

# AGC Integrated Report 2024

For the Year Ended December 31, 2023



# AGC Integrated Report 2024

This report describes the AGC Group's initiatives for long-term, continuous enhancement of corporate value.

Operating under the AGC Group Vision **"Look Beyond,"** we are committed to long-term sustainable enhancement of corporate value. AGC Integrated Report, primarily aimed at investors along with various other stakeholders, explains the management approach and specific measures that the AGC Group is taking to improve corporate value.

Alongside messages from the management team, 2024 the AGC Integrated Report 2024 provides detailed explanation on key strategies for realizing our long-term management strategy Vision 2030 as well as our new medium-term management plan **AGC plus-2026** announced in February 2024. We sincerely hope that this report will deepen readers' understanding of the long-term approach to business management that the AGC Group has relentlessly pursued.

## The AGC Group's **AGC plus 2.0** Management Policy

Based on the **AGC plus 2.0** Management Policy, the AGC Group aims to achieve sustainable growth by providing additional value to all stakeholders.

### **AGC plus 2.0**

The AGC Group adds a "plus" by

- Providing safety, security and comfort to society,
- Creating new value and functions for customers and business partners and building trust with them,
- Enhancing job satisfaction among employees,
- Increasing the Group's corporate value for investors, and
- Building a better future for the coming generations.



Representative Director,  
Executive Vice President, CTO

Hideyuki Kurata

Representative Director,  
President & CEO

Yoshinori Hirai

Representative Director,  
Senior Executive Vice President, CFO, CCO

Shinji Miyaji



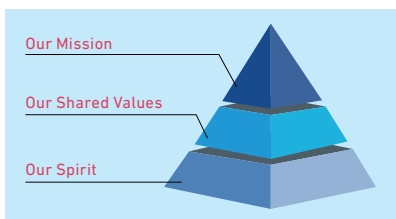
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**Reporting Scope** (report issued in May 2024)

**Reporting Period** January 1 to December 31, 2023

**Reporting Organizations**

AGC Inc. and its 241 consolidated subsidiaries in and outside Japan

**Principal Expressions and Their Scope**

"The AGC Group" refers to the abovementioned reporting organizations. "AGC" refers to AGC Inc. on a non-consolidated basis.

**Reference Framework**

In preparing this report, the International Integrated Reporting Framework advocated by the IFRS (International Financial Reporting Standards) Foundation and the Guidance for Collaborative Value Creation published by the Ministry of Economy, Trade and Industry have been used as references.



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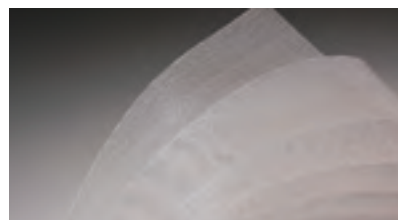
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## The Cover

Our Mission calls for AGC to be "an Everyday Essential Part of Our World." This cover represents the AGC Group, which supports the lives of people always and everywhere throughout the world through its unique materials and solutions.



# Main Communication Tools of the AGC Group

## Financial Information

## Non-Financial Information

PDF



### AGC Integrated Report 2024 (this report)

Introducing a wide range of corporate policies, business strategies, and activities aimed at enhancing corporate value over the long term

[https://www.agc.com/en/company/agc\\_report/index.html](https://www.agc.com/en/company/agc_report/index.html)



### Financial Review 2023 (English version only)

Reporting on financial matters, including business overviews and consolidated financial statements

<https://www.agc.com/en/ir/library/financial/index.html>



### AGC Sustainability Data Book 2024

Reporting on non-financial data and policies for various initiatives aimed at achieving sustainability (publication scheduled for August 2024)

<https://www.agc.com/en/sustainability/book/index.html>

Web



### Shareholder and Investor Information

Distributing detailed, timely information on the AGC Group to investors, with a focus on financial information

<https://www.agc.com/en/ir/index.html>



### Sustainability Information

Reporting on non-financial data and policies for various initiatives aimed at achieving sustainability

<https://www.agc.com/en/sustainability/index.html>



### The AGC Website

Providing a broad range of in-depth, timely information on the AGC Group

<https://www.agc.com/en/>



# MESSAGE FROM THE CEO



Representative Director,  
President & CEO

**Yoshinori Hirai**

**“Never take the easy way out, but confront difficulties.”**

**Upholding the founding spirit we have inherited,**

**we will fulfill our social mission with “trust” and**

**“technology” as our fundamental pillars.**

## What we value

### What are our strengths as a materials manufacturer?

In 2018, we rebranded as AGC, removing “Glass” from the company name to highlight our position as a full-spectrum materials manufacturer. Material development entails a lengthy process before commercialization. Also, each product development is fundamentally connected at the technology level, requiring a long-term perspective and sustained efforts. Furthermore, simple technologies are easily copied, and businesses based on them would be unsustainable. So, how does AGC strive to be a leading materials manufacturer? —The answer lies in our “founding spirit,” a heritage spanning 117 years.

Never take the easy way out, but confront difficulties.

Trust is the best way to inspire people.

Strive to develop technologies that will change the world.

A sense of mission leads us to advance.

# Message from the CEO

First, the opening line—"Never take the easy way out, but confront difficulties."—epitomizes our spirit of embracing challenge and resolute determination. Following this, we emphasize the foundational elements that support our challenges: "trust," "people," and "technology." And finally, at the core of our business is a profound sense of social mission. I believe this spirit has been ingrained in the AGC Group's corporate culture across generations.

A sense of social mission means adopting a long-term perspective to understand what the world will need in the future and how science will advance for determining what actions to take. To continue turning challenges into successes over many years, relationships of trust with people both in and outside the AGC Group are absolutely essential. Moreover, unwavering dedication to technology is key to transforming new ideas into reality. This founding spirit is firmly embedded in our DNA and the AGC's Group Vision, **"Look Beyond."**

## The structure and three elements of "Look Beyond"

### Our Mission

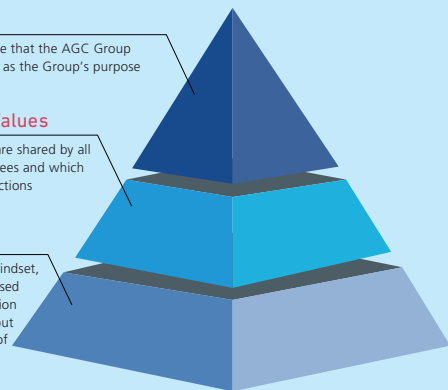
Setting out the value that the AGC Group should offer as well as the Group's purpose

### Our Shared Values

The key ideas that are shared by all AGC Group employees and which inform all of their actions

### Our Spirit

Our fundamental mindset, which has been passed down from generation to generation and put into practice by all of our employees



## Spirit of challenge, technology, and trust

One example of our founding spirit in action is the biopharmaceutical CDMO (contract development and manufacturing organization) business in Life Science, one of the AGC Group's Strategic Businesses. Our biotechnology R&D began at the AGC Research Center in Japan in the mid-1980s, right around the time I joined the company. Later, in 2011, when I took charge of new business development, the R&D team members responsible for active ingredients and intermediates for synthetic pharmaceuticals and biopharmaceuticals approached me, requesting assistance to grow the CDMO business. Despite more than two decades since R&D began, the business remained small, and there were even voices within the company questioning the continuation of what they saw as a futile effort. However, I was inspired by their passionate spirit of challenge, and gave it serious consideration. It became clear that their unwavering dedication to technology and R&D was steadily yielding results. Furthermore, when we consulted with the top executives of several client pharmaceutical companies about the CDMO business, they expressed strong support, saying, "We would certainly entrust this to AGC." This relationship of trust has been built over many years. Sensing the future potential of our CDMO business built on technology and trust, I started strategizing to expand the CDMO business. Consequently, through pursuing expansion including major M&As, our Life Science Business achieved independence as an in-house company in 2023. Thus, the CDMO business, which grew into one of the Strategic Businesses of the AGC Group through a spirit of challenge, technology, and trust, perfectly exemplifies our founding spirit.

## Long-Term Management Strategy: Vision 2030

By providing differentiated materials  
and solutions, AGC strives to help  
realize a sustainable society and  
become an excellent company that  
grows and evolves continuously.

## To contribute to the realization of a sustainable society

Our long-term management strategy Vision 2030 is also based on this founding spirit. It was in 2016 that the previous management strategy Vision 2025 was announced under the leadership of my predecessor, CEO Shimamura. The major policy set forth in Vision 2025 aimed to strengthen existing businesses for stable long-term revenues and to transform the business portfolio by launching multiple Strategic Businesses poised for future growth, thereby enhancing growth and profitability. Another focus was to invigorate the spirit of challenge throughout the organization. At that time, our corporate culture seemed to be stagnating due to a prolonged period of underwhelming business performance.

Subsequently, by 2020, our Strategic Businesses accounted for more than half of operating profit, indicating smooth progress in the business portfolio transformation. Additionally, employee engagement surveys conducted during this period showed an improved internal atmosphere at the Group. With this in mind, when I became CEO in 2021, I updated our long-term management strategy from Vision 2025 to Vision 2030. In the intervening years, the world has changed rapidly, and sustainability has become a major issue. Therefore, Vision 2030 embodies our sense of mission, to contribute to the realization of a sustainable society, and further expresses our aspiration to be an excellent company that perpetually grows and evolves. This reflects our



## Message from the CEO

belief that for the AGC Group to contribute to the realization of a sustainable society as a materials manufacturer, the Group itself must also be sustainable.

To promote sustainability management, we are actively pursuing environmental initiatives, such as setting a 2030 milestone to reach Net Zero Carbon by 2050. Another pillar of sustainability management is human capital. The power of an organization is the collective strength of its people, and this is what supports the AGC Group. This idea is encapsulated in the phrase "AGC People: Driving our Growth!" By leveraging diverse talents, fostering individual growth, and enhancing engagement, we strive to realize sustainable management through AGC People.

### Review of the previous medium-term management plan and priority targets of the new medium-term plan **AGC plus-2026**

#### Achievements over the past three years and remaining challenges

During the period of the previous medium-term management plan **AGC plus-2023**, the world faced numerous challenges: the COVID-19 pandemic, semiconductor shortages, Russia's invasion of Ukraine and the resulting surge in energy prices, US interest rate policy, and the economic slowdown in China. Predicting when the next economic upswing would come remained extremely difficult. These three turbulent years clarified for us which of our businesses can withstand market volatility and which cannot.

Overall, looking back at the past three years, I believe our business portfolio transformation efforts have yielded certain results in terms of operating profit and EBITDA. Conversely, the recording of a significant impairment loss in FY2022 led to negative net income, preventing us from reaching our target ROE level. This indicates that the structural reforms in our business portfolio transformation were insufficient.



Specifically, while profit levels in the Core Businesses improved owing to growth investments and structural reforms, issues remain in the Display Business. In the Strategic Businesses, although profit levels improved, the Life Science Business' U.S. biopharmaceutical CDMO operations faced a significant downturn in 2023, presenting a future challenge.

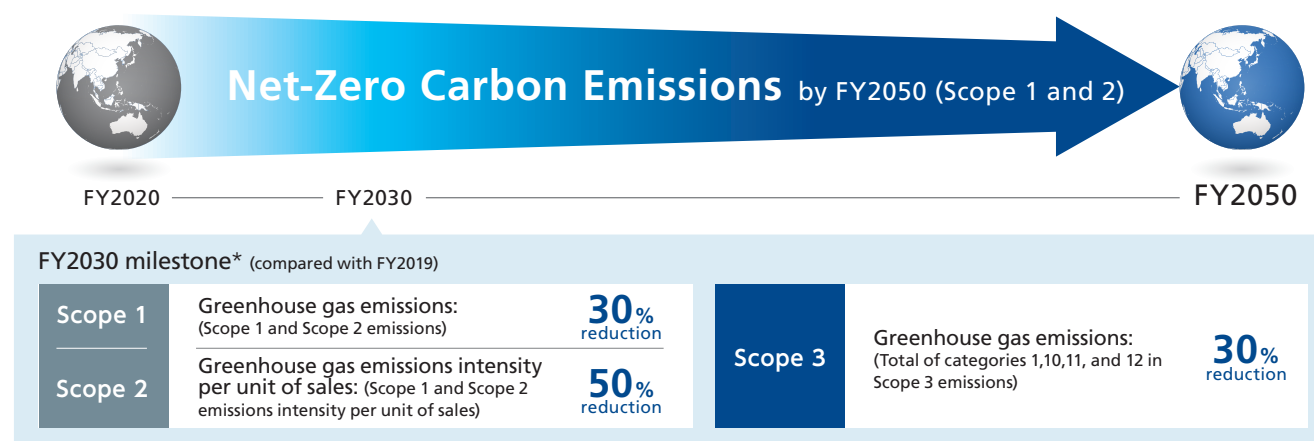
#### Development of measures that address the strengths and weaknesses of the business

To effectively carry out initiatives for Vision 2030, the AGC Group formulated the medium-term management plan **AGC plus-2026**, with 2026 as the final year, and announced it in February 2024. This plan includes measures to address each business's strengths and weaknesses made evident over the past three years of fluctuations.

First, I would like to talk about our strengths. Among our Core Businesses, the Architectural Glass Segment, once deemed challenging, has stabilized through structural reforms, and we plan to continue to strengthen it. The Essential Chemicals Business achieved an ROCE of about 10% in 2023, even in adverse market conditions, and we aim to stabilize this business, focusing on the growth market of Southeast Asia. We have also decided to reposition the Performance Chemicals Business, a Core Business that provides high-performance materials to various cutting-edge sectors, as a Strategic Business.

Turning to our Strategic Businesses, the Electronics Business has maintained high profitability despite the downturns in the

### GHG Emissions Reduction Target



\*The electricity CO<sub>2</sub> emission coefficient for 2030 is based on the figures determined using the Sustainable Development Scenarios (SDS) published by the IEA.

# Message from the CEO

semiconductor and smartphone markets. The market has surely hit bottom and is showing recovery signs in 2024. We will continue to expand this business as planned.

As for challenges, the first to be mentioned is the Display Business, which is one of our Core Businesses. The overall industry is not on a growth trajectory, making profitability challenging. Therefore, we launched a comprehensive structural reform project led by the CFO. Turning to our Strategic Businesses, the U.S. biopharmaceutical CDMO business in the Life Science Business requires action. US interest rate policy has slowed the flow of funds to biotech startups, but recovery is anticipated around the second half of this year, so it is imperative that we get our production system in shape by then.

Considering these factors, we see FY2024 as a year to lay the groundwork for the next stage of growth. Our forecast for operating profit for this fiscal year is ¥150 billion, a modest increase from the previous year. However, we project operating profit for FY2026 at ¥230 billion. This projection anticipates resumed growth in the semiconductor and bio-related businesses from 2025, as well as structural improvements in the Display Business.

## Focus on sowing seeds for the next phase of growth

Another key aspect of **AGC plus-2026** is sowing seeds for the future in our Strategic Businesses. We will actively invest in new businesses that will sprout from 2025–2026 onward. First is the development of glass core substrates for next-generation semiconductor packaging in the Electronic Materials Business. We believe that this technology will be a means for further semiconductor advancement after EUV lithography, which is currently the leading method for semiconductor miniaturization, and we will begin its full-scale development. Second is our efforts to create a hydrogen society in the Performance Chemicals Business. Amid various technological advancements, we are focusing on fluorine ion exchange membrane technology for water electrolysis, which is suitable for green hydrogen production, and have decided to invest in scaling up production. Leveraging our dominant market share in fuel cell technology, we aim to provide essential materials for hydrogen production. Third is an expansion of the Life Science Business, in which we will build Japan's largest biopharmaceutical CDMO facility in Yokohama. We hope to incorporate promising new fields such as gene cell therapy, enabling us to work closely with patients in Japan.

These and other investments under **AGC plus-2026** will be reaped from the period of the next medium-term management plan. We will use FY2024 as a preparation period to achieve growth from 2025 onward, and ensure that we sow the seeds for the next medium-term management plan and beyond. These two points are the key objectives of **AGC plus-2026**.



## Toward further growth and evolution

### Human resource development and business selection and concentration are important

Over the past few years, through our proactive efforts to transform our business portfolio through ambidextrous strategy, our sales, which had previously been limited to ¥1.2–1.3 trillion, have surpassed ¥2 trillion. Hence, both the number and size of our businesses have expanded. This is where human resources come in. To drive business growth, we require human resources to support the Group, across R&D, sales, and manufacturing. However, merely expanding the workforce in line with business growth is not a viable solution. Particularly in Japan, where the birthrate is declining and the population is aging, significant headcount increases will be challenging. By the same token, we should not simply expand all of our businesses. Conversely, as demonstrated by the sale of the Architectural Glass Business in North America during the previous medium-term management plan, withdrawal may be necessary in some cases. So far, we have been able to grow our businesses as a whole, but going forward, the challenge will be in securing and developing talent while selecting and concentrating on businesses.

Regarding business selection and focus, I believe that quick decisions will not necessarily lead to good results. Both the biopharmaceutical CDMO in Life Science and the photomask blanks for EUV lithography in Electronics are examples of businesses that we nurtured over an extended time. Had we made hasty decisions in the past, neither would exist now. The important thing is to make timely decisions, and then execute them swiftly.

Another long-term challenge is how to avoid the “success trap.” In Vision 2030, the AGC Group included the phrase “grow and evolve continuously,” which is the most challenging aspect. Once people succeed, they tend to become complacent and protective, and stop addressing challenges, even the visible ones. That’s the success trap. In the past, Japan fell into a long economic recession as a result of its inability to adapt despite the bursting of the bubble economy. For the AGC Group as well, the biggest challenge in the long run will be whether we can continue to grow and evolve without falling into the success trap. We will carefully nurture our human resources so that each and every one of our employees can independently demonstrate their abilities, collectively supporting the company. At the same time, we will continue to select and concentrate on businesses, while allowing new



## Message from the CEO

businesses to successively emerge and develop. Only through the growth of both people and business will we become an “excellent company that grows and evolves continuously” as set forth in our Vision 2030.

### Creating an environment where the growth of AGC, our members, and society are all aligned

Under the medium-term management plan, we will implement necessary measures for each business, while at the foundation of the plan is my unwavering commitment to our people and business for long-term growth and evolution. Take the Electronics and Life Science

Businesses, whose combined sales have reached over ¥300 billion in recent years—behind this success lies a mountain of failures. These are examples showing that you cannot be a sustainable company unless you continue to take on challenges. I believe that creating mechanisms to generate new businesses and developing human resources are crucial roles that I must fulfill as the CEO.

I would like to see our people grow, and new businesses emerge and develop. Once that cycle starts to turn steadily, it will be clear to all that the growth of the individuals who work for the company leads to the growth of the company, helping us avoid the success trap. There would be nothing more wonderful than if we could align the growth of a company, its members, and society. I believe that the AGC Group is

nearing this ideal state. While achieving short-term performance targets is certainly a management responsibility, my greater responsibility to all stakeholders is ensuring the company achieves sustainable long-term growth.

To that end, we must always keep in mind our “founding spirit,” which I mentioned at the outset. To realize Our Mission as set forth in the Group Vision **“Look Beyond,”** we must persistently pursue new challenges with a commitment to trust and technology. By upholding these principles and evolving with the times, the AGC Group will continue to strive to be an excellent company, continuously growing and advancing, and offering diverse value to society, customers, partners, employees, investors, and future generations. I would like to ask for your continued understanding and support of the AGC Group.

### Initiatives for “AGC People”



CEO Dialogue Session (USA)



CEO Dialogue Session (Taiwan)



AGC Group CEO Awards 2023 Awards Ceremony for European Region (Belgium)



AGC Group CEO Awards 2023 Awards Ceremony (Japan)

May 2024  
Representative Director,  
President & CEO  
**Yoshinori Hirai**



# **"Look Beyond"**

"Look Beyond" is the AGC Group's corporate philosophy underpinning all of its business and social activities. When embarking on integrated global management in April 2002, the Group formulated this vision to ensure that its employees around the world would continue to evolve as one.

