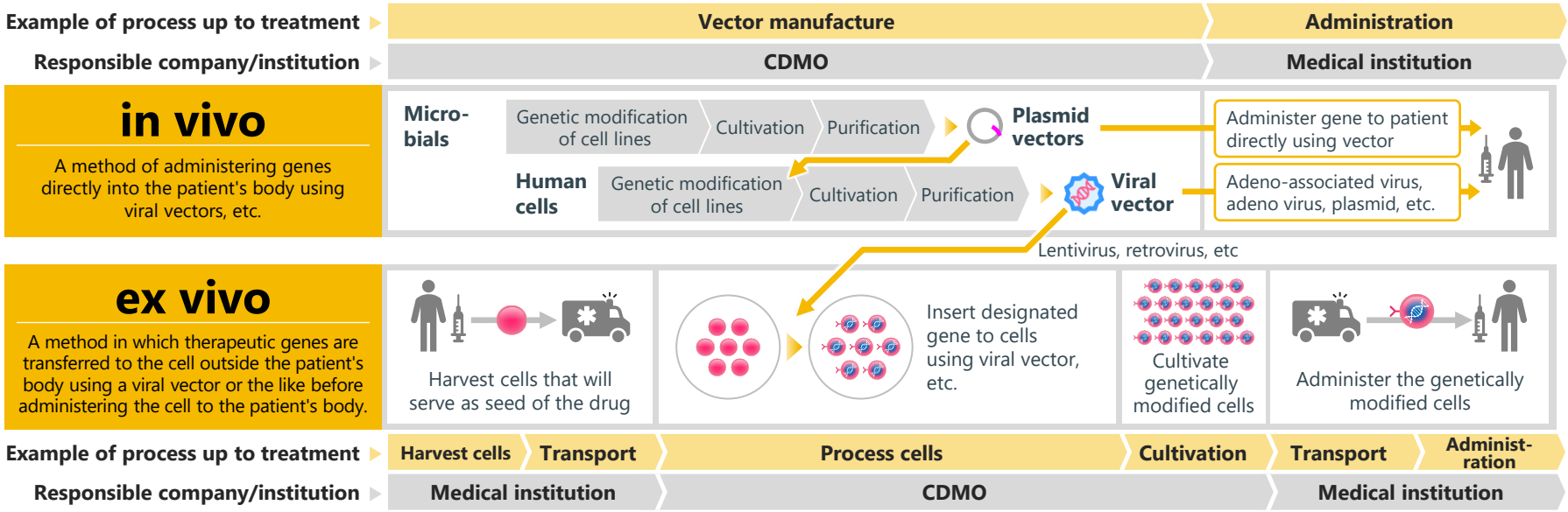
- AGC receives the "target gene" from the pharmaceutical company, and "cultures" the cell with the target gene, "harvests" and "purifies" to obtain the target protein, on a contract basis
- The manufacturing is for the "target protein (=biopharmaceutical)". The general flow of the manufacturing process is the same in both microbial and mammalian cells.

Manufacturing process	Introduction of recombinant genes	Culture	Harvest	Purification	Finishing into Product / Marketing
	Introduce a recombinant gene into microbials/mammalian cells.	Increase microbials/mammalian cells carrying the recombinant gene. At the same time, the target protein (=drug substance) also increases.	Collect and purify the target protein (=drug substance)		-
Responsible manufacturer	Pharmaceutical company or CDMO (e.g. AGC)				Pharmaceutical company
Microbial	**Introducing recombinant genes into microbials**  Target protein (drug substance) **Size** several μm **Structure** simple	**Cultivation of microbials containing recombinant genes** 	**Separation and purification of target protein (drug substance)**  **Molecular weight** in the order of 10^4 **Structure** simple **Drug examples** insulin (anti-diabetic) GCSF (anti-neutropenic)		-
Mammalian cell	**Introduce recombinant gene into mammalian cells**  Target protein (drug substance) **Size** ≥10 μm **Structure** complicated	**Culture of mammalian cells with recombinant gene** 	**Separation and purification of target protein (drug substance)**  **Molecular weight** ≥10^5 **Structure** complicated **Drug examples** antibodies (e.g. anti neoplastics, anti-rheumatics), EPO (anti-anemic)		-

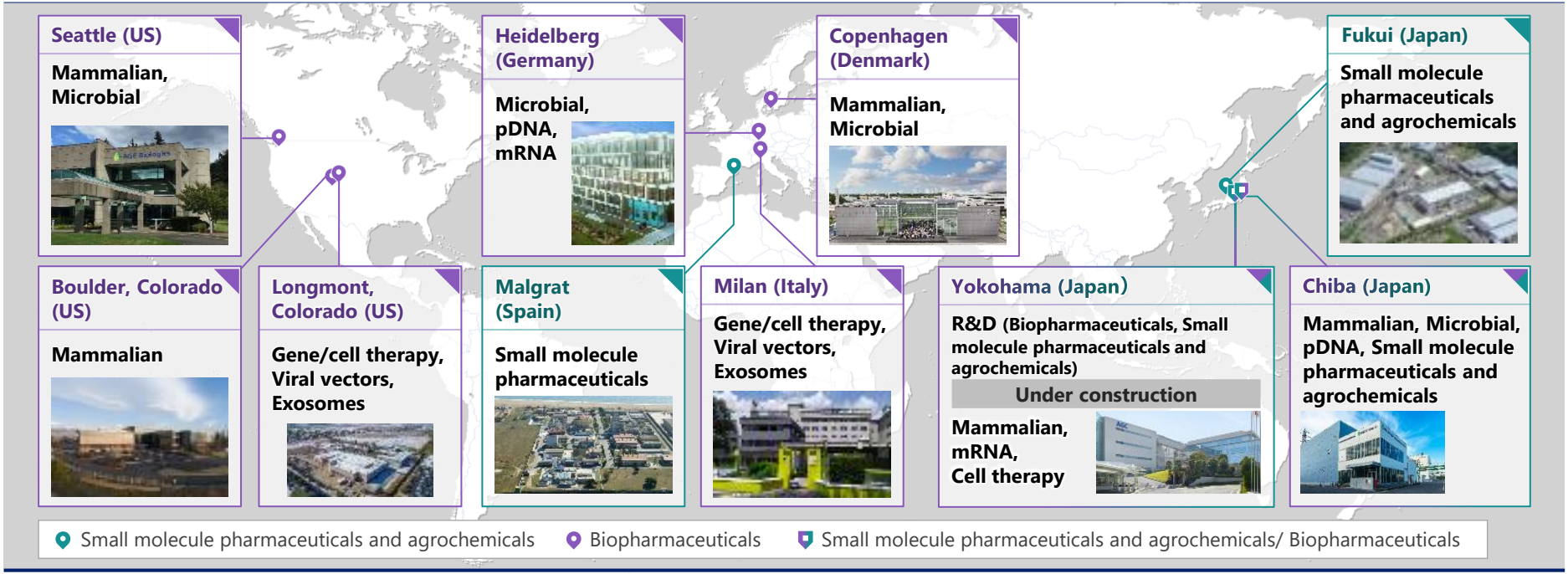
Gene and Cell Therapy CDMO

- In gene/cell therapy CDMO, there are many common basic technologies with conventional biopharmaceuticals CDMO where existing know-how is valuable.
- AGC has strengths in the manufacturing of viral vectors, cell processing technologies, handling of human-derived cells, and manufacturing/QC/QA.



Strengths | Global Service Deployment (1)

- We have established a highly integrated **cGMP system with 10 sites** in Japan, the U.S., and Europe, and provide the same **high standard of development and manufacturing services** in a **wide range of fields** from any of these regions.



Strengths | Global Service Deployment (2)

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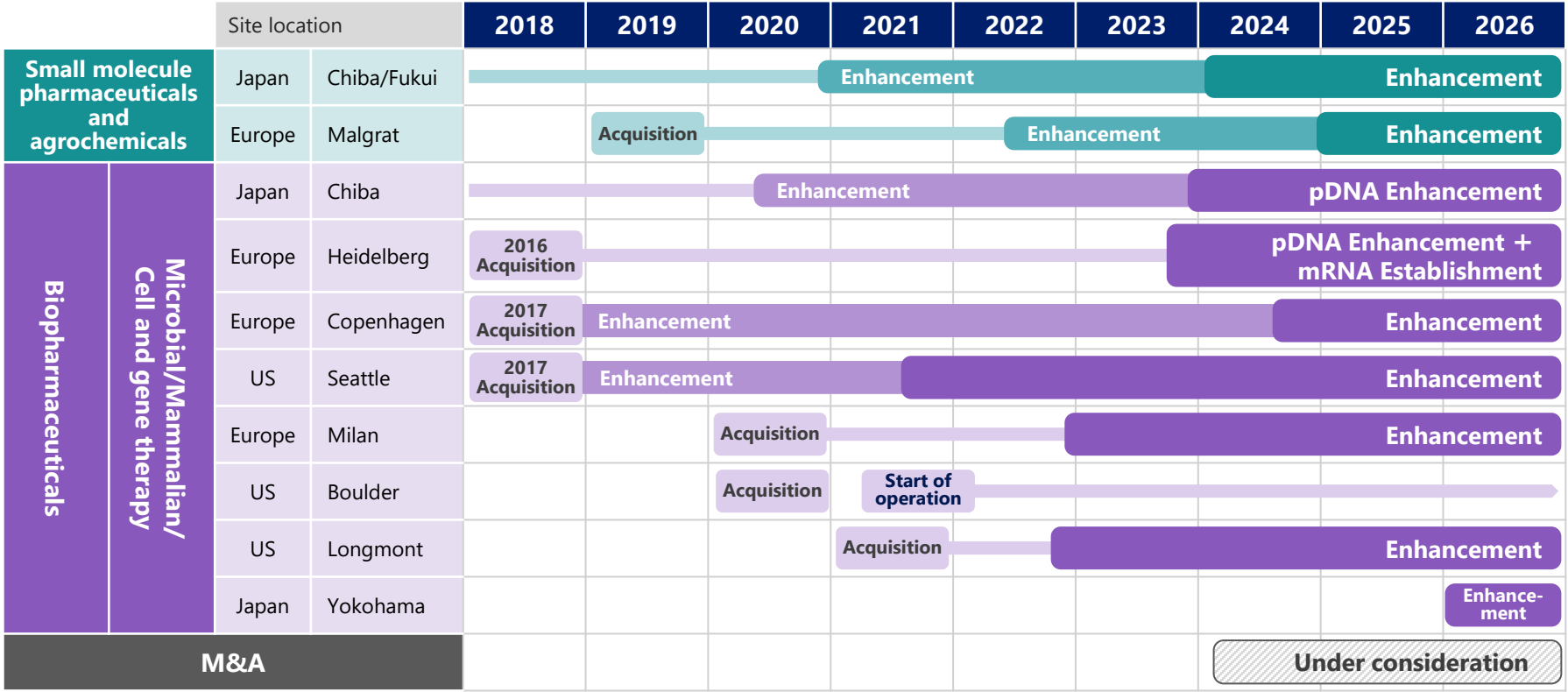