**"Look beyond"** calls for the following mindset.

**"Look beyond"** Anticipate and envision the future,

**"Look beyond"** Have perspectives beyond our own fields of expertise, and

**"Look beyond"** Pursue innovations, not becoming complacent with the status quo.

By realizing its burgeoning potential, the entire Group will continue providing the world with value.

The structure and three elements that make up **"Look beyond"**

## **Our Mission**

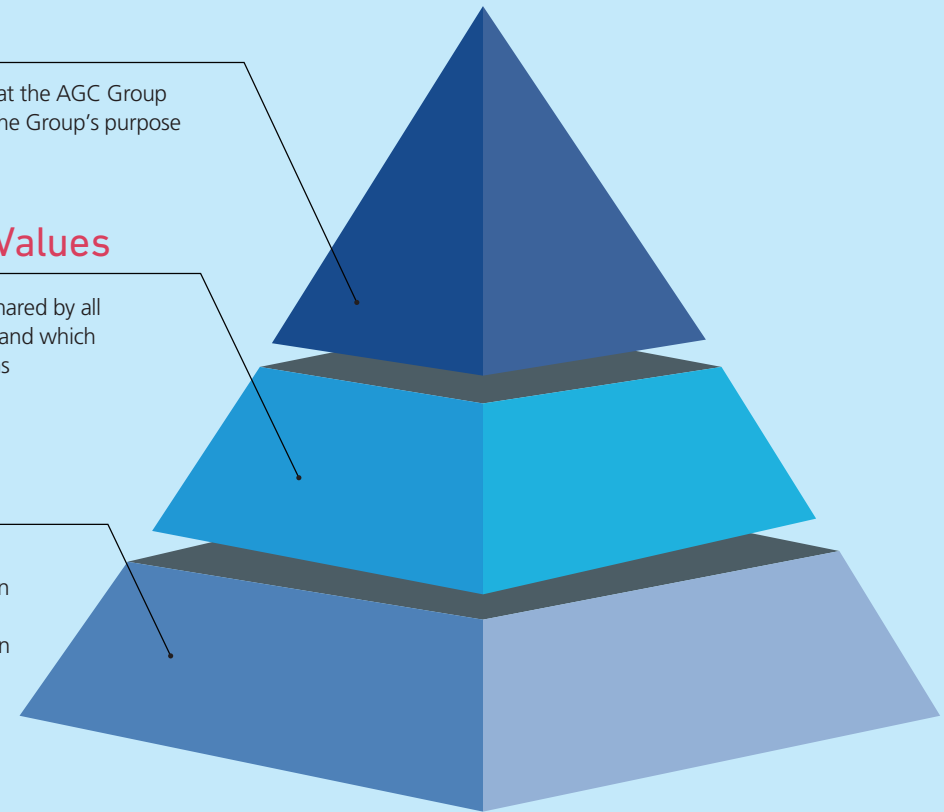
Setting out the value that the AGC Group should offer as well as the Group's purpose

## **Our Shared Values**

The key ideas that are shared by all AGC Group employees and which inform all of their actions

## **Our Spirit**

Our fundamental mindset, which has been passed down from generation to generation and put into practice by all of our employees





**“Look Beyond”**

## Our Mission

 AGC, an Everyday Essential Part of Our World

AGC's unique materials and solutions make people's lives better around the world every day.

We, the AGC Group, aim to continue being the “first choice” solution provider for our customers by building long-term, trust-based relationships with them through unique materials and solutions developed using our wide-ranging material and production technologies. We will continue offering products and solutions that customers and society need, thereby making people's lives better around the world every day.

## Our Shared Values

 Innovation & Operational Excellence,  
Diversity, Environment, Integrity

### Innovation & Operational Excellence

- We will seek innovations in technology, products, and services beyond conventional concepts and frameworks.
- We will create value directed at our current and potential customer needs, accounting for changes in the business environment and social and market evolution.
- We will continuously improve all aspects of our operations, striving to achieve benchmark performance.

### Diversity

- We will respect the diversity of individuals of varied capabilities and personalities.
- We will respect cultural diversity in terms of race, ethnicity, religion, language, and nationality.
- We will respect different perspectives and opinions at all times.

### Integrity

- We will build open and fair relationships with all of our stakeholders based on the highest ethical standards.
- We will comply with all applicable laws and regulations.
- We will fulfill our contractual and legal responsibilities to achieve customer satisfaction and trust.

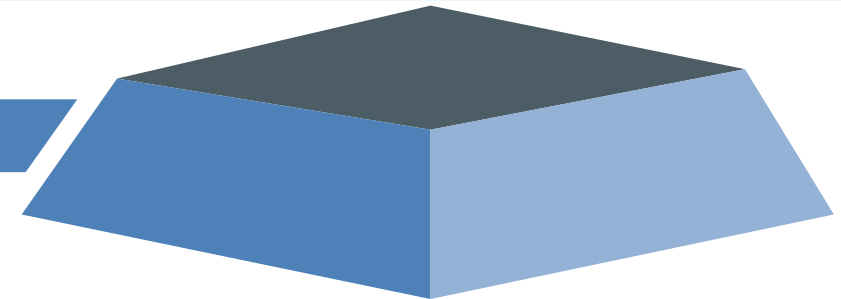
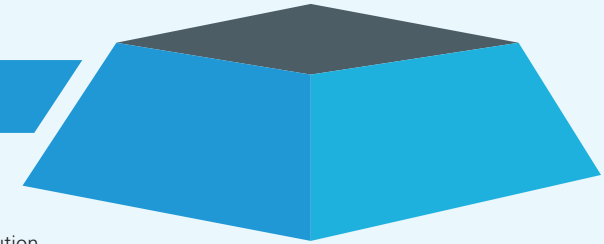
### Environment

- We will contribute to the creation of a sustainable society in harmony with nature as successful and responsible global citizens.
- We will strive to ensure and further improve occupational health and safety in our working environment.

## Our Spirit

 “Never take the easy way out, but confront difficulties.”

Toshiya Iwasaki, who founded Asahi Glass Company in 1907, summed up his mindset in those early days with the motto, “Never take the easy way out, but confront difficulties.” Much in evidence when our predecessors subsequently took on the ambitious goal of manufacturing flat glass domestically, this mindset has been passed down through the generations to the present day and remains the driver of all of our business activities.



## Founding Spirit

Despite numerous challenges, Toshiya Iwasaki achieved the domestic production of flat glass. With unwavering commitment, he also successfully took on the challenge of manufacturing refractory bricks and soda ash, thereby laying the foundation for the current Ceramics and Chemicals businesses. Since then, the AGC Group has overcome numerous difficulties to create differentiated materials and solutions. This ambitious mindset has been passed on to the AGC Group's approximately 56,700 employees.



Founder of AGC  
**Toshiya Iwasaki**

**Never take the easy way out, but confront difficulties**

**Trust is the best way to inspire people**

**Strive to develop technologies that will change the world**

**A sense of mission leads us to advance**

### Taking on the Challenge of Producing Flat Glass Domestically

As Japan modernized in the early 20th century, the country saw increases in demand for Western-style buildings and for window glass. However, the country was still dependent on imports of flat glass from overseas. Many different companies had tried to manufacture flat glass domestically, but all had failed, unable to compete with imported products.

Nonetheless, with the aim of creating a business that would help advance his society, AGC's founder Toshiya Iwasaki decided to tackle the challenging problem. "I am prepared to face difficulties. Even if it takes a lifetime, I will realize domestic production." With this declaration of intent, in 1907 he established the Asahi Glass Company and began constructing a large-scale factory that

incorporated technology from Belgium. In 1909, the factory was completed and achieved industrial production of flat glass for the first time in Japan. Difficulties persisted, however, as the Company was still unable to match the quality and prices of imported products. Undaunted, Iwasaki introduced new technology from the United States to a factory completed in 1914, thereby bringing the prospect of rivaling imported products within reach. Furthermore, the outbreak of World War I halted imports of flat glass from Europe, providing a tailwind that rapidly spread domestically produced flat glass. Thus, Iwasaki's unwavering commitment over half a lifetime finally bore fruit.





# AGC's Technologies—Strengths as a materials manufacturer—

With the Glass Segment as its founding business, the AGC Group has extended the breadth of its business portfolio by providing materials and solutions that are indispensable to the advancement of industries in the fields of chemicals, ceramics, and electronics.

## AGC's Technological Strengths

**Material Technologies with Unique Advantages**  
(Glass, fine ceramics, fluorine, etc.)

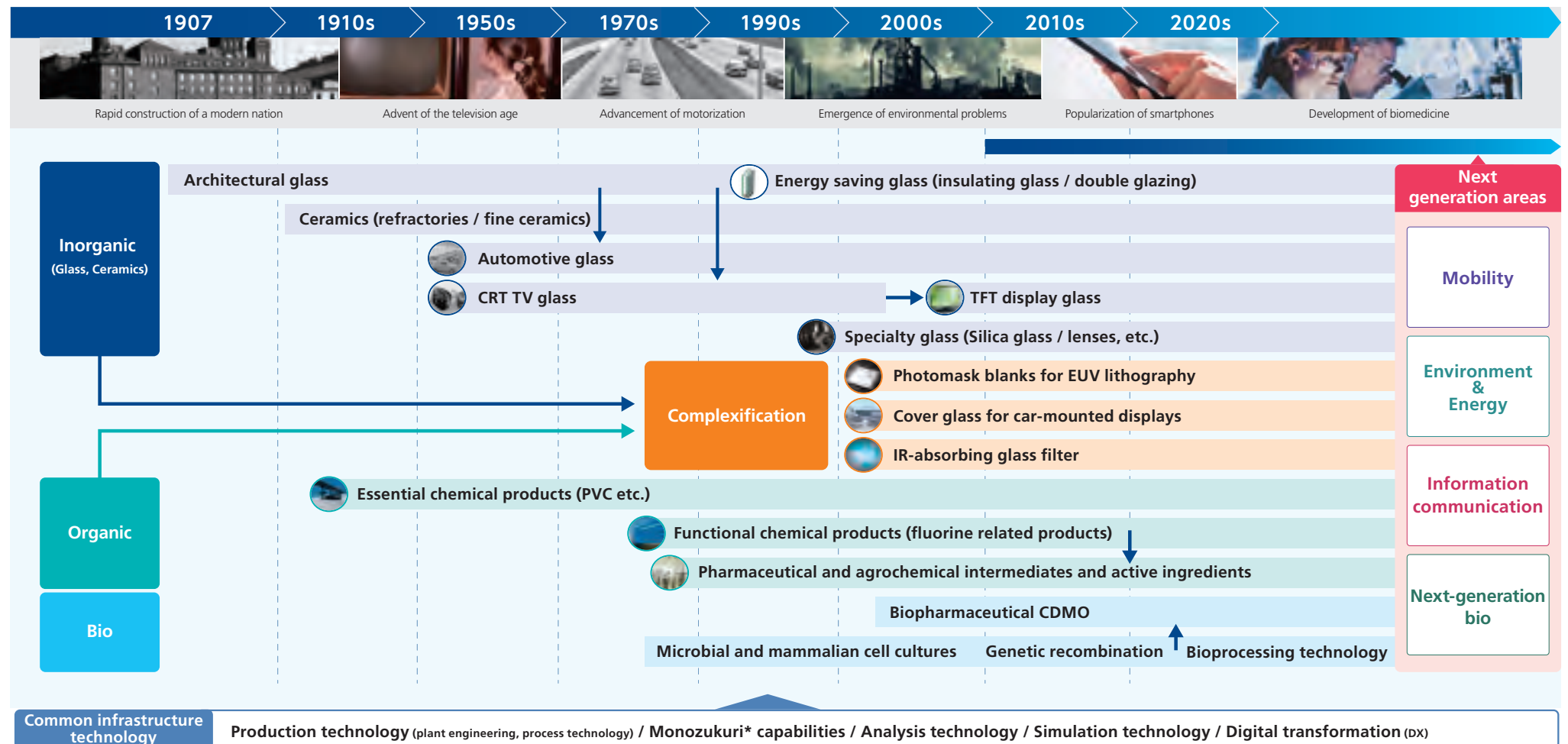
**Processing Technology to Realize High Functionality**

**Black-Box Manufacturing Process**

**Analysis and Simulation Technologies**

By cultivating and integrating these technological strengths, we have the unwavering power of a materials manufacturer, and have continuously delivered unique materials and solutions that respond to the changing needs of each era and local communities around the world.

## Unique Materials and Solutions We Have Provided



\*Quality manufacturing

# Creating Social Value through Our Products

With businesses in an extensive range of fields, the AGC Group supports the daily lives of people worldwide in a variety of ways. In this section, we introduce the three types of social value that the AGC Group wants to create: Realization of a sustainable global environment, Creation of an innovative future society, and Contribution to safe and secure living.

## Social Value the AGC Group Wants to Create



### Blue planet

Realization of a sustainable global environment



### Innovation

Creation of an innovative future society



### Well-being

Contribution to safe and secure living



For information on the AGC Group's products, please visit the website below.

<https://www.agc.com/en/products/index.html>



### Blue planet



### Innovation

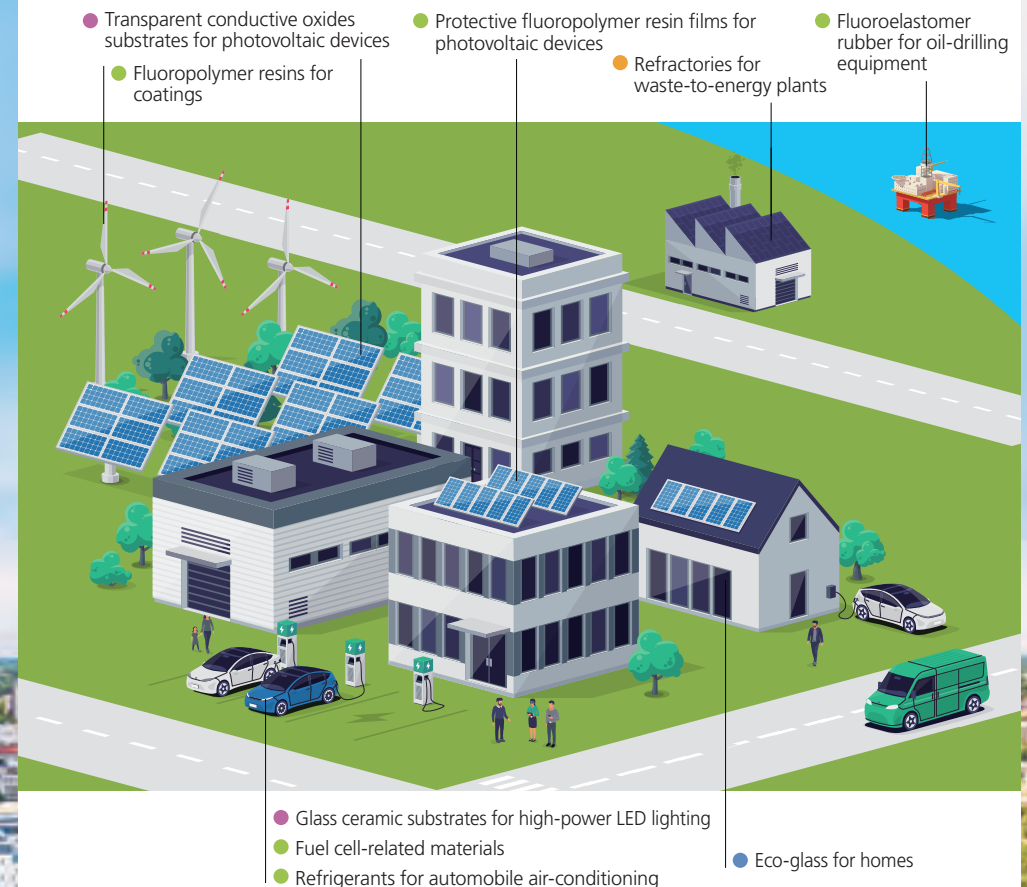


### Well-being

- Architectural Glass
- Automotive
- Electronics
- Chemicals
- Life Science
- Ceramics and other businesses

### The Environmental Field

Our products that help create environment-friendly smart cities include glass for buildings and homes, solar power generation mirror glass, and green refrigerants.



# Creating Social Value through Our Products



Blue planet



Innovation

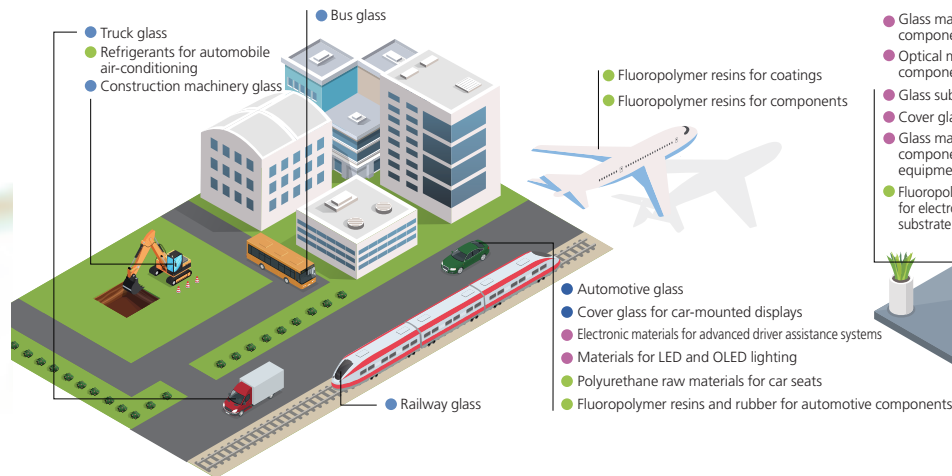


Well-being

● Architectural Glass ● Automotive ● Electronics ● Chemicals ● Life Science ● Ceramics and other businesses

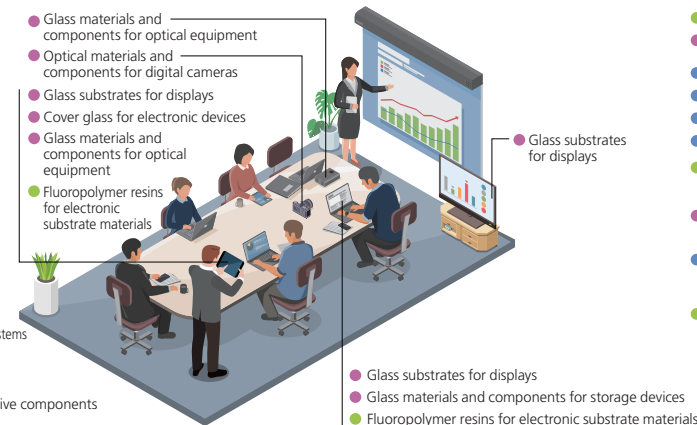
## The Mobility Field

We provide a host of different products that are essential to transportation equipment and which contribute to the realization of next-generation mobility that is safe and comfortable, including lightweight, high-performance window glass and cover glass for car-mounted displays.



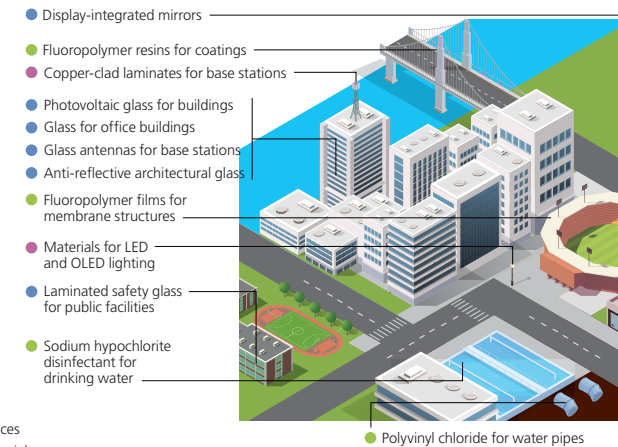
## The Electronics Field

We supply materials and components for displays and electronic equipment used in a variety of business situations as well as materials and components for semiconductors and communications equipment—these will be indispensable in the coming Internet of Things (IoT) and AI era as well as essential for the practical realization of 5G.