* Based on the start of operation

Strengths | Extensive Manufacturing and Inspection Track Record (1)

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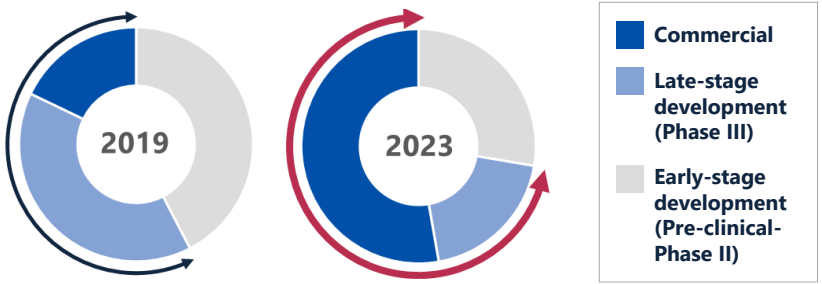
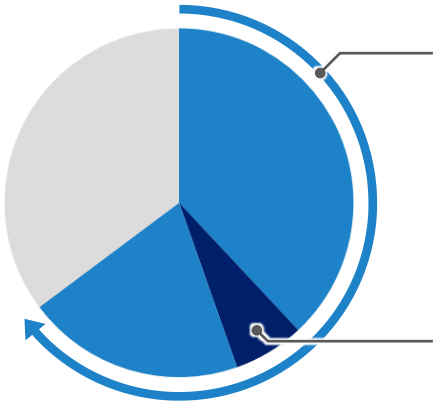
- Based on many years of business experience, we have gained a **wealth of manufacturing and authority inspection track record**, as well as the **trust** of our customers. Increased orders for commercial and late-stage development projects requiring **higher level of cGMP management**. The more track records are accumulated, the more orders are received, leading to a virtuous cycle.

Percentage of biopharmaceutical CDMO contracts (value)



Mid- to long-term growth is expected to continue by the **cycle of nurturing the projects together** with the client **from the early stage of development to the commercial stage** where the contract is stable.

Percentage of contracted biopharmaceutical API* (%)



Top 10 API contract manufacturers, including AGC, account for approx. 70% of contracted items

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* Source: Our calculations based on Globaldata (Apr2024)

Strengths | Extensive Manufacturing and Inspection Track Record (2)

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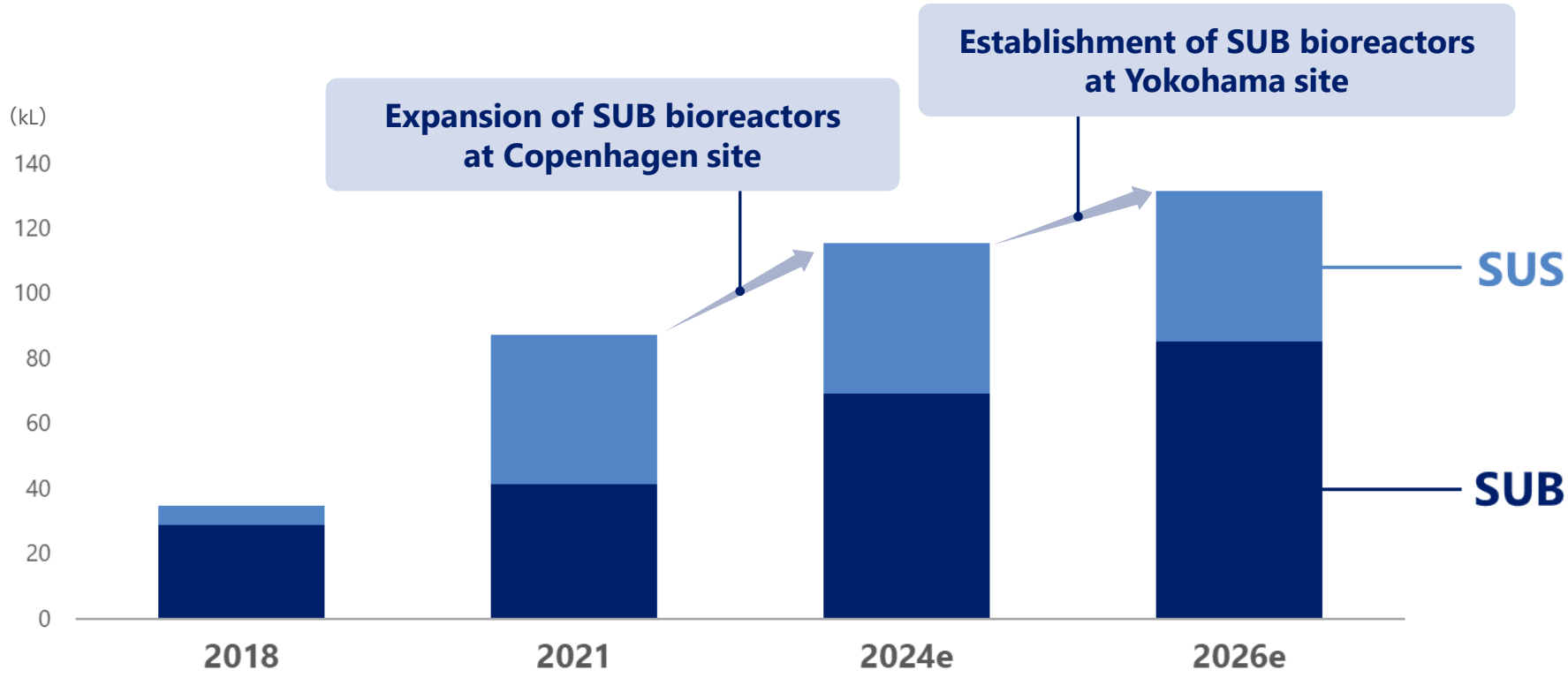
- With high-level quality and developmental capabilities, we have successfully undergone numerous authority inspections.

Inspection track record

		FDA U.S. Food and Drug Administration	EMA European Medicines Agency	PMDA Pharmaceuticals and Medical Devices Agency
Small Molecules	AGC Chiba Plant	●		●
	AGC Pharma Chemicals Europe Malgrat	●	●	●
Biopharmaceuticals	AGC Biologics Seattle	●	●	●
	AGC Biologics Copenhagen	●	●	●
	AGC Biologics Heidelberg	●	●	●
	AGC Biologics Milan	●	●	
	AGC Chiba Plant			●

* Including non-commercial products

Biopharmaceutical CDMO manufacturing capacity
(mammalian cells only)



Global Collaboration in Manufacturing and Development Technologies (Technology Transfer)

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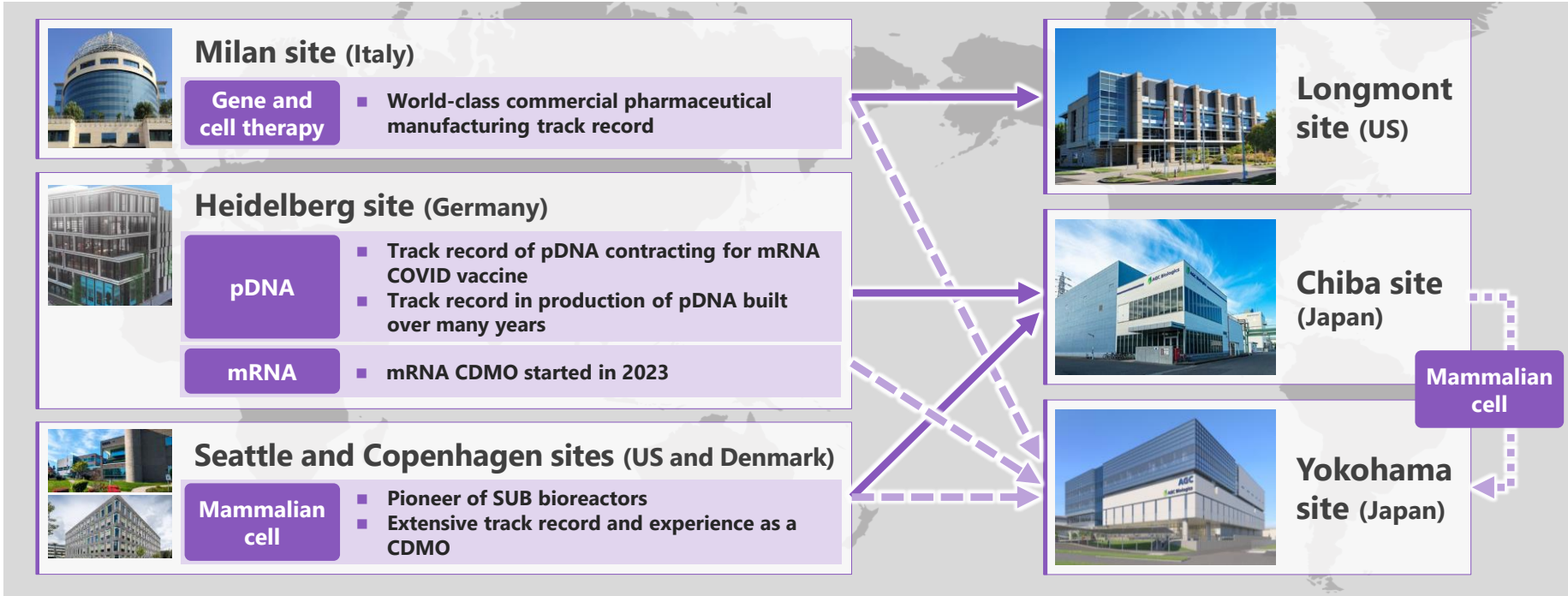
- We have established a high-quality global service structure by transferring technology from existing sites with cutting-edge technology and extensive track records.