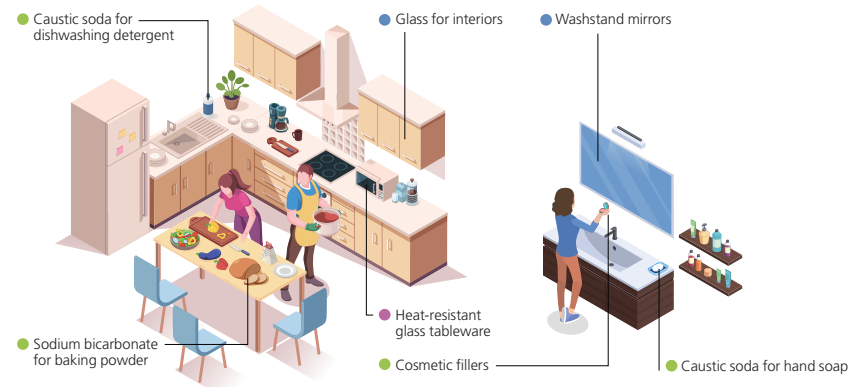
## The Architectural and Social Infrastructure Fields

We offer architectural materials that help create reassuring, safe, and comfortable spaces as well as industrial materials that underpin social infrastructure.



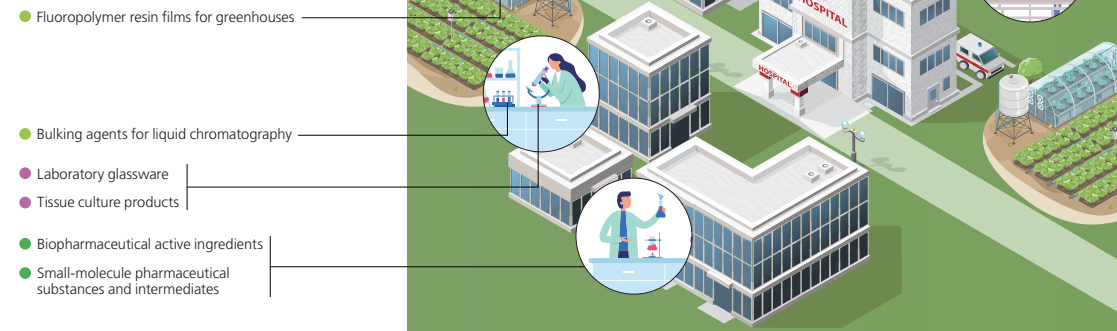
## The Consumer Products Field

We market products that bring comfort and convenience to daily life as well as many of the materials vital to their creation.



## The Life Science Field

We provide materials and services for pharmaceuticals and agrochemicals that cater to demand resulting from population growth, food shortages, longer life expectancy, and increasingly sophisticated medical needs.





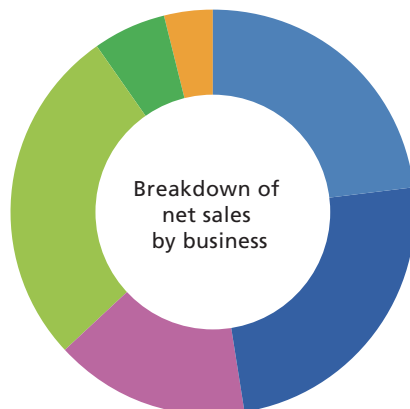
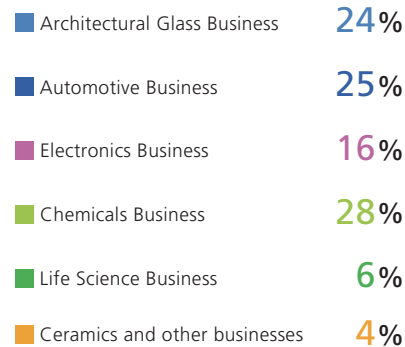
## At a Glance

### The AGC Group: Providing a Broad Range of Materials and Solutions Worldwide

The AGC Group has established global business foundations spanning Japan, Asia, Europe, and the Americas. The Group's Architectural Glass, Automotive, Electronics, Chemicals, Life Science, and Ceramics businesses, as well as other businesses, create new value by leveraging a diverse range of world-class materials, technologies, advanced production technologies, and a broad customer base. These strengths have been cultivated over a history that stretches back more than 110 years.

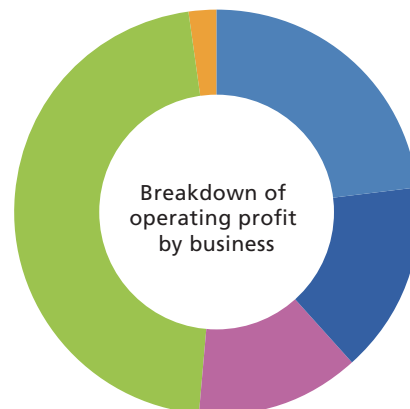
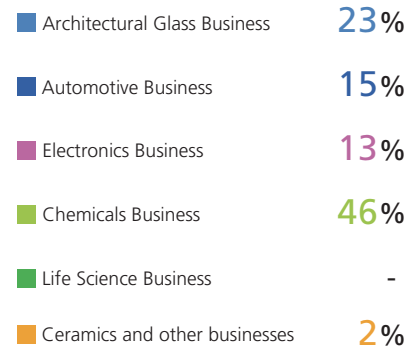
#### Net sales

¥2,019.3 billion



#### Operating profit

¥128.8 billion



#### Consolidated Group employees (As of December 31, 2023)

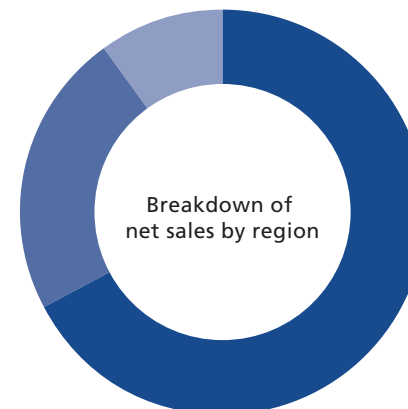
56,724

Japan / Asia: Approx. 35,400  
Europe: Approx. 16,600  
The Americas: Approx. 4,700

#### Number of manufacturing sites

93

Japan / Asia: 63  
Europe: 21  
The Americas: 9



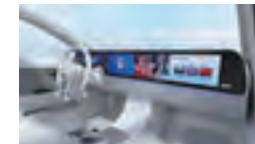
## Market Share



Float glass  
**World's top share**



Automotive glass  
**World's top share**



Cover glass for car-mounted displays  
**No.1 in the world**



Caustic soda / polyvinyl chloride  
**No.1 in Southeast Asia**



ETFE resins (fluoropolymers)  
**No.1 in the world**

\*Our estimate as of January 2024

# Process for Identifying Long-Term Social Issues (Material Issues)

Following the process below, the AGC Group identifies long-term social issues as major opportunities and major risks that might have an impact on the long-term direction of business and corporate value.

## 01 SDGs mapping

To enable analysis of our long-term social issues, we reconfirmed our current progress toward the realization of sustainability by using the 169 targets of the SDGs as the basis for an analysis of the types of social issues addressed by our existing products.

- 01 Focused on existing mainstay products in each business field
- 02 Calculated the "business impact score" for each product based on its sales and growth potential
- 03 Linked each product to the SDG targets to which it can contribute
- 04 Described the type of social value that the AGC Group is creating in relation to each SDG by taking into account the contributions of all products linked to a given target
- 05 Added up the total business impact score of all products linked to each type of social value
- 06 Corrected the business impact score for each type of social value based on the degree of contribution to addressing social issues
- 07 Set the corrected results as the social impact score and identified the top 15 types of notable social value

The above procedure identified fields where existing products can help address current social issues.

Energy saving, creation, and storage and climate change mitigation



Construction of smart cities



Provision of reliable, safe water resources



Realization of safe, comfortable mobility



Health improvement and realization of longer life spans



## 02 Analyzing social issues and trends

In light of its current contributions to the resolution of social issues, important opportunities and risks for the Group going forward were identified through analysis of future trends in social issues. (The analysis results were also used as basic information in preparing Vision 2030.)

### 01 Compiled a list of social issues

- 169 targets of the SDGs
- Sustainability megatrends (circular economy, etc.)
- Based on the Global Risks Report (World Economic Forum), compiled a list of items representing opportunities and risks for the AGC Group (79 items in total)

### 02 Assessed material issues for stakeholders

#### Social issues with opportunities

- With respect to the list of social issues,
- Identified social issues addressed by customers and competitor
  - Assessed material issues based on sustainability and megatrends

#### Social issues with risks

With respect to the list of social issues, assessed material issues based on the assessment indicators of major ESG rating organizations

### 03 Assessed material issues for the AGC Group

#### Social issues with opportunities

With respect to the list of social issues, assessed material issues based on relevance to current Core and Strategic Businesses and the potential fields for the latter

#### Social issues with risks

With respect to the list of social issues, assessed material issues based on overviews of the Group's value chains, including upstream and downstream

## 03 Identifying Major opportunities and major risks

Based on the results of analyzing trends in social issues and in light of expert opinions, we identified Major opportunities and major risks associated with simultaneously achieving sustainable development of the planet society, and sustainable growth as a corporate group. These opportunities and risks are discussed and determined by the Sustainability Committee and the Board of Directors and were then used as the foundation for setting sustainability targets.

### Major Opportunities

- Addressing climate change

- Developing social infrastructure
- Achieving safe, comfortable mobility
- Addressing food crises
- Building an info-oriented, IoT-society
- Facilitating better health and longevity

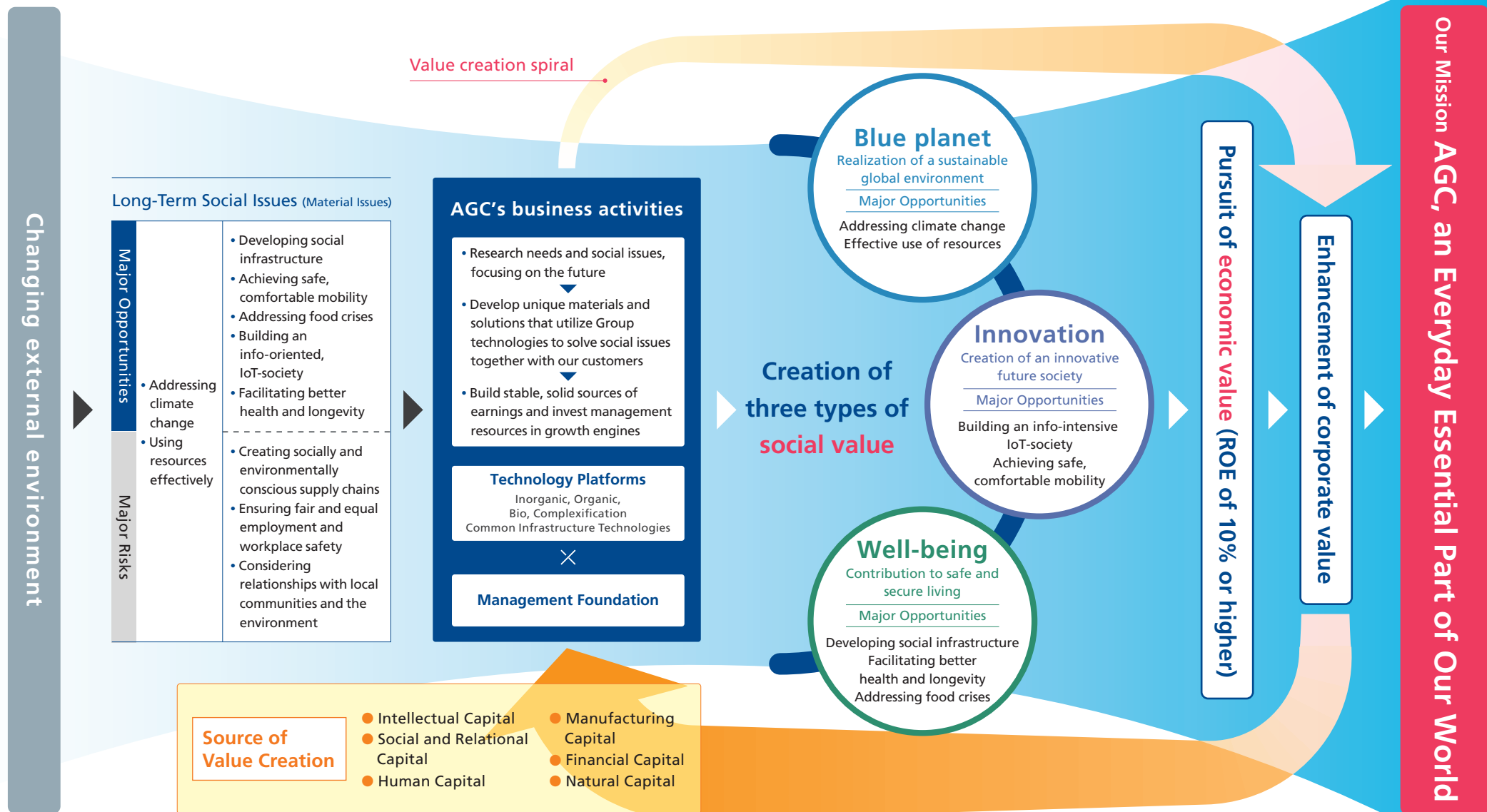
### Major Risks

- Using resources effectively

- Creating socially and environmentally conscious supply chains
- Ensuring fair and equal employment and workplace safety
- Considering relationships with local communities and the environment

# The AGC Group's Value Creation Model

In accordance with the AGC Group Vision **“Look Beyond,”** we conduct business management from a long-term perspective. Based on the technology and trust we have cultivated since our founding, we will pursue the creation of economic value through the creation of social value and aim to enhance corporate value through the unceasing pursuits of our diverse human resources.





## Roadmap for Vision 2030

In February 2021, the AGC Group announced the long-term management strategy Vision 2030. The Vision calls for the sustainable creation of social and economic value over the long term through two key strategies: business portfolio transformation and the promotion of sustainability management. We are currently moving forward with initiatives in line with these strategies.

### New Medium-Term Management Plan

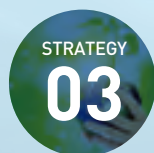
## AGC plus-2026 2024-2026



Evolution of  
"ambidextrous  
strategy"



Deepening of  
sustainability  
management



Promotion of  
value creation DX



Strengthening of  
the management  
foundation

### Previous Medium-Term Management Plan

## AGC plus-2023 2021-2023

Strategy 1: Pursuit of "ambidextrous strategy"

Strategy 2: Promotion of sustainability management

Strategy 3: Gaining competitiveness by accelerating digital transformation (DX)

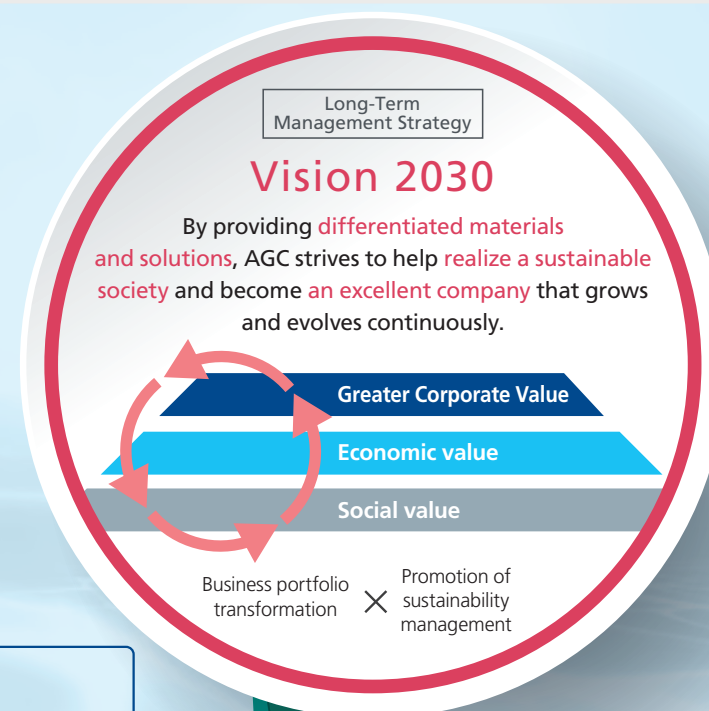
### Management Policy

## AGC plus 2.0

Based on the **AGC plus 2.0** Management Policy, the AGC Group aims to achieve sustainable growth by providing additional value to all stakeholders.

The AGC Group adds a "plus" by

- Providing safety, security and comfort to society,
- Enhancing job satisfaction among employees,
- Increasing the Group's corporate value for investors, and
- Creating new value and functions for customers and business partners and building trust with them,
- Building a better future for the coming generations.



2030

2026

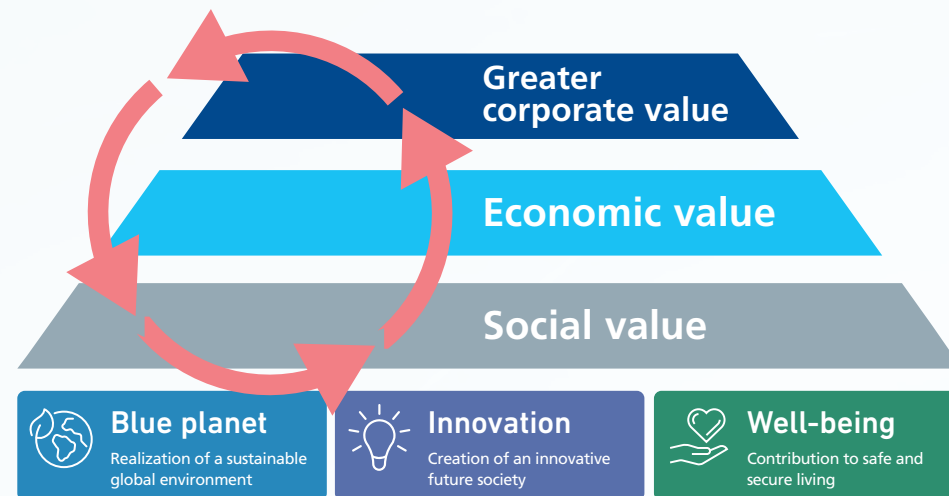
2023

# Long-Term Management Strategy

## Long-Term Management Strategy: Vision 2030

Under Vision 2030, AGC has set the following aim: “By providing differentiated materials and solutions, AGC strives to help realize a sustainable society and become an excellent company that grows and evolves continuously.” In realizing this aim, we must simultaneously create economic and social value. We will create social value by advancing various corporate activities and providing products and technologies. At the same time, we will create economic value by improving capital efficiency through the reform of business models and the creation of new businesses. Our first major strategy in this endeavor is business portfolio transformation. The AGC Group aims to expand Strategic Businesses and accelerate growth while reforming business models and Core Business structures. In this way, The AGC Group plans to build a business portfolio resilient to market fluctuations with high asset efficiency, growth potential, and carbon efficiency. Our second major strategy is the promotion of sustainability management. Accordingly, we conduct business activities with the aim of minimizing any negative impact and maximizing any positive impact on the planet and society. While creating three types of social value through business activities, we will realize a stable ROE of 10% or higher.

By providing differentiated materials and solutions, AGC strives to help realize a sustainable society and become an excellent company that grows and evolves continuously.



**Blue planet**  
Realization of a sustainable global environment

We contribute to the sustainability of the planet on which all life depends by reducing the environmental impact of our products from raw material procurement to use by customers.



**Innovation**  
Creation of an innovative future society

We contribute to the creation of innovative future society by providing materials and solutions that support the world's most advanced technologies.