Technology transfers made in the past : → Technology transfer to be implemented in the future : ⇢

Global Collaboration in Manufacturing and Development Technologies
(Supply System)

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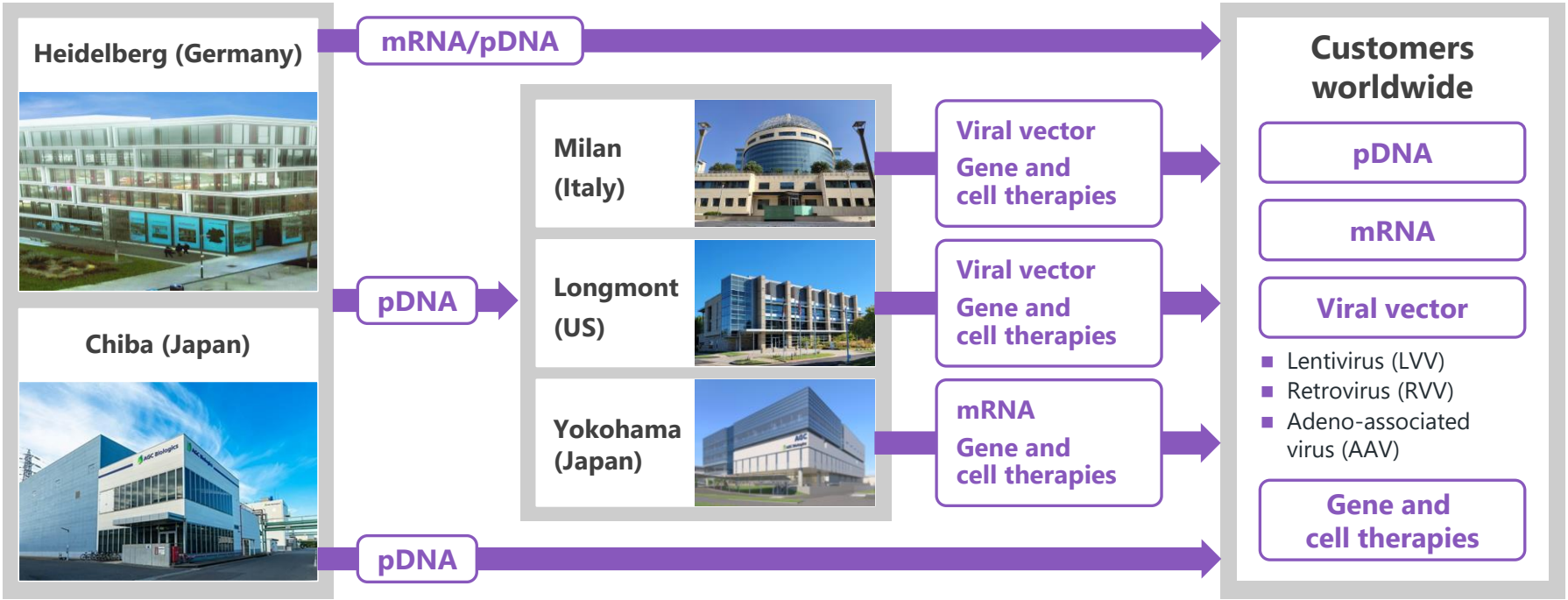
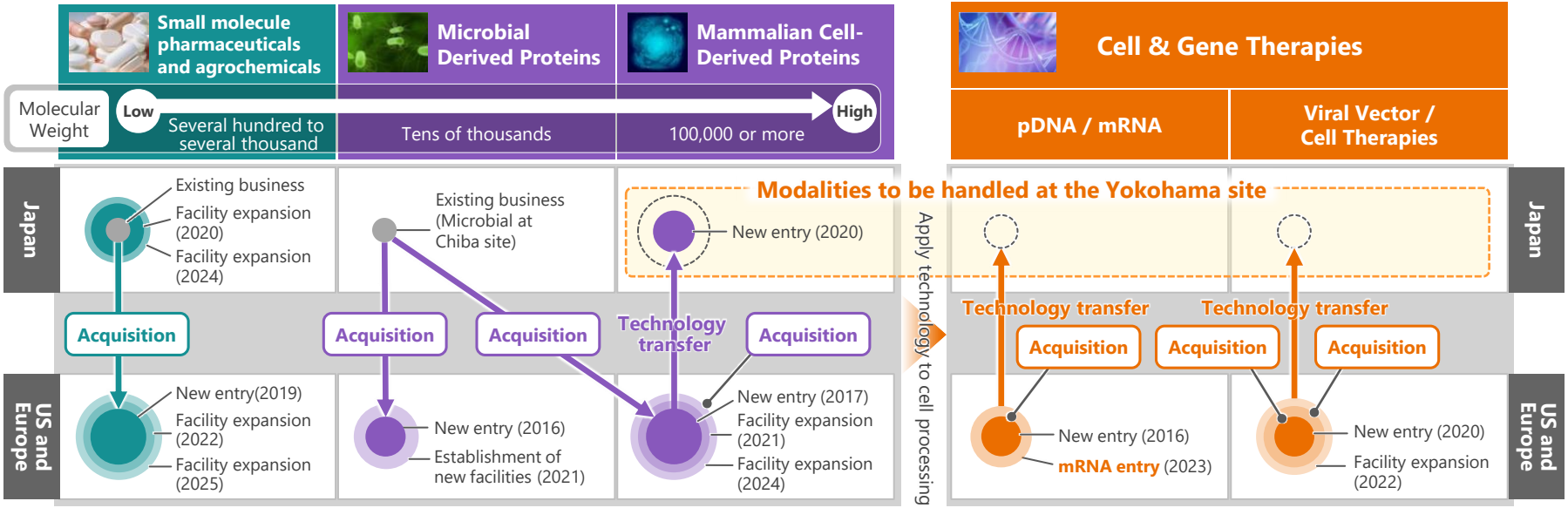
- Integrated services from raw material pDNA to mRNA pharmaceuticals and gene and cell therapies



Expansion of manufacturing and development technologies

- Since acquiring BIOMEVA in 2016, AGC has expanded its business regionally and technologically through substantial capital expenditures and M&As, forming a solid foundation as a pharmaceutical CDMO.
- Now, building on this foundation, further expanding in the cell & gene therapy area.



* pDNA: plasmid DNA ** mRNA: Messenger RNA

Improvement of development and manufacturing capabilities for biopharmaceuticals and vaccines (Japan)

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- We will introduce dual-use facilities capable of producing cutting-edge biopharmaceuticals such as mRNA therapeutics and switching to vaccine production in the event of a pandemic (service to begin gradually in 2025)
- Contributing to biopharmaceutical ecosystem in Japan

Completed image
(at AGC Yokohama Technical Center)

One of the largest* CDMO facilities in Japan

Cutting edge and multiple modalities

Extensive knowledge cultivated in Japan, the United States, and Europe

* The largest class of mammalian cell culture bioreactors as a CDMO in Japan (AGC estimate) is scheduled to be introduced. * Link to news release

Contribution to Sustainability Issues

- We are promoting **sustainable business activities** such as environmental impact and supply chain management with consideration for human rights. These are also criteria for supplier selection by pharmaceutical and agrochemical companies.
- We have received **strong supplier ratings for sustainability** from the international rating agency **Ecovadis.**

PLATINUM (only the top 1% are certified)

AGC Pharma Chemicals Europe（Spain）

GOLD (only the top 5% are certified)

AGC Wakasa Chemicals (Japan)

Examples of Social value provided by the life science business

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- We will contribute to the improvement of “Well-being" through medical and agrochemical CDMO services, while entering and developing technologies in cutting-edge fields.

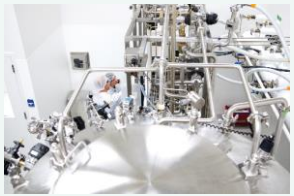
Well-being

Small molecule pharmaceuticals and agrochemicals CDMO

Small molecule pharmaceuticals CDMO

Agrochemicals CDMO

Biopharmaceuticals CDMO



Conventional Biopharmaceu-ticals CDMO

Gene and cell therapy CDMO

Next-generation areas

Next-generation bio

Next-generation areas

Image of Performance by Segment

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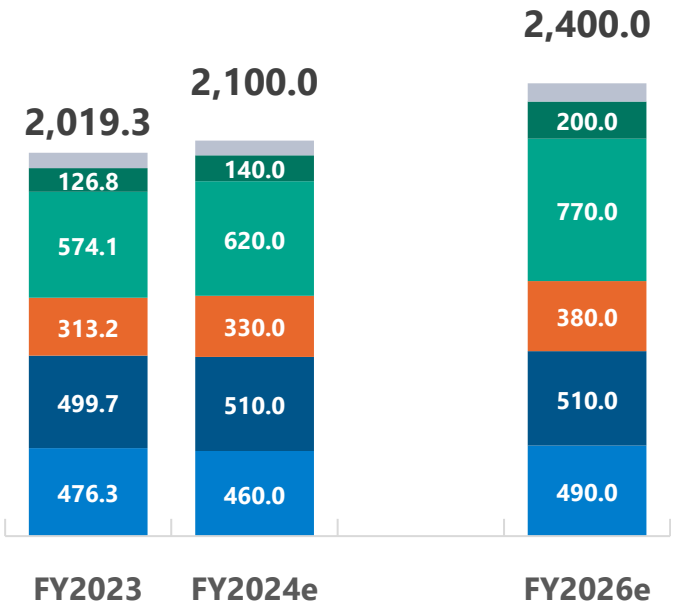
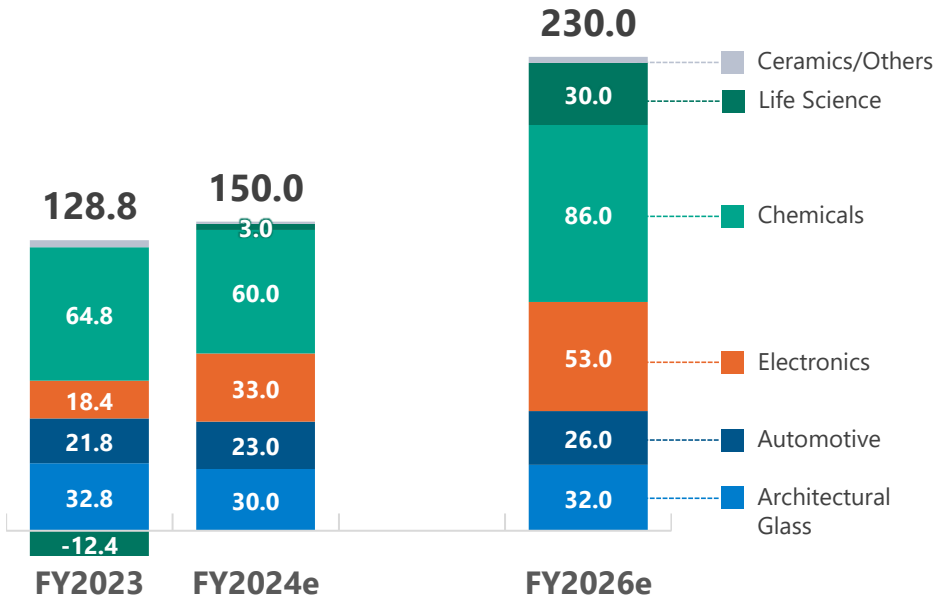
Net sales (Billion yen)