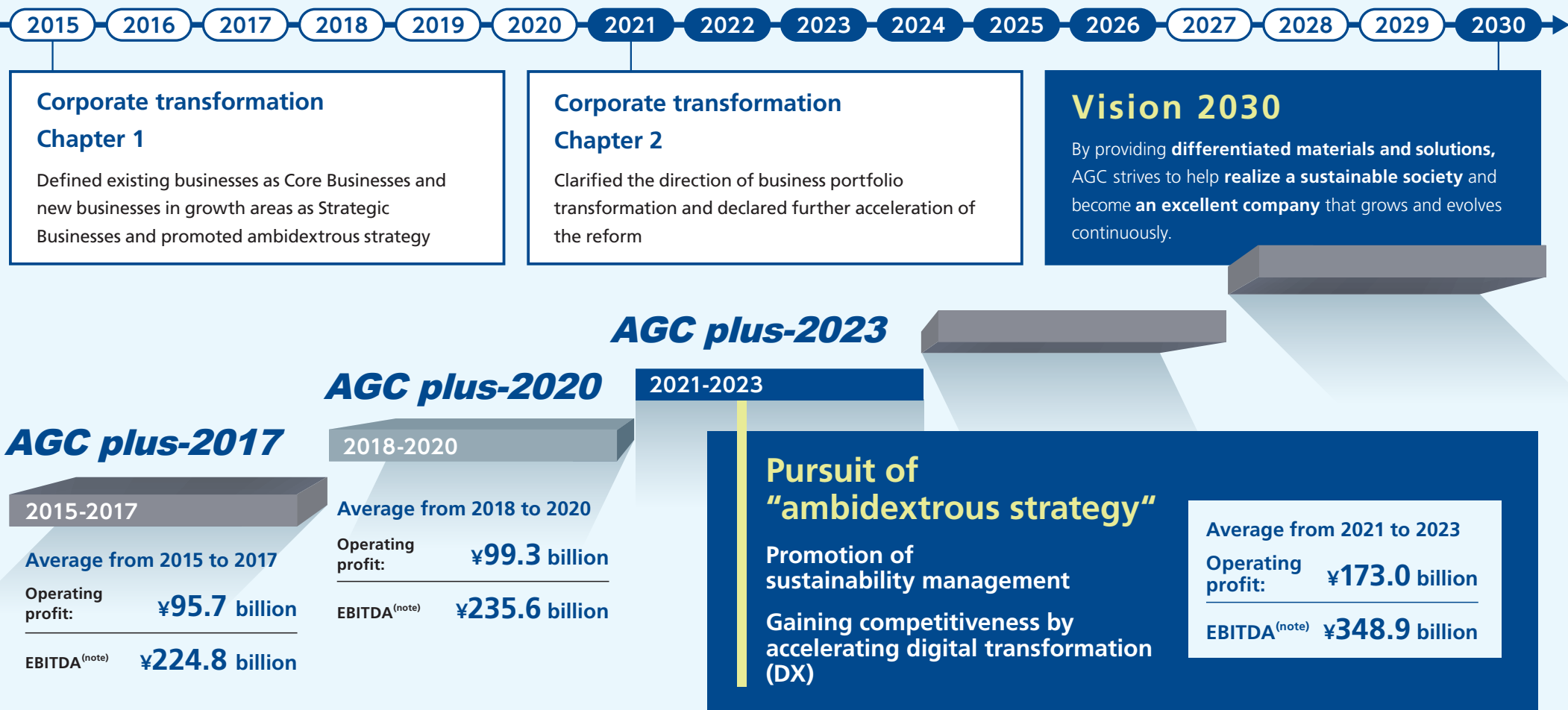
**Well-being**  
Contribution to safe and secure living

We contribute to safe, secure, comfortable, and healthy lives by providing products necessary for daily life, infrastructure, and healthcare in a more stable manner.

## Review of the Medium-Term Management Plan

The AGC Group is committed to remaining “an everyday essential part of our world” by addressing the transformations required in each era. In 2016, we defined existing businesses as our Core Businesses and new businesses in growth areas as Strategic Businesses to promote ambidextrous strategy. In 2021, we formulated the long-term management strategy Vision 2030 and as “Corporate Transformation Chapter 2,” we clarified the direction for business portfolio transformation and declared our commitment to further accelerate corporate transformation.

In the medium-term management plan **AGC plus-2023** formulated in 2021, we carried out business operations based on the strategies of pursuing ambidextrous strategy, promoting sustainability management, and Gaining competitiveness by accelerating digital transformation (DX). As a result of our efforts to transform our business portfolio to improve profitability and asset efficiency, we achieved higher levels of operating profit and EBITDA than in the past. However, due to factors such as impairment losses associated with structural improvements, we were unable to achieve our initial target of a stable ROE of 8% or more, resulting in remaining challenges with the level of ROE.



Note: EBITDA is calculated simply by summing operating profit and depreciation

# New Medium-Term Management Plan *AGC plus-2026*

Toward realizing Vision 2030, we have formulated a new medium-term management plan, *AGC plus-2026*, covering the three years from FY2024 to FY2026.

*AGC plus-2026* follows the strategic direction of the previous medium-term management plan, *AGC plus-2023*, which achieved a certain level of results, and aims to maximize corporate value and achieve ROE of 8% or more at an early stage by accelerating corporate transformation toward the realization of Vision 2030.

## Corporate transformation

Chapter 1 Chapter 2

2021 Phase 1

*AGC plus-2023*

2024 Phase 2

*AGC plus-2026*

2027 Phase 3

Vision 2030

### Evolution of “ambidextrous strategy”

- Accelerate business portfolio transformation by pursuing the use and development of differentiated materials and solutions
- Continue to strengthen the earnings base and cash generation capabilities of core businesses
- Revise the scope of strategic businesses, accelerate business growth, and explore next generation areas

#### Deepening of sustainability management

- Accelerate integrated management, including financial KPIs, by redefining the social value that we provide and setting sustainability KPIs

#### Promotion of value creation DX

- Strengthen competitiveness through digital × monozukuri capabilities
- Streamline and strengthen the entire supply chain

#### Strengthening of the management foundation

- Strengthen group governance
- Promote human capital management
- Further strengthen the alignment between business strategy and technology platform

### Targets for Fiscal 2026

OP

**230.0** billion yen or more

Strategic Business OP

**50** % or more

ROE

**8** % or more

D/E Ratio

**0.5** or less

By providing differentiated materials and solutions, AGC strives to help realize a sustainable society and become an excellent company that grows and evolves continuously.

OP

**300.0** billion yen or more

Strategic Business OP

**60** % or more

ROE

Stable at **10** % or higher

D/E Ratio

**0.5** or less



# New Medium-Term Management Plan **AGC plus-2026**

## Evolution of Ambidextrous Strategy

### Direction of Business Portfolio Transformation

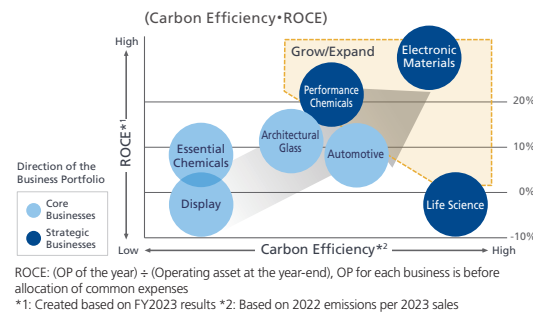
By continuing to promote ambidextrous strategy, **AGC plus-2026** aims to build a business portfolio that is resilient to changes in market conditions and has high asset efficiency, growth potential, and carbon efficiency.

### Redefine the Core and Strategic Businesses

Performance Chemicals in the Chemicals Business has been incorporated into our Strategic Businesses because it provides high-performance materials for cutting-edge fields such as the environment and energy, electronics including semiconductors, mobility, and life sciences.

We have also expanded the definition of the Mobility Business, a Strategic Business, to include high-value-added products for CASE that were previously part of our existing Automotive Business.

### Direction of the Business Portfolio Transformation



High performance materials for a variety of cutting edge applications: Environment and energy, electronics including semiconductors, mobility, life sciences, etc.

### Main products of Strategic Business

To FY2023

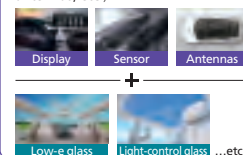
Mobility	<ul style="list-style-type: none"> <li>Cover glass for car-mounted displays</li> <li>New materials for Mobility (Including 5G communications)</li> </ul>
Electronics	<ul style="list-style-type: none"> <li>Semiconductor-related materials</li> <li>Optoelectronics materials</li> <li>Next-generation high-speed communication materials</li> <li>Fluorine products for electronics</li> </ul>
Life Science	<ul style="list-style-type: none"> <li>CDMO for synthetic pharmaceuticals and agrochemicals</li> <li>CDMO for biopharmaceuticals</li> <li>Other Life Science products</li> </ul>

From FY2024

Mobility	<ul style="list-style-type: none"> <li>Cover glass for car-mounted displays</li> <li>High value-added products for CASE</li> </ul>
Electronics	<ul style="list-style-type: none"> <li>Semiconductor-related materials</li> <li>Optoelectronics materials</li> <li>Next-generation high-speed communication materials</li> </ul>
Life Science	<ul style="list-style-type: none"> <li>CDMO for synthetic pharmaceuticals and agrochemicals</li> <li>CDMO for biopharmaceuticals</li> </ul>
Performance Chemicals	<ul style="list-style-type: none"> <li>High performance fluorine products for various industries (including fluorine products for electronics and other life science products)</li> </ul>

### Mobility Business

We have added other "high-value-added products for CASE" in addition to conventional mobility products (displays, sensors, antennas, etc.)



## Key Strategies for Each Business

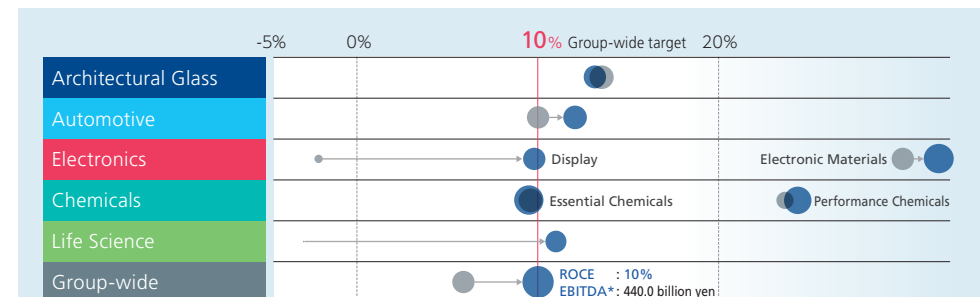
In the Electronics Business, a Strategic Business, we will expand high-value-added products such as EUV lithography photomask blanks and continue to explore new businesses. In the Life Science Business, we will work to restore the business performance of the U.S. biopharmaceutical CDMO business and return it to a growth trajectory. There are signs of recovery from the impact of the decline in capital inflows into biotech startups, and a full-fledged recovery is expected in 2025. The new production line, which started commercial operation in 2023, is expected to resume full-scale operation in 2024, contributing to improved profitability. In the Mobility Business, we will ensure that market changes brought about by CASE turn into business opportunities. In Performance Chemicals, we will provide high-performance materials for electronics, including semiconductors, and for the environment and energy, and capture demand in global niche markets by adding high value and expanding our business domains.

In the Architectural Glass Business, a Core Business, we will generate stable cash by strengthening products and technologies that lead to solutions to social issues such as reducing GHG emissions. In the Automotive Business, we will continue to implement pricing policies and structural reforms and will work to improve profitability and asset efficiency by promoting high functionality and high added value. In the Display Business, we will proceed with structural reform with speed under the business restructuring project led by the CFO. In the Essential Chemicals Business, we will continue our strategy of concentration in the growth market of Southeast Asia.

By implementing these strategies, we will continue to strive for a companywide 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

# New Medium-Term Management Plan **AGC plus-2026**

## Deepening of Sustainability Management

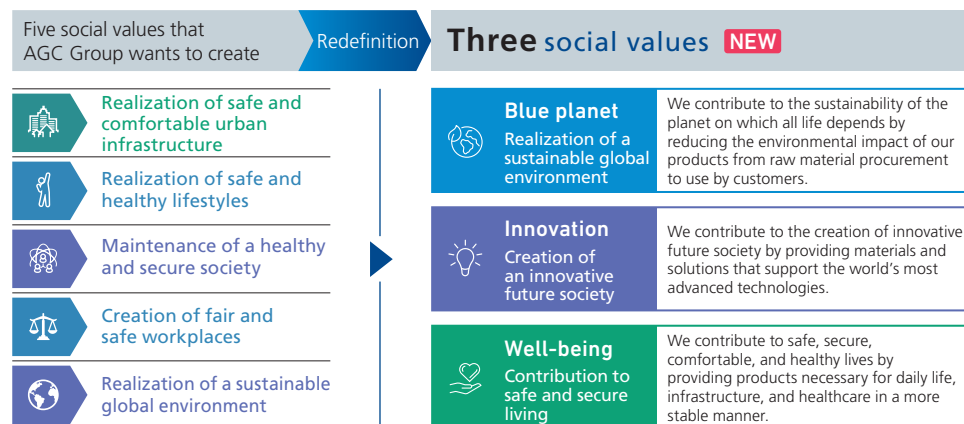
### The Social Value That the AGC Group Wants to Provide

Based on long-term trends in social issues, the AGC Group identifies risks and opportunities (materiality) that are important for achieving both contribution to the realization of a sustainable society and the sustainable growth of the AGC Group. Based on these material risks and opportunities, we have established long-term management strategies, business strategies, and sustainability targets, and are engaged in business activities with the aim of creating economic value through the creation of social value and thereby improving our corporate value. In our long-term management strategy Vision 2030 announced in February 2021, the AGC Group has defined the five types of social value it wants to create and clearly stated that we will contribute to the realization of a sustainable society.

With the launch of **AGC plus-2026**, we have redefined the social value that the AGC Group wants to provide. In order to further disseminate understanding of the social value created by the AGC Group among internal and external stakeholders, including employees, we have focused on the major opportunities and replaced the existing five types of social value with three types of social value to be created by AGC's products and technologies.

To steadily create economic value through the creation of the three types of social value, we will set sustainability KPIs, monitor their implementation, and make improvements as needed.

Please see p. 26 for sustainability KPIs.



## Promotion of Value Creation DX

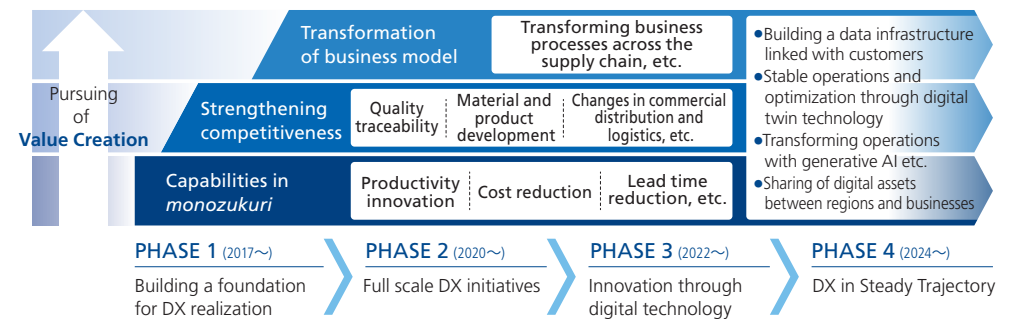
### The AGC Group's DX Will Move to a Steady Trajectory

The AGC Group began its DX initiatives with a focus on manufacturing and R&D, and has since expanded to a wide range of areas including sales, logistics, and administrative operations. We will continue to position DX as a lever for "Chapter 2" of our corporate transformation, aiming to leverage digital technology for ongoing transformation and to establish DX on a steady trajectory. We will also pursue economic value through the creation of the three types of social value we have redefined, and realize value creation DX that accelerates the spiral of corporate value enhancement through the use of digital technology. We have identified the following three areas as the focus of our value creation DX initiative, and we will work on them by integrating the AGC Group's strengths in manufacturing and digital technology.

[Capabilities in *monozukuri*] Enhance *monozukuri* capabilities through productivity innovation, cost reduction, and shortening of lead times.

[Strengthening competitiveness] Through improving quality, dramatically accelerating material development, and transforming commercial and logistics flows, the AGC Group aims to enhance the value it provides and strengthen its competitiveness as a materials manufacturer.

[Transformation of business model] We will provide new value to our customers and society by creating win-win relationships with our customers, suppliers, and business partners, with a view to reforming our business model.



### Example of DX promotion: Streamlining the construction estimation process for architectural glass

In 2023, AGC Amenitech Co., Ltd. rolled out an initiative to link data such as glass product types and quantity information across the supply chain via the cloud using its proprietary glass construction estimation system "R7." This will make it possible to streamline operations throughout the supply chain by reducing manual input work, shortening the time required for estimation work, and preventing omissions and errors in input.

Please see here for details. [https://www.agc.com/en/news/detail/1203717\\_2814.html](https://www.agc.com/en/news/detail/1203717_2814.html)

# New Medium-Term Management Plan **AGC plus-2026**

## Strengthening of the Management Foundation

### Promoting Human Capital Management

We will promote human capital management that realizes continuous corporate growth. "AGC People: Driving our Growth!" represents the AGC Group's human capital management. "AGC People: Driving our Growth!" refers to drawing out the strengths and abilities of each individual among our diverse human resources, supporting their independent learning and growth, encouraging them to take on new challenges, and creating a strong, highly engaged organization from the collective growth of these individuals, thereby enhancing corporate value and realizing AGC's mission.

Measures for "AGC People: Driving our Growth!": see p. 58

### AGC People: Driving our Growth!



### Further Strengthening of the Management Foundation

What supports the strength of our business activities is the robust management foundation of the AGC Group. Under **AGC plus-2026**, we will also work to further strengthen the Group's governance. We will also continue to deepen the linkage between our business strategies and technology platforms.

AGC's Basic Approach to and System of Corporate Governance: see p. 72  
Technology and Innovation: see p. 33

## Key KPIs and Capital Allocation

### Financial KPIs

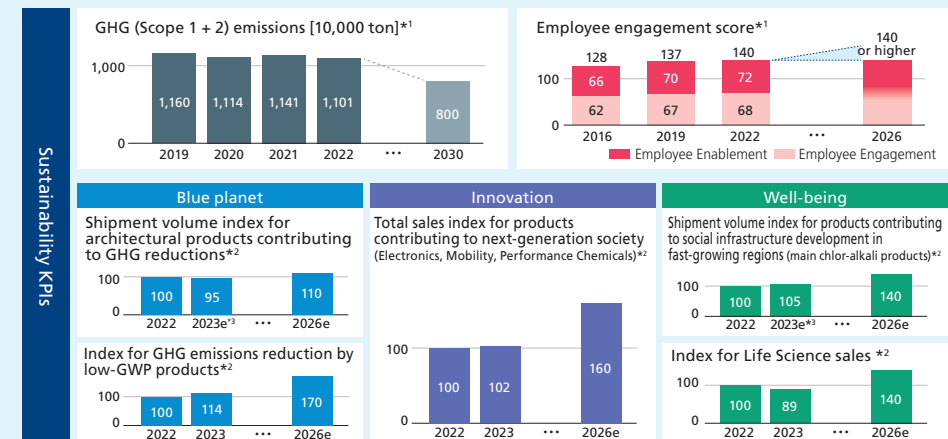
We will continuously grow and evolve our businesses to achieve stable ROE of 8% or higher and expand Strategic Businesses to account for the majority of Group-wide operating profit by 2026.

	2023 (Actual)	2024 (Estimate)	2026	2030
Strategic Business OP	56.8 billion yen	80.0 billion yen	130.0 billion yen	190.0 billion yen
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

### Sustainability KPIs

We will achieve sustainable growth by improving sustainability KPIs through business activities.



\*1 Items reflected in executive remuneration. However, for GHG emissions, GHG emissions intensity per unit of sales are used in the calculation of executive remuneration.

\*2 Indexes: Figures converted from 2023 on using 2022 as a base of 100.