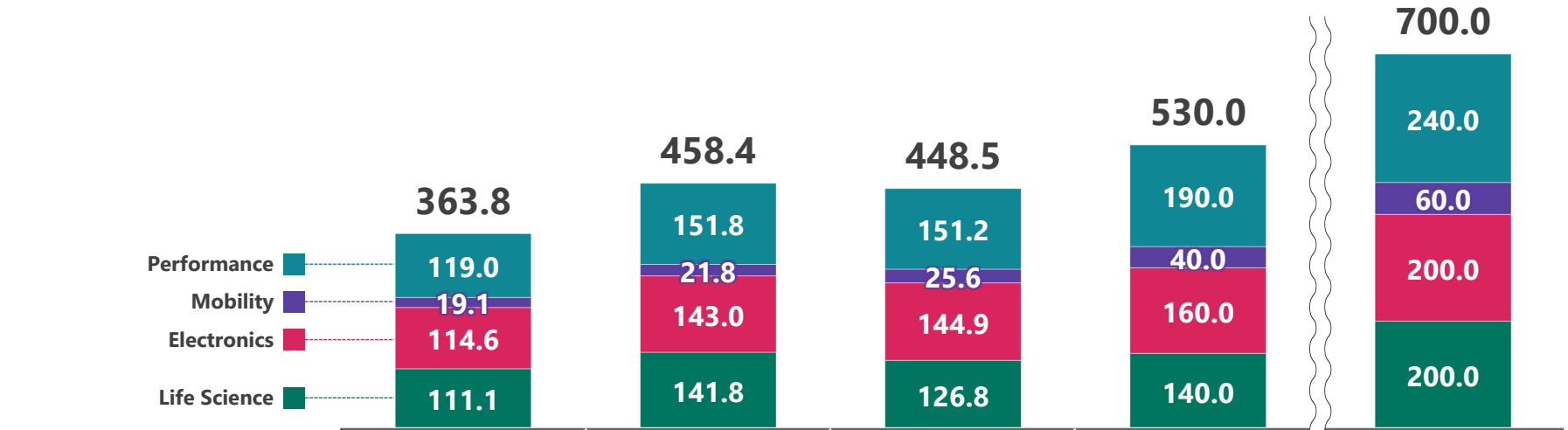


OP (Billion yen)



Strategic Business Performance Image

Strategic business net sales (Billion yen)



OP (Billion yen)	2021	2022	2023	2024e	2026e
New definition	64.7	93.9	56.8	80.0	130.0
Previous definition	53.8	70.9	38.2		