\*3 Tentative figures

# MESSAGE FROM THE CFO

## We are driving portfolio transformation with execution and speed to realize our Vision 2030.

### Reflecting on **AGC plus-2023**

Over the past three years, the AGC Group has been advancing efforts under the **AGC plus-2023** plan, which concluded in FY2023. Reflecting on those three years, our business portfolio transformation drove substantial improvements in operating profit and EBITDA\*<sup>1</sup>, but ROE lagged due to impairment losses.

#### Business portfolio transformation results and challenges

Our management approach has kept capital costs in mind, with ROCE\*<sup>2</sup> serving as a guiding metric as we transform our business portfolio. Looking back on the past three years under the previous medium-term management plan, the results are clearly visible. In our Core Businesses, we enhanced profitability and asset efficiency by transferring our North American

Architectural Glass Business and our Chinese architectural and industrial glass business. Structural reforms in the Automotive Business were another strategic move. We also prioritized substantial investments in our growth areas, particularly in Essential Chemicals and Performance Chemicals. We focused aggressive investments in our Strategic Businesses, particularly in Life Science and Electronics.

However, significant challenges emerged in the U.S. biopharmaceutical CDMO business within the Life Science Business and in the Display Business.

\*1 EBITDA: Calculated simply by adding operating profit and depreciation

\*2 ROCE is calculated simply by dividing the expected operating profit for the current fiscal year by the projected operating assets at the fiscal year-end. Groupwide operating profit includes the allocation of common expenses, while business-specific operating profit does not.

Representative Director,  
Senior Executive  
Vice President, CFO,  
CCO

**Shinji Miyaji**



# Message from the CFO

## AGC plus-2023 Summary

	Outcome	Issues
Core Business	<ul style="list-style-type: none"> <li>Expanded Essential Chemicals business in Southeast Asia</li> <li>Improved profitability due to progress in structural reforms in Architectural Glass and Automotive</li> <li>Steady expansion in Performance Chemicals</li> </ul>	<ul style="list-style-type: none"> <li>Profitability of Display business</li> </ul>
Strategic Business	<ul style="list-style-type: none"> <li>Steady expansion in Electronics and Life Science</li> </ul>	<ul style="list-style-type: none"> <li>Quickly rebuilding the U.S. biopharmaceuticals CDMO business</li> </ul>

## Though long-term trends show improving profitability, there remains significant room for enhancement

Looking at operating profit trends, I believe these three years have revealed our company's true strength. Operating profit hit a high of ¥229.2 billion in 2010, then declined over the next four years to ¥62.1 billion in 2014. Since then, improvements in Core Business profitability and growth in Strategic Businesses have improved overall profitability. Even with significant impacts from the external environment during the 2021–2023 period under the previous medium-term plan, our overall profitability has seen improvement. Operating profit in 2021—the first year of the previous plan—topped ¥200 billion, driven significantly by soaring market prices for chlor-alkali products such as caustic soda and PVC in Southeast Asia. Year two of the plan saw operating profit hit ¥183.9 billion, still benefiting from the impact of elevated market prices for chlor-alkali products. Operating profit dipped below ¥130 billion in year three, hit by weak market conditions for chlor-alkali products, adjustments in the semiconductor and smartphone markets, and steep profit drops in the Life Science and Display Businesses. Given these trends, we estimate our current operating profit potential to be approximately ¥150 billion, excluding external impacts.

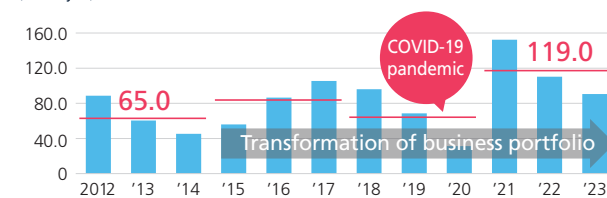
Although the worst is behind us and profitability has improved, the operating profit of ¥150 billion still falls short of the new medium-term management plan's ROE target of 8% or more, as discussed later. In 2022, a large impairment loss led to a net loss, and in 2023, our ROE

	FY2021 results	FY2022 Results	FY2023 Results	Reference	
				FY2023 target (Announced on February 5, 2021)	FY2023 target (Announced on February 8, 2022)
OP	206.2 billion yen	183.9 billion yen	128.8 billion yen	160.0 billion yen	230.0 billion yen
ROE	10%	–*	4.6%	8%	10%
Strategic Business OP	53.8 billion yen	70.9 billion yen	38.2 billion yen	70.0 billion yen	80.0 billion yen
D/E Ratio	0.41	0.41	0.42	0.5 or less	0.5 or less

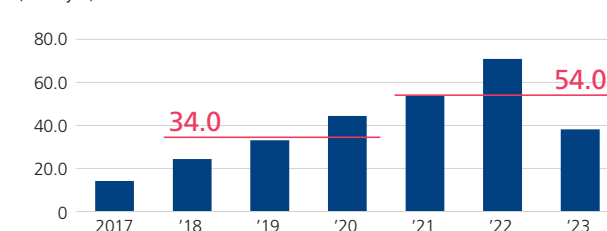
\*In FY2022, there was a net loss attributable to owners of the parent company due to the impact of impairment losses.

remained at 4.6%. This brings the average ROE for the past five years to less than 5%. This challenge also surfaced during the previous medium-term management plan.

### Core business operating profit (Billion yen)



### Strategic business operating profit\* (Billion yen)



\*Strategic business operating profit does not reflect the new definition.

## AGC plus-2026

### Targeting operating profit of ¥230 billion or more and ROE of 8% or more

Under the three-year medium-term management plan

**AGCplus-2026**, which began in FY2024, we will accelerate corporate transformation (CX) and maximize corporate value, aiming to realize Vision 2030 by achieving the following targets.

To meet the Vision 2030 target of a stable ROE of 10% or more, we first aim to transform our business portfolio to consistently generate operating profit in the ¥200 billion range, surpassing our shareholders' equity cost of roughly 8%\*<sup>3</sup>.

Another key point in the current medium-term management plan is the introduction of sustainability KPIs including GHG metrics\*<sup>4</sup> and employee engagement scores. We believe that the establishment of sustainability KPIs will speed up the creation of social value and economic value, thereby enhancing our corporate value. It is highly significant that we can now present both sustainability and financial KPIs when engaging with our stakeholders.

\*<sup>3</sup> 2023 results. The weighted average cost of capital (WACC) is approximately 6%.

\*<sup>4</sup> GHG emissions per unit of sales are set as a KPI for executive compensation.

### New Medium-Term Management Plan **AGC plus-2026** Financial KPIs

		2023 (Actual)	2024 (Estimate)	2026	2030
Financial KPIs	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

# Message from the CFO

## Sustainability KPIs

	Results	Target
GHG (Scope 1 + 2) emissions [10,000 ton]* <sup>1</sup>	2022 <b>1,101</b>	2030 <b>800</b>
Employee engagement score* <sup>1</sup> (Total of two items: "Employee Engagement" and "Employee Enablement")	2022 <b>140</b>	2026 <b>140 or more</b>
	Results	Forecast
<b>Blue planet</b>		
Shipment volume index for architectural products contributing to GHG reductions* <sup>2</sup>	2023* <sup>3</sup> <b>95</b>	2026 <b>110</b>
Index for GHG emissions reduction by low-GWP products* <sup>2</sup>	2023 <b>114</b>	2026 <b>170</b>
<b>Innovation</b>		
Total sales index for products contributing to next-generation society (Electronics, Mobility, Performance Chemicals)* <sup>2</sup>	2023 <b>102</b>	2026 <b>160</b>
<b>Well-being</b>		
Shipment volume index for products contributing to social infrastructure development in fast-growing regions (main chlor alkali products)* <sup>2</sup>	2023 <b>105</b>	2026 <b>140</b>
Index for Life Science sales* <sup>2</sup>	2023 <b>89</b>	2026 <b>140</b>

\*<sup>1</sup> Items reflected in executive remuneration. However, for GHG emissions, GHG emissions per unit of GHG emissions sales are used in the calculation of executive remuneration.

\*<sup>2</sup> Indexes: Figures converted from 2023 on using 2022 as a base of 100.

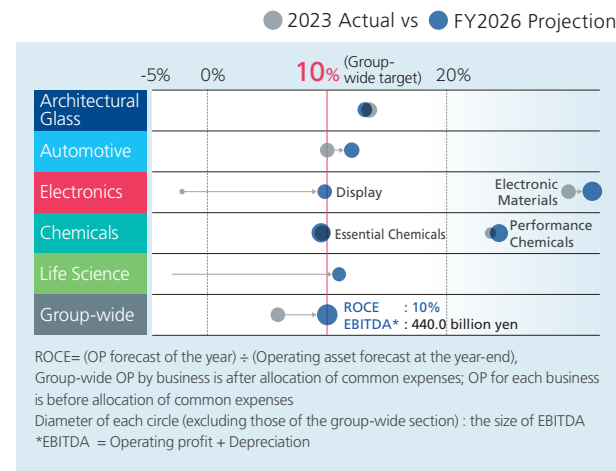
\*<sup>3</sup> Tentative figures

## The key factors are execution and speed

To achieve our medium-term ROE target, we have set a Groupwide ROCE target of 10%, a level exceeding the current 8% shareholders' equity cost. We are closely managing the ROCE of each business, driving forward our business portfolio transformation. If meeting the 10% ROCE target is a challenge for any business, we will need to implement radical solutions. One potential solution is our profitability improvement project in the Display Business. In the Display Business, we benefited from the stay-at-home demand surge during the COVID pandemic in 2021, but the business environment deteriorated rapidly in mid-2022 in reaction to the surge in demand. Moreover, the spike in raw material and fuel costs coupled with the depreciation of the yen drastically

eroded business profitability, necessitating the booking of over ¥70.0 billion in impairment losses for FY2022. As measures to improve profitability, the business division has been spearheading structural reforms, enhancing competitiveness through technological innovation, and reassessing pricing policies. This year, we also launched a structural reform project led by the corporate division under my leadership. We will swiftly and decisively implement structural reforms across the Display Business and other segments, addressing issues from a corporate perspective.

## ROCE of Each Business



## Enhancing strategic investments and maintaining stable shareholder returns

The key points of the capital allocation strategy for the current medium-term management plan are: targeted investments to fast-track portfolio transformation, a strategic allowance of ¥200 billion, and shareholder returns.

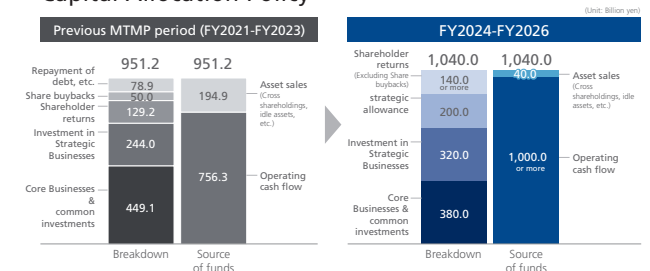
Our Company has been operating with a solid record of financial soundness. Our target for the debt-to-equity ratio (D/E), which is an indicator of financial soundness, is 0.5 or lower. It was 0.41 in 2022 and 0.42 in 2023. Major actions may temporarily push it above 0.5, but our goal is to keep it basically at or below that level. With our solid financial base, we will prioritize channeling cash from operations into R&D and

future growth investments.

For cash inflows, we will continue to reduce cross-shareholdings and sell idle assets. However, since the majority of these assets have already been converted to cash, we expect operating cash flow from business activities to account for a greater proportion of cash inflows. Our investment policy is basically to focus on the Strategic Businesses. Comparing the previous and current medium-term management plans, we plan to boost investment in the Strategic Businesses from ¥244.0 billion to ¥320.0 billion, and cut Core Business and Groupwide investments from ¥449.1 billion to ¥380.0 billion. Under the current plan, we have also set aside a ¥200 billion strategic allowance. We intend to use the fund to actively invest in the Strategic Businesses and growth areas, but we may also consider share buybacks if cash is in excess.

We remain committed to actively returning profits to shareholders. Under the previous plan, the Company repurchased ¥50 billion of its own shares and maintained financial soundness by utilizing cash generated from business operations, sales of cross-shareholdings and assets, and business divestments linked to portfolio transformation. Beginning in FY2024, we have shifted our shareholder return metric from the conventional consolidated payout ratio to dividend on equity ratio (DOE), which is less affected by single-year performance fluctuations. Our Company has consistently maintained stable dividends, and by shifting the shareholder return metric, we have underscored our commitment to stable dividends.

## Capital Allocation Policy



# Message from the CFO

## Dividend per share (JPY)

Special dividend							50			
Year-end dividend	45	45	55	60	60	60	80	105	105	105
Interim dividend	45	45	50	55	60	60	80	105	105	105
	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024e
Share buyback (100 million JPY)	—	100	150	200	—	—	—	—	500	TBD
Consolidated total return ratio	48%	65%	56%	51%	60%	81%	38%	—	144%	84%
Consolidated payout ratio	48%	44%	35%	29%	60%	81%	38%	—	69%	84%
Dividend on equity ratio (DOE)	1.9%	1.9%	2.1%	2.2%	2.3%	2.3%	3.8%	3.4%	3.2%	3.1%
<div>Shareholder return policy</div> <div>           Total return ratio of <b>50%</b> or higher, flexibly conduct share buyback         </div> <div>           Maintain stable dividends with a consolidated dividend payout ratio of <b>40%</b>, flexibly conduct share buyback         </div> <div>           Maintain stable dividends with a target of approx. <b>3%</b> dividend on equity ratio (DOE), <b>share buyback will be judged comprehensively</b> </div>										

\*The Company consolidated its common shares at a ratio of 5 shares to 1 share on July 1, 2017, and per share data is recalculated.

## Medium- to long-term financial strategy

### Boosting market capitalization in tandem with ROE

Beyond the current medium-term management plan's goal of ROE of 8% or more, Vision 2030 aims for stable ROE of 10% or more. Our company's PBR\*<sup>5</sup> was 0.77 in FY2023, which is less than its dissolution value. Since PBR is ROE x PER\*<sup>6</sup>, improving our ROE is essential to raising the PBR. We will also strive to improve our PER by achieving growth through steady portfolio transformation, as well as by actively engaging in investor relations activities and emphasizing dialogue with the capital market.

Along with improving the PBR, my personal immediate goal is to see us rank among the top 100 companies in Japan in terms of market capitalization and become a manufacturing sector leader. The strength of the Japanese manufacturing industry lies in its ability to tolerate long development periods with a view to long-term trends in the world and, when it comes to the manufacturing stage, to provide high-quality products by carefully carrying out meticulous, detailed work. In other words, Japanese manufacturers have the ability to develop products from a long-term perspective, as well as strong on-site capabilities. If many dynamic companies utilize this strength to create distinctive

products and secure a spot among the top 100 in terms of market capitalization, it will invigorate Japan as a whole. We aspire to become and remain one of them.

\*5 PBR is an acronym for price book-value ratio

\*6 PER is an acronym for price earnings ratio

### Passing on a positive corporate culture

As we advance toward Vision 2030 and beyond, I believe the AGC Group's top priority is to pass on a positive corporate culture. The three keys to this are the spirit of "challenge," "trust," and "technology" embedded in our founding spirit. In the AGC Group's corporate philosophy, Our Mission calls for AGC to be "an Everyday Essential Part of Our World." To continue to be an essential part of the world, we ourselves must change as society changes. Constant "challenge" and transformation are crucial for us to remain "an Everyday Essential Part of Our World."

Trust is another value that we place great emphasis on. I see AGC as a company known for its seriousness and dedication. The trust we have built with our customers through our diligent efforts is the foundation of everything we do. Our customers rely on us and think, "If we reach out to AGC, they will come up with a solution, and if we work with

them, they will respond with sincerity," which paves the way for further business opportunities and new challenges. Equally important is the trust we place in our people. When we trust our employees and give them responsibility, their engagement increases significantly. We believe that a new positive spiral will emerge from the trust of our customers and the trust in our employees.

In terms of living up to the trust of our customers, we believe that our strength lies in the fact that we have long handled glass, an extremely superior and distinctive material. In addition to this, we have technologies for both inorganic and organic materials, and are able to create diverse value by combining various elements. To create new solutions, we will need to continuously enhance our technology.

## The role of the CFO

The CFO is charged with the mission of transforming the company, not only in financial terms but also by implementing various strategies to realize the Company's vision. First, I will respond swiftly and decisively to the issues that have emerged and work to achieve the current medium-term management plan. Then, I will diligently fulfill my responsibilities to shape the future of AGC as a dynamic manufacturing company, paving the way for future generations to advance toward this vision.



# MESSAGE FROM THE CTO

## Actively adopt the latest technologies and promote competitive technological development while valuing human connections

### Toward **AGC plus-2026**

#### Focus on growth investments in Strategic Businesses

The main strategies for realizing our long-term management strategy Vision 2030 are “business portfolio transformation” and “promotion of sustainability management.” Developing material technologies takes a long time, making it tough to alter course easily. However, during the period of the previous medium-term management plan, we made some direction changes, focusing on a shift to Strategic Businesses and actively working to revise and discontinue certain projects. As a result, looking at the breakdown of research and development expenses, in the new medium-term plan starting in 2024, Core Businesses account for 38% and Strategic Businesses for 62%, clearly indicating the shift to Strategic Businesses. However, our research and development efficiency is still not high enough. The Technology General Division must take responsibility for ROE and ensure that development results are reliably linked to business operations. For that to happen, it is important

to clarify three points: “what to discontinue, what to continue and strengthen, and what to start anew.” Because of the limited development resources available, we are also aware that pursuing transformation may require abandoning certain initiatives.

In the new medium-term management plan, growth investment in Strategic Businesses is an important area. Four areas have been positioned as Strategic Businesses, adding Performance Chemicals to the existing Electronics, Mobility, and Life Science Businesses. These areas will serve as future pillars, and we aim to expand them while improving profitability. Meanwhile, we expect our Core Businesses to generate stable cash flow, and they must continue to evolve in terms of productivity improvement and ensuring safety and stability. As a *monozukuri* (manufacturing) company, we cannot stop making progress, whether in our Core Businesses or our Strategic Businesses.

Representative Director,  
Executive Vice President, CTO,  
General Manager of  
the Technology General Division

**Hideyuki Kurata**



## Message from the CTO



### “Deepening of sustainability management” and “Promotion of value creation DX”

The new medium-term management plan sets out a strategy of deepening sustainability management. The AGC Group has redefined the social value it provides into three types—Blue Planet, Innovation, and Well-being—and has set sustainability KPIs. Important initiatives within Blue Planet are to reduce GHG emissions and develop products that contribute to reducing GHG emissions. For example, in the glass manufacturing process, which is a source of CO<sub>2</sub> emissions, we would like to lead efforts globally to reduce GHG emissions in glass melting as an industry leader.

We have set the promotion of value creation DX as an important aspect of Innovation. By combining digital technology with AGC’s strength in manufacturing, we will dramatically improve productivity and connect supply chains to enhance the competitiveness of each business. To this end, in 2023, we established the Digital &

Innovation Promotion Division, which is leading productivity innovation and the internal deployment of the latest digital technologies. Planning and supporting DX strategies and developing human resources are particularly important missions of this division. At the same time, each company has also established a DX promotion organization, and we aim to build a process that connects all sites and enables value creation.

In Well-being, we have declared our “AGC People” initiative and also set employee engagement as a sustainability KPI. It is important to continuously promote diversity and work style reform in technology development and manufacturing workplaces.

## Technological strengths supporting AGC

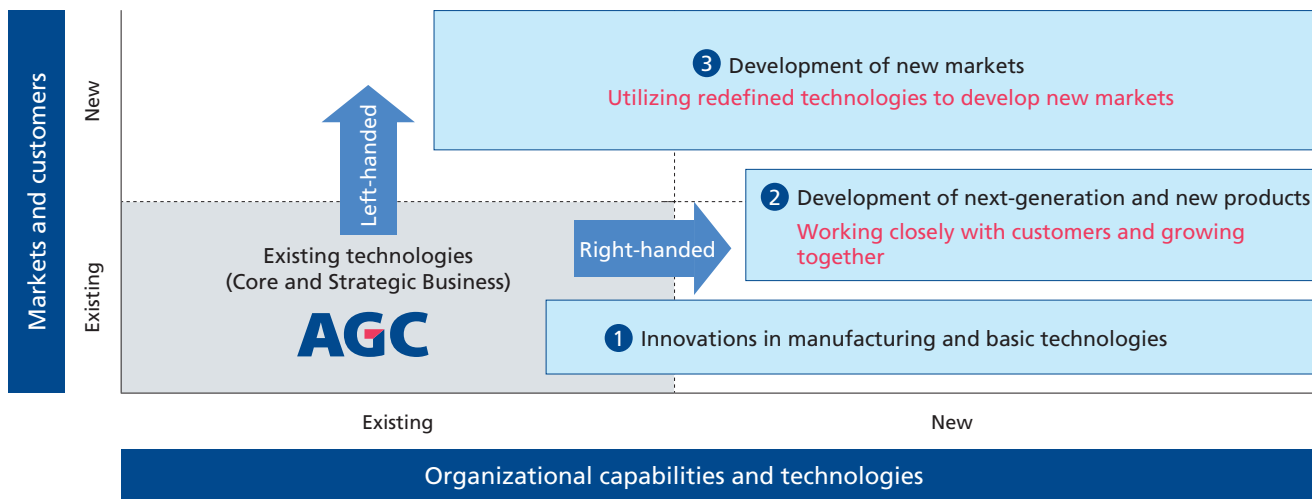
### Possessing a wide range of unique basic technologies

The realization of our long-term business strategy will be supported by the strength of the many basic technologies that we have accumulated. Over the course of our long history of 117 years, we have taken on the challenge of offering a variety of distinctive materials and solutions, and have acquired a wide range of basic technologies for each of our products, including inorganic, organic, and bio-based technologies. Glass production technologies are one example. In addition to the development of glass materials, we also cultivated ceramics technologies by developing and manufacturing refractory materials used in melting furnaces, which led to our ceramics-related business. In the field of organic chemistry, we evolved the production of soda ash used in glass production, and established an integrated manufacturing process for basic chemicals from raw salt. Today, we are continuing to expand our business domain while developing our own chemical chain that manufactures a variety of functional chemicals centered on fluorochemicals.

Another of AGC’s great strengths is the integration and combination of these technologies. Photomask blanks for EUV lithography are representative composite materials that combine organic and inorganic material technologies with a variety of processing technologies. Furthermore, in order to supply customers with distinctive materials, we need to build our own manufacturing processes because of the uniqueness of our products. Having

### Ambidextrous Development

- Right-handed development: Innovating manufacturing and basic technologies to develop new products together with customers
- Left-handed development: Redefining proprietary technologies and developing new markets



# Message from the CTO

proprietary process, production, and analysis technologies is also an important differentiating factor.

## Broad customer base and strong brand image

We have built a broad customer base by expanding into a wide range of business fields and providing a large number of distinctive products that boast a leading stake in the global market. We have built relationships of trust with our customers who come to us first when they have a problem. Our mission is to be “an Everyday Essential Part of Our World.” AGC is a materials manufacturer with solid technological development and a company that provides solutions to solve problems. Having such a brand image is also one of our strengths.

An additional strength is the presence of a culture that actively explores new pursuits. We believe that this is the reason why AGC is able to keep up with the changing times and realize innovative manufacturing.

## Human capital strategy and technology development structure

### A human resources strategy aiming for “individual growth equals company growth”

The technology development organizations in AGC have a wide range of technologies and diverse human resources. If these resources are not utilized properly, they will be wasted. The Group as a whole is promoting business portfolio transformation and shifting toward businesses that prioritize highly carbon-efficient technologies and improvements in ROE and asset efficiency. In technological development, we are also working to create a system that is both fast and flexible.

Regarding human resources, we are dedicated to creating an environment that fosters employee growth based on the belief that individual growth equals company growth. This includes facilitating personnel exchanges and reallocations, as well as reskilling initiatives. One example is our “project system.” A project team is formed mainly by ambitious young people to work on a specific theme, bringing together members from different departments and

serving as a platform for producing results through experimentation.

In leveraging our distinctive and broad range of technologies for development, we also place importance on strengthening horizontal connections among our human resources, and we are working to promote connections within the Group through initiatives such as CNA\*<sup>1</sup> and Beatrust\*<sup>2</sup>. Furthermore, each in-house company and the corporate divisions’ research laboratories are collaborating to promote personnel exchanges. Another major feature of our system is that the corporate division’s Business Development Division incubates new businesses by utilizing the Group’s technological assets for themes that have been worked on in the corporate divisions’ research laboratories over the medium to long term or themes in boundary areas that are difficult for in-house companies to handle. To enhance the diversity of our human resources, we are focusing on increasing the proportion of women, promoting multiculturalism, and hiring PhD holders and mid-career professionals. Diversity is essential for creating new innovations. We are setting quantitative targets and steadily promoting diversity.

\*1 CNA (Cross-divisional Network Activity): Network activity across departments/divisions based on skill classification

\*2 Beatrust: A talent collaboration platform provided by Beatrust. Utilized as an internal social networking service

## Open innovation that leverages external knowledge

With a focus on open innovation, we are actively engaged in exchanges with people outside the AGC Group. Innovation doesn’t necessarily mean inventing something new from scratch, but can also involve creating new connections between existing elements. Open innovation is a very important space for creating new connections. AO (AGC OPEN SQUARE), a space for co-creation that opened in 2020 within the AGC Yokohama Technical Center, serves as a base for such activities. In 2023, the third year after its opening, approximately 600 organizations had visited, with over half of them being customer companies or academic institutions. It has been visited by more than 3,000 people in total. We have gained an understanding of the importance of interacting through proposals and other means to help visitors understand the technologies and strengths possessed by the AGC Group.

No matter how many human resources we have, it would never be enough to tackle all themes in-house on our own. Earlier, I spoke about “what to discontinue” when it comes to business portfolio transformation, which includes discontinuing in-house development and utilizing open innovation. Even if a theme should be continued, it may take a decade to develop in-house. However, there are also many cases where development in a short period of time is possible

Co-creation space “AO” (AGC OPEN SQUARE)



## Message from the CTO

without using internal resources, made possible by borrowing outside wisdom.

It is our belief that combining our technology development themes with external needs will generate valuable themes. When a good theme succeeds and contributes to the business, the motivation of the people who worked on it also increases, creating a positive spiral. Additionally, when companies engage in open innovation together, it is important for people from various departments to gather and collaboratively work with the customers of the partner companies. Through open innovation, we will continue to focus on creating a system that allows employees to experience success and achievement.

### Promotion of strategic IP activities

We are continuously promoting initiatives to effectively utilize the results of technological development, which is an important resource for our business strategy, as intellectual property and to enhance our competitive advantage over other companies. To stimulate the acquisition of patent rights, we have established an incentive system based on our own evaluation criteria.

Patented inventions are born not only from the R&D division, but also from other divisions. Previously, rewards were given based on the profits generated from commercializing the patent. However, currently, rewards are given at the time of patent registration, evaluated based on the innovation and originality of the invention as

well as the impact of the patent rights on other companies. The underlying idea is to positively evaluate inventions that truly contribute to the business of the AGC Group, including their use at other companies. This program has expanded the scope of rewards and increased the number of recipients.

Additionally, LexisNexis (U.S.), a provider of patent information analysis services, selected AGC for the second consecutive year in its "Innovation Momentum 2024: The Global Top 100" report as one of the "100 Innovative Companies Leading the Future of Science and Technology Worldwide." This is an assessment of the Company's competitiveness based on the value of its patents, and shows that our strategic IP activities linked to the incentive system are working well.

Meanwhile, to expand our business more globally, it is also important for us to actively participate in rule-making. As the AGC Group's Chief Technical Officer, I am also committed to standardization activities. We will continue to promote proactive intellectual property and standardization activities that contribute to our business.

### Strengthening our footing for further growth

In today's world, with technologies such as edge computing and generative AI emerging one after another, and social conditions and industrial structures changing rapidly, it is impossible to predict who the winners will be in this era of an uncertain future. However, we want to be the type of company that can respond to the changing times and succeed. It is important to steadily transform our business portfolio, reform businesses that are stagnant, and grow aggressive businesses. As a technical division, it is essential to be prepared to appropriately address major changes before they occur and as they happen. To that end, we are accelerating our efforts in materials informatics (MI) using AI, big data analysis, data mining, and other technologies. During the period of the new medium-term management plan, we intend to strengthen our products for future growth while actively incorporating new technologies. These initiatives signify our aim to remain a reliable and indispensable presence for our customers at all times. We aim for AGC to be a



company that customers always feel is there for them whenever the world or business environment changes.

For the growth of individuals and the company, it is important to actively connect with the outside world. Innovations will emerge from these new connections, and we can expect to see Nobel Prize-level results. I would like to actively create such opportunities and contribute to the continued growth of the AGC Group into the future, and I would personally like to actively participate in and contribute to networking opportunities both inside and outside the Group.



# Technology and Innovation

Continuously generate innovations that will shape the next 50 to 100 years and realize a sustainable society.

## Technology Development Strategies and Systems

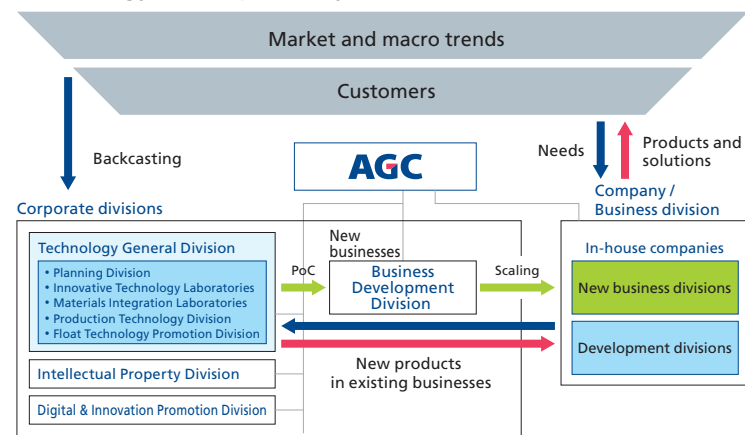
Under the CTO policy, the AGC Group's Technology General Division will help to achieve Vision 2030 by promoting global technological evolution and integration and the growth of individuals and the organizations that support them, and will continuously generate innovations that will shape the next 50 or 100 years to realize a sustainable society.

The Technology General Division will backcast from market and macro trends to promote development themes that will lead to the realization of a sustainable society. At the same time, we will continue to provide materials and solutions to our customers by developing new products in existing businesses together with the development divisions of in-house companies based on the needs of our customers. As for the new business themes that involve significant risks or do not fit within the framework of existing businesses, we will conduct concept verification PoC\* with Business Development Division using the corporate budget (*separation*). During the scaling stage of mass production, we will utilize the company's assets (manufacturing, quality assurance, etc.) to lead to early commercialization (*integration*). This separation and integration scheme is a form of ambidextrous strategy that simultaneously strengthens existing businesses and launches new Strategic Businesses, and can be said to be a strong point of AGC. In addition to this, the Technology General Division works with the Intellectual Property Division and the Digital & Innovation Promotion Division to utilize intangible assets such as intellectual property and to promote DX in technology development.

To advance these developments, we will steadily implement three key measures: *contributing to the acceleration of CX (corporate transformation) through ambidextrous development*, enhancing competitiveness by accelerating DX, and promoting sustainability management. We will drive technological development and innovation for the creation of materials and solutions and for innovation in continuously evolving productivity.

\*PoC: Proof of Concept (verification of the feasibility of a new business or technology idea)

### Technology Development Systems



### Role of Each Organization

- Planning Division** The Technology General Division's Planning Division is responsible for formulating and advancing technology strategies to address major issues, and also acts as a liaison between the Technology General Division and in-house companies and promotes open innovation initiatives with external parties.
- Innovative Technology Laboratories** This organization develops basic technologies that support AGC, such as glass and chemical process technologies, as well as analysis, evaluation, simulation, and IT technologies, progressing from lab to pilot machines and ultimately to mass production lines.
- Materials Integration Laboratories** This organization aim to create new businesses and products by advancing materials innovation through a wide range of material technologies ranging from inorganic and organic materials to the life science field and technologies for combining these materials and functional design.
- Production Technology Division** This division is responsible for everything from the development and improvement of process and equipment technologies to the design, installation, and maintenance of production systems. By strengthening the production base of the AGC Group, it contributes both to solidifying our current operations and advancing technological development.

### Open Innovation at AGC



### Open Innovation

In recent years, as social changes have accelerated and customer needs are also becoming more sophisticated and diverse, it has become difficult for AGC to solve certain issues alone, and this has made collaborative activities through open innovation with external partners increasingly important. AGC is promoting open innovation on two axes. One is to develop innovative technologies and technologies outside of AGC's fields of expertise through collaboration with universities, other academic institutions, and startups. The other is to develop new products through collaboration with leading companies that are our customers. To this end, AGC has established a space for collaboration called "AO (AGC Open Square)" at AGC's Yokohama Technical Center, and is using it to promote open innovation based on the concepts of "connect," "create," and "materialize."

#### Float Technology Promotion Division

This is an organization that builds and oversees the platform for the technology and know-how of the float process, a flat glass manufacturing process that AGC has cultivated over many years. It is responsible for everything from DX utilization to companywide human resource development.

#### Intellectual Property Division

This division acquires and utilizes intellectual property rights, such as patent rights and trademark rights, from the intellectual assets created through corporate activities, and promotes activities that link these to business revenue through the formulation and implementation of intellectual property strategies and standardization activities.

#### Business Development Division

Through the process of marketing to incubation to transfer to the in-house companies, this division proposes and promotes new businesses, contributing to AGC's continuous growth by collaborating with internal and external partners.

#### Digital & Innovation Promotion Division

This is an organization that strengthens the operational excellence that the AGC Group has cultivated and accelerates its innovation initiatives globally through DX.



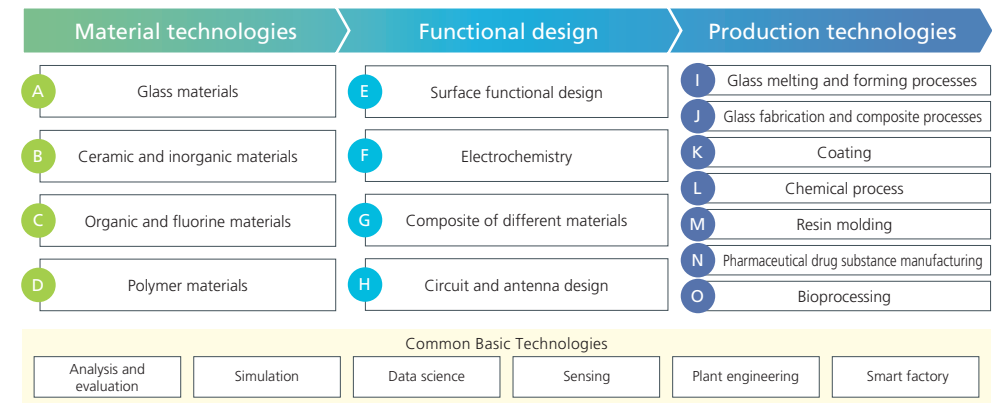
# Technology and Innovation

## AGC's Core Technologies

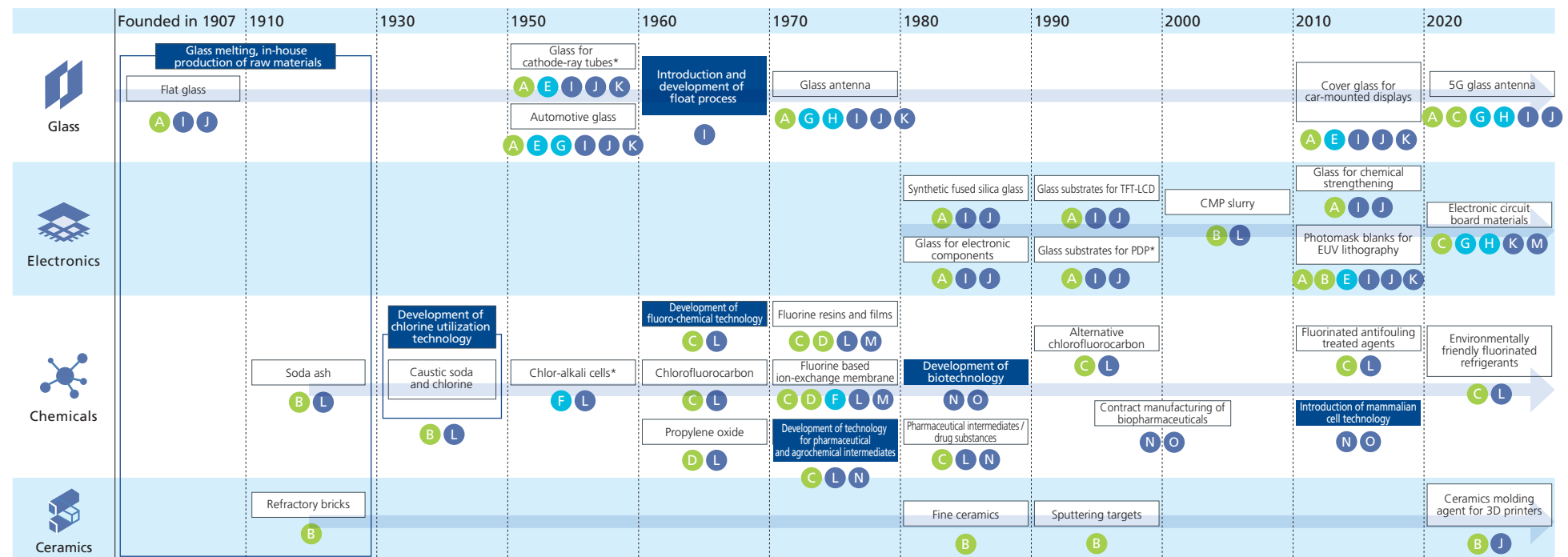
Shortly after the success of its founding business of domestic production of flat glass, World War I made it impossible to import soda ash, a raw material for glass, and refractory bricks for glass melting furnaces. In order to fulfill our mission of domestically producing glass, we started our own production, which is the starting point of our current Chemicals and Ceramics Businesses. Since then, we have consistently reflected the changes in each era by providing value to society through the marketing of many different materials and solutions for motorization, IT development, and environmental issues. Through these businesses, we have established technologies related to a wide range of materials—from inorganic and organic materials through to biomaterials. We have fostered, as core technologies, functional design technology, which combines our diverse technologies to realize even greater functionality, and production technology, which facilitates the stable, highly efficient manufacture of quality products. At the same time, we have accumulated and deepened common basic technologies such as analysis and evaluation, simulation, and plant engineering that support product production and technological development.

AGC continues to take on the challenge of creating social and economic value by combining these technologies based on its uniquely superior material technologies, functional design technologies that realize high functionality, and production technologies.

## Core Technologies



## History of Our Core Technologies



For details on our core technologies and common basic technologies, please see this page. [Core Technologies | Technology and Innovation | AGC](#)

# Technology and Innovation

## Examples of New Product Development through the Integration of Core Technologies

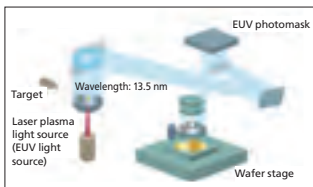
### Photomask blanks for EUV lithography (technical element: A,B,E,I,J,K)

The formation of fine circuits pattern in cutting-edge semiconductor chips is carried out using reflective photolithography technology with extreme ultraviolet (EUV) light, which has a wavelength (13.5 nm) less than one-tenth that of conventional exposure using excimer laser light (193 nm). As a result, the precision required for photomask blanks has drastically become ten times stricter. AGC has developed this technology by combining and upgrading elemental technologies such as: high-purity glass material design technology and manufacturing process technology with uniformity and minimal thermal expansion (A, I); high-precision polishing and cleaning technology for the production of photomask blanks substrates (B, J); and optical thin film design technology that efficiently reflects EUV light and the coating technology to realize it (E, K).