AGC plus-2026 CAPEX and Depreciation & Amortization

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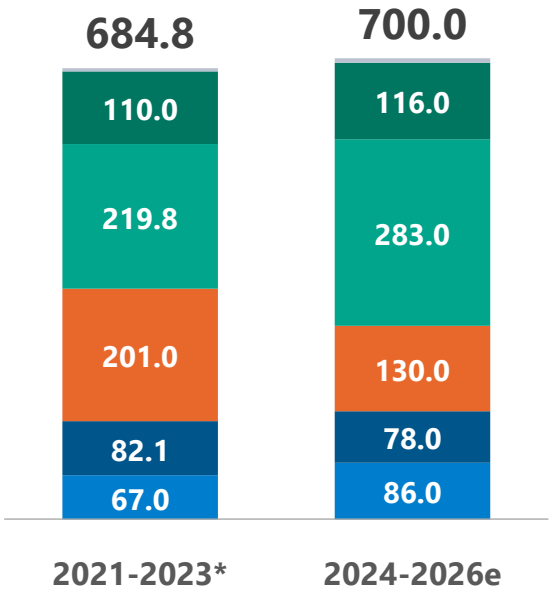
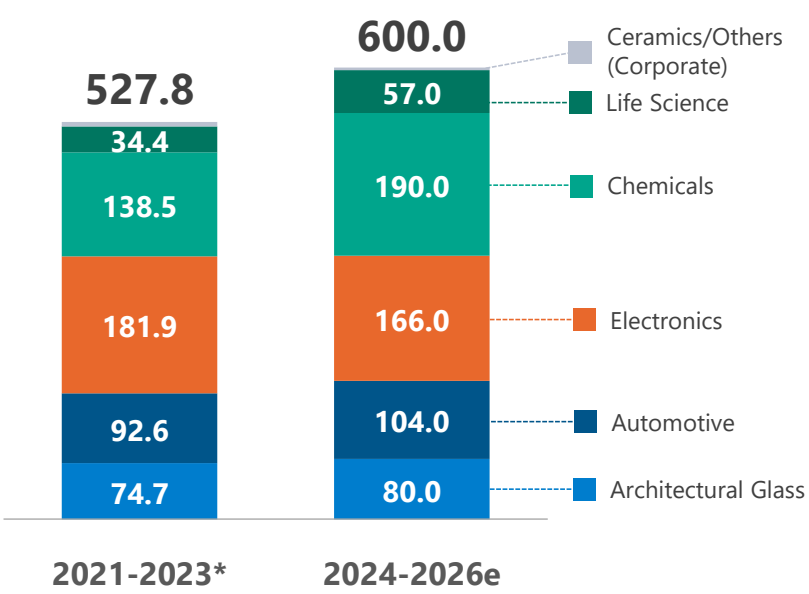
CAPEX (Billion yen)



Depreciation & amortization (Billion yen)

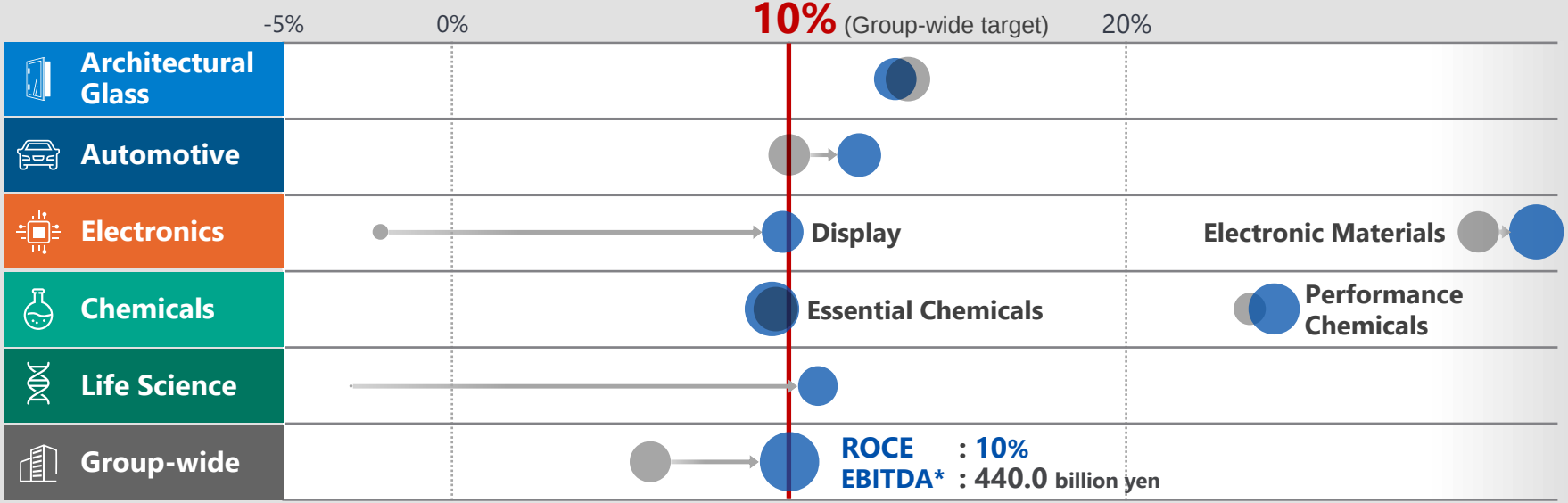


* Breakdowns of each segment in 2021 are shown as calculated for reference only.

ROCE of Each Business

- We will continue to aim for a Group-wide ROCE of **10% or higher**

ROCE ● 2023 Actual vs ● FY2026 Projection



ROCE : (OP forecast of the year) ÷ (Operating asset forecast at the year-end),
Group-wide OP by business is after allocation of common expenses; OP for each business is before allocation of common expenses

Diameter of each circle (excluding those of the group-wide section) : the size of EBITDA * **EBITDA** = Operating profit + Depreciation

Disclaimer:

- This material is solely for information purposes and should not be construed as a solicitation. Although this material (including the financial projections) has been prepared using information we currently believe reliable, AGC Inc. does not take responsibility for any errors and omissions pertaining to the inherent risks and uncertainties of the material presented.
- We ask that you exercise your own judgment in assessing this material. AGC Inc. is not responsible for any losses that may arise from investment decisions based on the forecasts and other numerical targets contained herein.
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