### Photomask blanks for EUV lithography

Photomask blanks for EUV lithography that enable miniaturization of semiconductor chip circuits pattern to achieve larger data capacity and greater integration

Diagram of EUV lithography equipment



Photomask blanks



Features

- High-purity, low-thermal expansion glass material
- Highly flat, low-defect substrate
- Highly efficient EUV light reflection

### Core Technologies Supporting New Products

Material technologies	Functional design	Production technologies
<b>A</b> Glass materials	<b>E</b> Surface functional design	<b>I</b> Glass melting and forming processes
<b>B</b> Ceramic and inorganic materials	<b>F</b> Electrochemistry	<b>J</b> Glass fabrication and composite processes
<b>C</b> Organic and fluorine materials	<b>G</b> Composite of different materials	<b>K</b> Coating
<b>D</b> Polymer materials	<b>H</b> Circuit and antenna design	<b>L</b> Chemical process
		<b>M</b> Resin molding
		<b>N</b> Pharmaceutical drug substance manufacturing
		<b>O</b> Bioprocessing

Electronics | Technology and Innovation | AGC

### Fluorine-based electrolyte polymers (technical element: C,D,F,G,L)

The use of hydrogen is expected to contribute to the realization of a sustainable global environment. The key material is AGC's FORBLUE™ series of fluorine-based electrolyte polymers.

The FORBLUE™ S-SERIES of fluorine based ion-exchange membranes suitable for green hydrogen production can be used to convert renewable energy, such as solar and wind power generation, into hydrogen through water electrolysis for storage and transportation. The FORBLUE™ i-SERIES of electrolyte polymer solutions for fuel cells are used in electrolyte membranes and electrodes of fuel cells to efficiently generate electrical energy from hydrogen and oxygen without emitting CO<sub>2</sub>. These fluorine-based electrolyte polymers are developed and manufactured by combining AGC's fluorine materials and polymer material technologies (C, D); electrochemical technology (F); composite technology (G); and chemical process technology (L).

### Fluorine-based electrolyte polymers

Key materials for hydrogen energy utilization contributing to the realization of a sustainable global environment: Fluorine-based electrolyte polymers for water electrolysis and fuel cells

Application example: fuel cell vehicles



Electrolyte polymer solution



Features

- Highly durable fluoropolymer
- High-efficiency electrolyte
- Gas permeability control

### Core Technologies Supporting New Products

Material technologies	Functional design	Production technologies
<b>A</b> Glass materials	<b>E</b> Surface functional design	<b>I</b> Glass melting and forming processes
<b>B</b> Ceramic and inorganic materials	<b>F</b> Electrochemistry	<b>J</b> Glass fabrication and composite processes
<b>C</b> Organic and fluorine materials	<b>G</b> Composite of different materials	<b>K</b> Coating
<b>D</b> Polymer materials	<b>H</b> Circuit and antenna design	<b>L</b> Chemical process
		<b>M</b> Resin molding
		<b>N</b> Pharmaceutical drug substance manufacturing
		<b>O</b> Bioprocessing

FORBLUE™ family: Solutions for separating various chemicals ([agc-chemicals.com](https://www.agc-chemicals.com))

# Technology and Innovation

## Technology Development Strategies and Key Measures

The AGC Group will continuously generate innovations that will shape the next 50 or 100 years to realize a sustainable society. To achieve this goal, we will steadily implement three key measures: *contributing to the acceleration of CX through ambidextrous development*, *enhancing competitiveness by accelerating DX*, and *promoting sustainability management*, and aim to achieve results.

### 1. Contributing to the acceleration of corporate transformation (CX) through ambidextrous development

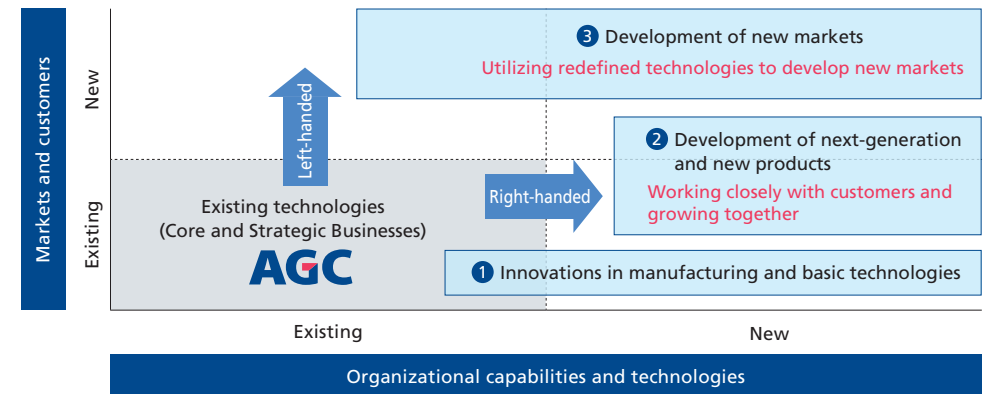
In the Technology General Division, through ambidextrous development that incorporates the concept of organizational ambidexterity into our technology strategy,

- We will advance the reliable launch of businesses and stable production through the deepening and expansion of basic technologies and production systems
- We will continue exploration of new strategic business areas by pursuing unique materials and solutions
- We will improve the quality and quantity of output through focused development activities.

“Right-handed” development refers to (1) the innovation of existing production technologies and basic technologies, and (2) the development of next-generation and new products new products together with our customers. We aim to improve the essential competitiveness of our existing businesses through (1) and to evolve and expand our Core and Strategic Businesses through (2).

“Left-handed” development, by contrast, refers to (3) redefining existing capabilities (current production and basic technologies) and pioneering new markets. This is an approach that anticipates future major changes and creates new businesses, and accelerates business portfolio shifts by creating new businesses in Strategic Business areas such as Mobility, Electronics, Life Science, and Performance Chemicals. To this end, the Technology General Division, in addition to deriving technology roadmaps from macro trends, identifies and organizes promising products and themes based on market potential, social issues, and suitability to AGC. This process defines the key areas of technology development and the focus target themes, which are regularly reviewed to advance development.

In development, we have replaced the traditional stage-gate method with the hypothesis-oriented planning method (DDP: Discovery-Driven Planning) to strengthen the management of the development theme portfolio and determine “what to discontinue, what to continue and strengthen, and what to start anew.”



### 2. Enhancing competitiveness by accelerating DX

Under the companywide strategy “Promotion of value creation DX” in the new medium-term management plan **AGC plus-2026**,

- the Technology General Division is proactively adopting advanced technologies related to DX, including generative AI. By leveraging data and digital technologies, we are pursuing the transformation of everything (products, operations, development processes, etc.).
- Through the promotion of DX, we will strengthen and expand our basic technologies, such as materials and process technologies, design and evaluation technologies, and production technologies.
- To reinforce our manufacturing and business platform, we will promote stable production and quality improvement, enhance maintenance capabilities, and further improve our safety, environment, and quality systems, which are key to our business competitiveness.
- We will promote an aggressive intellectual property strategy and standardization strategy to support our business.

### 3. Promoting sustainability management

Under the companywide strategy for promoting sustainability management,

- the Technology General Division aims to create a dynamic organization that continuously generates innovation. We are committed to ensuring the implementation of DE&I and promoting smart work.
- We support individual growth and provide opportunities for success. Specifically, we are promoting the utilization of the 10% challenge quota and opportunities for training and growth as engineers, such as participating in academic activities.
- In the development of sustainability-related technologies, we are strengthening the development of GHG/environmental response technologies and deepening our efforts in energy-saving and recycling technologies.

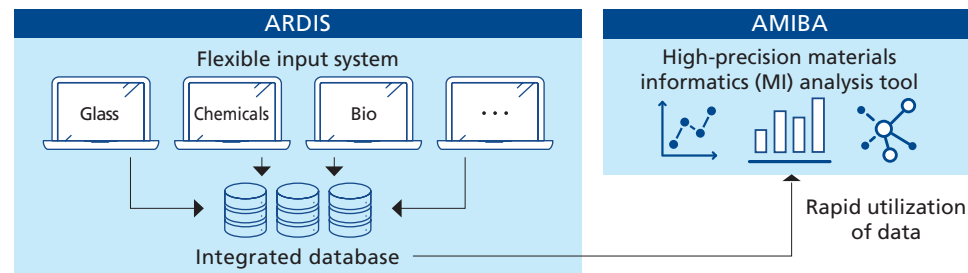
# Technology and Innovation

## Enhancing Competitiveness by Accelerating DX

### Development of proprietary MI database and analysis tools

There is intense interest in materials informatics (MI), which can dramatically improve the efficiency of materials development through the application of computational and data science to the development of new materials and compositions. AGC was one of the first manufacturers to introduce MI, which it has used to develop new types of glass, the environment-friendly fluorinated solvent AMOLEAT<sup>TM</sup>, and various other products. However, it has been difficult to make extensive use of MI in wide-ranging fields because of various issues, including the lack of standardized storage formats for experimental data. AGC addressed the need for an integrated experimental data storage platform, which we saw as essential infrastructure for the use of MI, by developing MI database systems, including the AGC R&D Data Input & Storage (ARDIS) system, which incorporates an electronic laboratory notebook function for use in development activities, and the AGC Materials Informatics Basis Analysis Tool (AMIBA). This work is steadily opening the way for the development of materials by linking MI with experiments and theoretical computation through the use of software developed in-house to support computational science, including quantum calculations and molecular simulations.

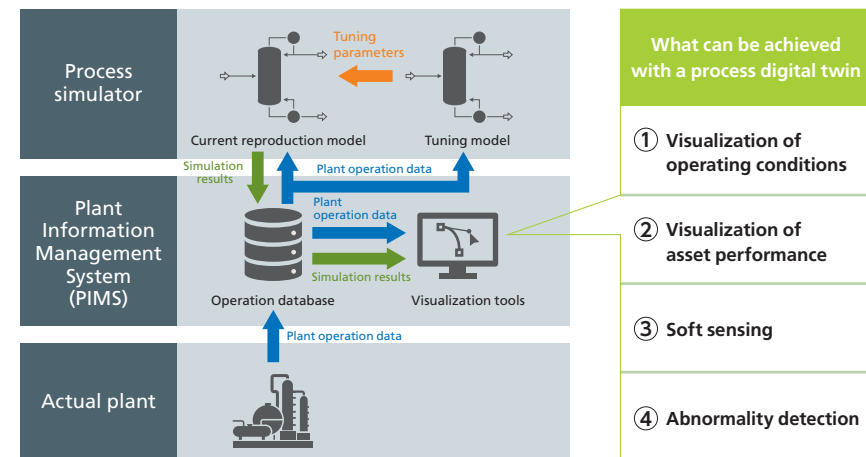
AGC is creating the basis for an integrated development environment encompassing all stages from data entry to data analysis in order to support development activities in fields ranging from glass and chemicals to biotechnology. This environment is enhancing our understanding of phenomena and properties at all development stages, which promises to increase the efficiency of our R&D activities.



### We developed a process digital twin for chemical plants and commenced its operation at a VCM (vinyl chloride monomer) manufacturing plant in Indonesia

A process digital twin is a technology that reproduces the current state of a plant in a virtual space by importing operation data of an actual plant into a process simulator in real time via Plant Information Management System (PIMS) and instantly performing high-speed calculations. By utilizing this system, data that could not be obtained or referred in real time can be estimated in the simulator to visualize operating conditions and asset performance. It is also expected to contribute significantly to stable plant operations by enabling instantaneous situational awareness and data-based decision making.

#### Process digital twin configuration



### Example of sustainability management: Success in Demonstration Test of Glass Production Using Hydrogen as Fuel

We have succeeded in a demonstration test of glass production using hydrogen as fuel at the electronics float glass manufacturing facility of the Kansai Plant, Takasago Factory (Takasago City, Hyogo Prefecture). This is the first time the AGC Group has conducted tests using hydrogen in an actual production furnace.

This test was conducted with the support of Air Liquide Japan G.K. (Chairman and CEO: Ilyong Park, Headquarters: Minato-ku, Tokyo) by implementing its hydrogen combustion burner to an existing conventional combustion process with oxygen using natural gas as fuel. We verified technical issues such as glass quality, the impact on furnace materials, flame temperature, furnace temperature, and nitrogen oxide (NOx) emissions. The results showed that we were able to maintain the appropriate temperature in the glass melting furnace while keeping the NOx concentration in the exhaust gas at the same level as in 100% natural gas.

Aiming for full-scale deployment, we will conduct scaled-up tests of the combustion capacity and consider demonstration tests at the AGC Group's global sites to determine the scope of application of hydrogen combustion technology.



The glass melting furnace used in this demonstration test



Hydrogen fuel storage tanks



# Technology and Innovation

## Intellectual Property Strategy

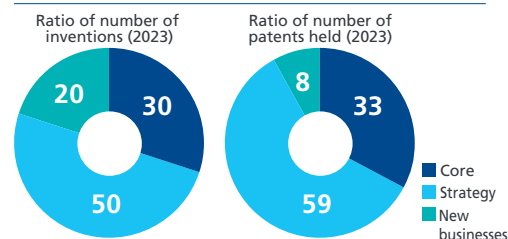
The AGC Group protects the results of its technological developments as intellectual property, and acquires intellectual property rights and conducts standardization activities to contribute to its business. We also aim to contribute to improving the success rate of businesses by analyzing intellectual property and non-intellectual property information, including the utilization of such information in technology development through Discovery-Driven Planning method. Furthermore, we are actively engaged in intellectual property activities to increase our competitive advantage over competitors. These efforts are an important strategy to strengthen our business and maximize the value of our intellectual property.

### Business portfolio transformation and intellectual property strategy

Under the strategy of ambidextrous development, the AGC Group has been strategically allocating finite development resources for the transformation of its business portfolio. Throughout the past two medium-term management plan periods, we have moderately increased total R&D expenditures in line with the scale of our business, while also increasing the ratio of development expenses aimed at creating and strengthening our Strategic Businesses. In the new medium-term plan **AGC plus-2026**, we will continue to promote the development of Strategic Businesses. Meanwhile, for our Core Businesses, which underpin our profit base, we have continued to reduce GHG emissions, recycle, and develop energy-saving technologies and products in order to promote sustainability management. Under the supervision of the chief technology officer (CTO), the Intellectual Property Division closely coordinates with the Technology General Division to build a strategic intellectual property portfolio that, from a Companywide perspective, facilitates ambidextrous development. While continuing to expand the IP portfolio of our Core Businesses, we have also focused in recent years on strengthening the IP portfolio of our Strategic Businesses as well as new businesses. For our Strategic Businesses and new businesses, in addition to the technology areas that we have been developing for some time, we have recently been strengthening our intellectual property portfolio in new technology areas such as high-speed communications and next-generation batteries (see the figure on the right, "Changes in the AGC Group's intellectual property portfolio over the past decade").

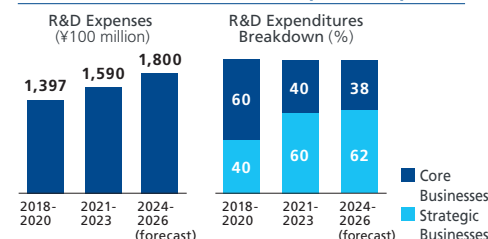
Under the new medium-term management plan **AGC plus-2026**, the AGC Group is accelerating its business portfolio transformation by focusing on pursuing unique materials and solutions. Intellectual property strategy plays an important role in this transformation. We are working to establish competitive advantage and increase the rate of business success through our intellectual property strategy hand-in-hand with technology development.

### Ratio of Inventions and Patents Held



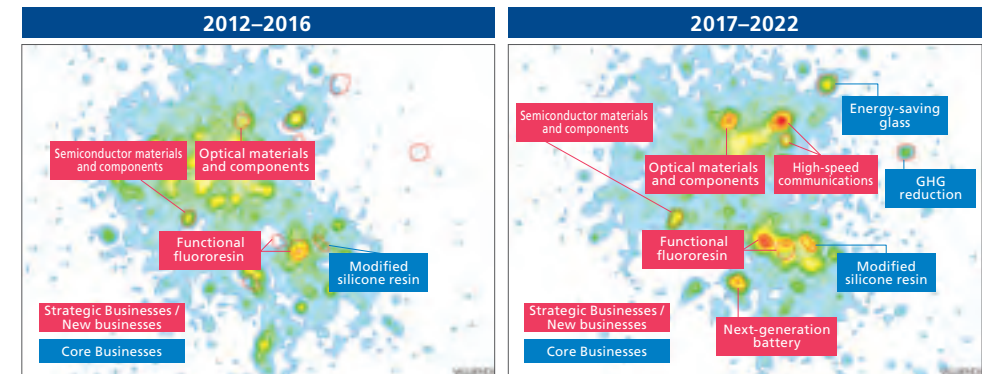
\*The figures for 2018–2020 were calculated based on the definitions of Core and Strategy in the previous medium-term management plan, and the figures for 2021–2023 and 2024–2026 (forecast) were calculated based on the definitions of Core and Strategy in the new medium-term management plan.

### Trends in Research and Development Expenses



## Changes in the AGC Group's intellectual property portfolio over the past decade

(Time series changes in technology areas visualized through text mining)



\*AGC's published patents (based on the date of priority claim: applications filed between 2012 and 2022) were compiled using "VALUENEX Radar" (provided by VALUENEX Japan Inc.). Since there are many unpublished patents from 2023 onward, they are not included.

\*In order to confirm the time series changes, the data was divided into two periods, the early and late periods, for comparison. The figure on the left shows the applications for the first period (2012–2016), and the figure on the right shows the applications for the second period (2017–2022). In the figure on the left, the technical details are described only in areas where the formation of islands has already been confirmed.

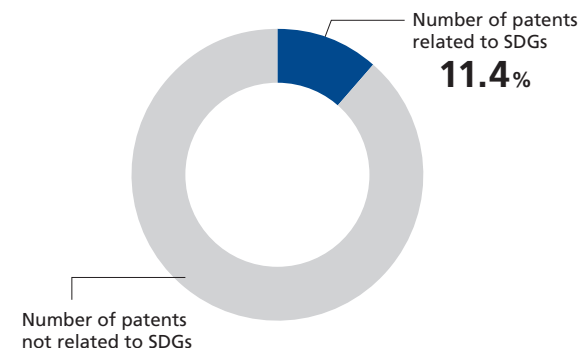
## Intellectual property activities under sustainability management

The AGC Group is developing products that contribute to a low-carbon society and the reduction of environmental impact. As of December 31, 2023, the number of patents held by AGC that are related to such products and which are classified under Sustainable Development Goals (SDGs) associated with contributions to a low-carbon society (SDGs 7, 12, and 13) has increased from the previous year to 643 patents\*<sup>1</sup>. These patents account for approximately 11% of all patents\*<sup>2</sup> held by AGC.

\*1 The classification of patents by SDG target was conducted using PatentSight®, a patent analysis tool provided by LexisNexis®.

\*2 This refers to patents (patent families) that have been registered or are in the process of being registered.

### Percentage of Patents Contributing to SDGs



# Technology and Innovation

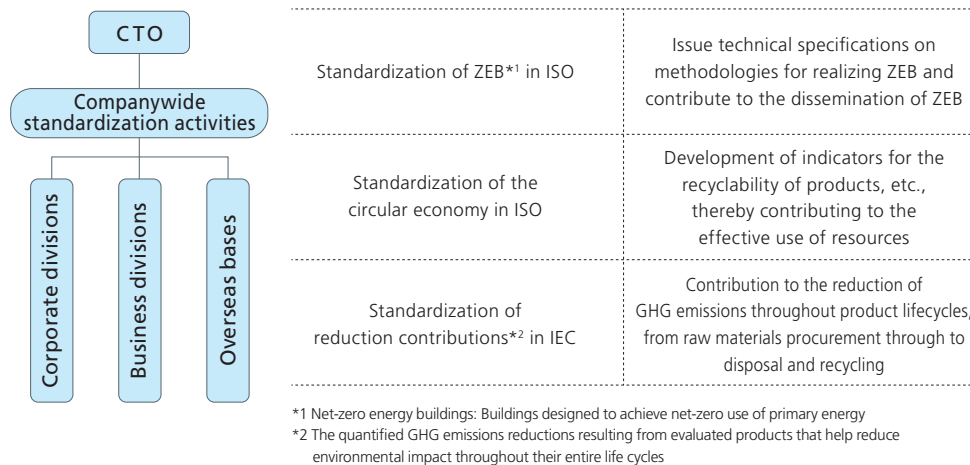
## Initiative to formulate rules

The AGC Group is also actively promoting standardization and other rule-making initiatives. To create new societies and markets, the CTO oversees the company's standardization strategy activities, promoting standardization activities across corporate divisions, business divisions, and overseas locations, as well as implementing standardization training for human resource development. A dedicated standardization department within the corporate division serves a companywide cross-sectional function to support activities in each division. The CTO also chairs the companywide standardization strategy meetings, which consist of representatives from various divisions and overseas locations, promoting the planning and execution of strategic activities that contribute to the creation of next-generation societies and the establishment of competitive advantage.

For example, in the ISO (International Organization for Standardization) led rule formation, we have taken the lead in the standardization of ZEB and are using its technical specifications to promote ZEB dissemination activities, primarily targeting emerging countries in Asia. In IEC (International Electrotechnical Commission), we have led the standardization of methods for evaluating the strength of smartphone cover glass, contributing to healthy market growth and the proper evaluation of AGC's products.

Furthermore, we are actively participating in the standardization efforts for circular economy and biodiversity within ISO, and for reduction contributions and fuel cells within IEC. We are also engaged in the standardization of BIPV (Building-Integrated Photovoltaics), which is being developed by both ISO and IEC.

## Standardization Activities and Examples



## Award system for inventors

AGC emphasizes employee training on patent applications, patent searches, and other aspects of intellectual property rights, and has introduced the Award System for Inventors to incentivize researchers to work on inventions that influence the industry and result in the granting of patents. Inventors receive awards when patent applications are filed and when patents are registered. The award paid upon registration of a patent is determined by AGC using original criteria, including the novelty and originality of the invention and its impact in terms of the Company's lead over competitors.

The current system was introduced in 2018. Compared with the previous system—in which most of the awards were paid to a small minority of inventors of technologies relating to highly profitable products—the current system has significantly extended the scope of awards, increased the percentage of inventors who receive awards, and shortened lead times from creating an invention until the award is paid.

## External awards received

In 2024, for the second consecutive year, we were selected as one of the "100 Innovative Companies Leading the Future of Science and Technology Worldwide" in the "Innovation Momentum 2024: The Global Top 100" report, published by LexisNexis Intellectual Property Solutions (headquartered in the U.S.), which provides patent information analysis services offering strategic insights based on patent data from around the world. This selection is considered to be in recognition of the evolution of AGC's intellectual property portfolio that influences the industry through the reform of the Award System for Inventors.

"Innovation Momentum 2024: The Global Top 100" uses the proprietary indicators of LexisNexis® PatentSight+ to evaluate the competitiveness of companies based on the value of the patents they hold and the strength of their momentum in changing their intellectual property portfolios over the past two years. The top 100 companies are selected from across all industries around the world.



Selected as one of the "100 Innovative Companies Leading the Future of Science and Technology Worldwide"

# Architectural Glass Business



Float glass

Building Integrated  
Photovoltaics (BIPV)

Glass antenna

## Business Overview

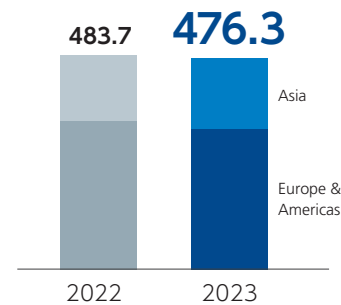
In 1909, AGC became the first Japanese company to successfully produce flat glass domestically, and today we hold the top share in the world market. Since the Group's founding, we have developed the Architectural Glass Business as a stable earnings source. We are also pushing forward with new businesses such as further enhancement of glass functionality and environmental friendly. For example, in the glass market for residences, buildings, and industrial use, in addition to float glass, we are developing high-performance glass products such as double-glazing glass with heat shielding and insulation properties and laminated glass with excellent disaster and crime prevention performance.

### Main Products

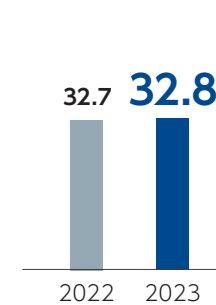
Float glass, laminated glass, double-glazing glass, Low-E glass, tempered glass, heat-resistant tempered glass, mirrors, colored glass, figured glass, wired glass

## Fiscal 2023 Performance

Net sales  
(Billions of yen)



Operating profit  
(Billions of yen)



## Business Environment

### Architectural Glass Europe & Americas Business Opportunities

- Growth in demand for environmental-friendly products with improved energy efficiency and other benefits
- Strong trends of renovation of existing building supported by evolution of legislation especially in Europe
- Growing population and development of society in South America

### Strengths

- A powerful brand that customers associate with advanced performance, quality, and reliability
- The industry's most extensive product lineup, stretching from commodity products through to leading-edge high-value-added products
- An integrated value chain
- Comprehensive glass technology-related capabilities as a leading global company

## Architectural Glass Asia Pacific Business Opportunities

### Opportunities

- Growing demand for environment-friendly products, such as products that improve energy efficiency and Building Integrated Photovoltaics (BIPV) products
- Technological differentiation through innovation in manufacturing technologies
- Window openings in buildings becoming a potential platform to serve a more sophisticated society's infrastructure by such solutions as glass antennas
- Permeation of high-value-added products and growing Asian markets such as Thailand and Indonesia, as well as Oceania

### Risks

- Addressing climate change (reduction of GHG emissions from float glass furnaces, among others.)
- Emergence of fierce competition as a result of oversupply in the region

## Strengths

- Product and process development capabilities for high-performance glass, as represented by world-leading energy-saving glass
- Diverse manufacturing capabilities, from float glass to various coating and processing technologies
- Ability to offer value to customers
- Robust supply chain underpinned by trust fostered over many years
- Diverse human resources, who support the above mentioned strengths, as well as our global network

# Architectural Glass Business

## President of Architectural Glass Europe & Americas Company Davide Cappellino



We at AGC Architectural Glass in Europe and Americas (AGEA) take pride in conducting business that reflects AGC's overall mission statement: AGC, an Everyday Essential Part of Our World. In line with this statement, we contribute to the Group's long-term cash generation and are leading the transition to a sustainable glass industry.

### Strengths of the Company

As AGC's Core Business, we boast a powerful brand that customers associate with advanced performance, quality, and reliability and the industry's most extensive product range, stretching from commodity products to leading-edge high-value-added products. Another distinctive strength is our integrated value chain. Our operations range from producing primary glass in the upstream to our extensive downstream network of distribution points, which is indicative of our broad glass technology-related capabilities as a leading global company.

### Review of the Previous Medium-Term Management Plan

During the **AGC plus-2023** period, our European operations were impacted by unexpected market conditions. The conflict in Ukraine led to our decision in early 2023 to withdraw from a leading position in Russia. For an energy-intensive, natural gas-reliant industry, the European energy crisis, consequence of the conflict, was particularly challenging. Pressures to reduce CO<sub>2</sub> emissions via reviewed carbon and soaring energy costs led to a significant increase in production costs, which we successfully passed on to the market. Inflation peaked in Europe, reaching its highest level in more than 30 years. As a consequence, interest rate hiked. These caused instability in glass consumption, that historically focus on new construction investment. A decrease in new projects led to lower AGEA sales. Nevertheless, having rapidly adjusted capacity to suit these

conditions, AGEA's financial results in Europe were in line with **AGC plus-2023** targets. In contrast, the Group's business across South America enjoyed positive conditions supported by economic and population growth, post-COVID demand, and full-capacity operations.

### Priority Targets and Measures of the New Medium-Term Management Plan

AGEA is committed to cash generation for future investments and to contribute to the Group's long-term growth. The energy crisis in Europe has pushed governments to accelerate the adoption of energy saving legislation and thus made funds available for energy saving renovation programs. Glass has an important role to play here and the policy consequently will help demand to grow. In Europe, we will capture this anticipated growth in renovation demand by strengthening downstream operations. Building on the region's economic and population growth, we will further expand volume in South America. As far as sustainability is concerned, the European governments are putting pressure on energy-intensive companies in order to reduce CO<sub>2</sub> emissions. As a major player with access to wide-ranging technologies and a history of game changing research, AGEA will continue to play a leading role here. Breaking with tradition and leading the transition to a sustainable glass industry, we are already developing sustainable, low-emission glass production technologies and promoting digitization. As an example, we will commence pilot operations at the world's first large-scale hybrid glass production\* facility before the end of 2024.

\* A flat glass production fired by using a combination of fossil fuels and electricity.

### Toward Medium- and Long-Term Growth of AGC

We are increasingly defining ourselves as a leading player in terms of sustainability-related aspects. On the one hand these represent challenges, but on the other, offer opportunities to transform technologies into sustainable and sizeable new businesses. AGEA will continue its focus on glass while helping AGC moving into next-generation businesses that best fit the future of AGC. Society's greater utilization of glass is a promising indicator for AGEA's future. Glass is a very old material with a very bright future. All of us at AGEA will continue to take pride in engaging in and contributing to the new opportunities that will fuel AGC's growth.

## Review of Medium-Term Management Plan **AGC plus-2023**

### Results

- Structural reform of architectural glass business successfully implemented. Business operations in North America and Russia were transferred to external buyers, as well as share in Soda Ash production JV. We focus on core businesses and markets
- Thanks to such structural reforms, ROCE of architectural glass business improved from mid one digit percentage in 2019 to more than 10% in 2023
- Contributed well as one of core businesses in the AGC Group by generating cash
- Implementing actions that will contribute to reduce substantially GHG emissions, such as partial electrification of production furnaces, development of breakthrough low-carbon production technologies and increased use of recycled glass

### Tasks

- The adverse economical environment triggered by the unexpected hike of energy price in Europe

### The New Medium-Term Management Plan

- In Europe, capture the solid demand of Renovation Wave through the integration of value chain from upstream to downstream, while securing "resilience" against economic fluctuations
- In Europe, secure profitability by reducing GHG emissions to minimize carbon-related cost through the timely implementation of competitive sustainability actions/technologies
- In South America, keep high ROCE by executing our strength of "business excellence"
- Develop opportunities to grow our business and to improve ROCE further



# Architectural Glass Business

President of  
Architectural Glass  
Asia Pacific Company  
Shigeki Yoshiba



## Strengths of the Company

AGC boasts the world's highest level of technological capabilities in architectural glass, and develops high-performance, high-value-added products. Our strength lies in the fact that we cover the entire supply chain in each region and maintain leadership positions in each field. We are also working to develop energy-saving products and technologies that lead to GHG emissions reduction.

## Review of the Previous Medium-Term Management Plan

In Japan, one of our significant achievements was the stabilization of the revenue structure in response to the market environment. We were also able to steadily pass on to sales prices in response to soaring raw material and fuel costs, improving profitability. This was also a period in which we made progress in the development and sales expansion of new products, such as glass antennas for 5G, and high-value-added products, such as Building Integrated Photovoltaics (BIPV). The Japanese government's initiative to promote energy-saving renovations of existing residences has also provided a tailwind, and demand for energy-saving glass that can be retrofitted to existing windows has skyrocketed. This fiscal year, the government has decided to continue a similar initiative and we will accurately respond to the increase in demand. In Asia, we were able to effectively capture market growth and achieve the anticipated profitability. Architectural Glass Asia Pacific Company achieved a ROCE of more than 10% during the previous medium-term management plan.

We believe that the search for new business opportunities in the Japanese market will be the next major challenge. Meanwhile, in the growing Asian market, there is still room for expanding sales of high-value-added products that contribute to energy conservation, which is a strategic priority.

Common challenges are the development and introduction of CO<sub>2</sub>

reduction technologies. This is not something that can be achieved overnight, so we will continue to update the roadmap as we move forward.

## Priority Targets and Measures of the New Medium-Term Management Plan

Now that we have seen the results of the strategies we pursued under the previous medium-term management plan, our first priority is to maintain this positive momentum. In Japan, we will maintain and strengthen a stable earnings structure and further expand sales of energy-saving products. We will also expand new businesses and new products. In Asia, we will strengthen our supply chain to demonstrate leadership in the market, and by expanding sales of high-performance products and energy-saving products, we will solidify our earnings structure.

We will also accelerate the development of technologies to reduce GHG emissions. Glass material recycling is an important initiative that contributes to resource recycling and CO<sub>2</sub> reduction. I believe that we need to take the initiative in establishing venous logistics throughout the industry and creating quality standards for glass collection.

## Toward Medium- and Long-Term Growth of AGC

As a core business, we expect to steadily overcome strategic challenges and generate stable earnings. I hope to continue contributing to the growth of the AGC Group and the creation of social value. Regardless of changes in the business environment, we will consistently generate stable earnings and cash, allowing for the creation of both economic and social value. I believe that our business has a very important role to play.

Asia is a market that is expected to grow in the medium to long term, but competitors are anticipated to enter the market. The challenge will be to maintain and expand our presence in the market by leveraging our strengths in product development, high-value-added products, robust supply chain, and market leadership. In large cities such as Bangkok and Jakarta, environmental performance is now required for high-rise buildings, and demand growth is expected in high-added-value products, such as energy-saving and energy-generating products. How to win in Asia, which is a growing market, will be crucial for business growth. We are confident that we will be competitive and will steadily proceed with efforts to achieve this.

## Review of Medium-Term Management Plan *AGC plus-2023*

### Results

- Price optimization and maintenance in response to price hike in raw materials and fuels
- Progress in structural reforms and improvement of supply-demand balance in Japan
- Significant improvement in profitability (achieved companywide ROCE target of 10% or more)
- Improvement in efficiency of operations involving the supply chain through DX
- Promotion of new businesses such as display-integrated mirrors and the expansion of high-value-added products (products that contribute to GHG emissions reduction)
- Formulation of GHG emissions reduction roadmap to achieve long-term targets and start initiatives

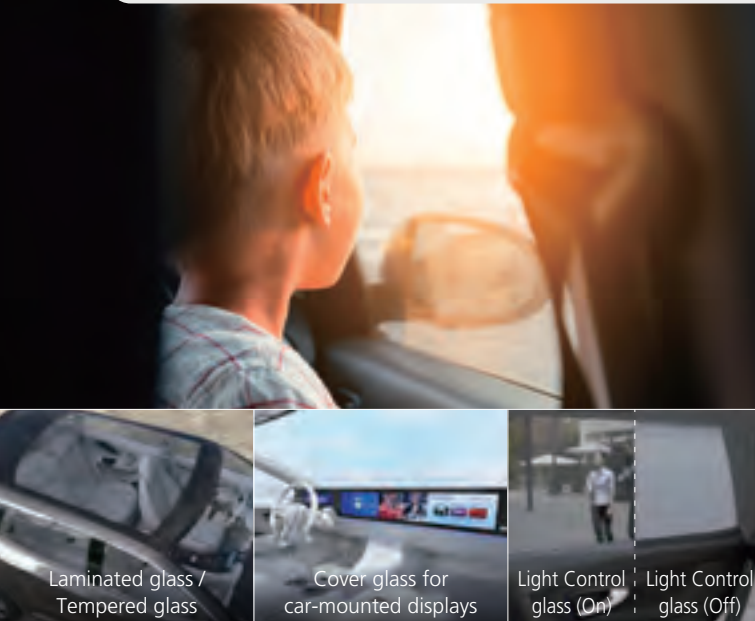
### Tasks

- Shifting to further high-value-added products
- Promoting certain new businesses that have been delayed of launch
- Improving supply-demand balance in Southeast Asia
- Utilizing diverse human resources
- Further strengthening DX utilization

## The New Medium-Term Management Plan

- Strengthening the business foundation by optimizing the supply-demand balance and maintaining appropriate prices in the region, and generating stable cash
- Establishing a competitive advantage over new entrants in Southeast Asia by promoting non-price competition measures
- Further promoting high-value-added products and new businesses to increase the top line
- Creating social value by strengthening products and technologies that lead to GHG emissions reduction
- Aiming to reform business processes throughout the entire supply chain by promoting DX

# Automotive Business



Laminated glass /  
Tempered glass

Cover glass for  
car-mounted displays

Light Control  
glass (On)

Light Control  
glass (Off)

## Business Overview

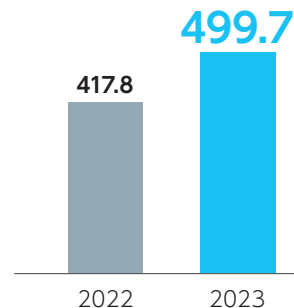
We have achieved a leading share of the global market for automotive glass by providing high-quality products, services, and solutions to global automotive manufacturers. The Automotive glass business, which is a Core business, we produce and sell laminated glass, tempered glass and high-value-added products in more than 15 countries around the world. Additionally, in the Mobility business, which is a Strategic business, we are leading the industry in advanced coating and glass processing technologies, mainly in cover glass for car-mounted displays, and we intend to further expand sales in the future.

### Main Products

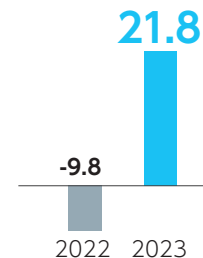
Laminated glass, tempered glass, 99% UV cut glass, infra-red cut glass, Low-e glass, high insulating glass, light control glass, privacy glass, acoustic glass, lightweight glazing, water repellent door glass, snow- and ice-melting windshield glass, defogging glass, glass antennas, glass for head-up displays, encapsulated window, cover glass for car-mounted displays, cover glass for LiDAR, cover glass for pillars

## Fiscal 2023 Performance

Net sales  
(Billions of yen)



Operating profit  
(Billions of yen)



## Business Environment

### Opportunities

- Business opportunities and the expansion of high-functional material needs arising from market changes represented by the CASE\* trend
- Greater demand for high-speed communications and sensing technologies that enable autonomous driving
- Expansion of the use of materials that contribute to the automotive electrification
- Rising demand for comfortable vehicle interiors and for larger and more sophisticated car-mounted touch-panel displays

\*Connected, Autonomous, Shared & Service (car sharing and services), Electric (electric vehicles)

### Risks

- Increase in use of alternative technologies and materials to reduce the burden on the environment, such as GHG emissions
- Decline in automotive production and sales due to the uncertainty of the global economic outlook etc.

## Strengths

- Strong relationships of trust built with many industry-leading global OEMs and various collaborative partners across different fields
- A global network that can provide high-quality products and services with major manufacturing bases in more than 15 countries
- World-class glass production technologies including coating and processing
- The AGC Group's technology development and comprehensive capabilities, which integrate glass, chemicals and electronics
- Synergies from having both the Core Automotive glass business and the Strategic Mobility business

## Review of Medium-Term Management Plan *AGC plus-2023*

### Results

- In the Core Automotive glass business, profitability improved due to a review of pricing policy and improvement of cost competitiveness
- Progress is being made in the optimization of production capacity through structural improvements, mainly in Europe and the United States
- In the Strategic business, cover glass for car-mounted displays, mass production started at a new facility in China. Productivity also improved in Japan

### Tasks

- Strengthen marketing, manufacturing, sales, and development initiatives to expand high-functional, high-value-added products, which is a medium- to long-term challenge
- Appropriately grasp market changes in the fields of displays, sensors, and antennas in the Mobility business, also search for and create business opportunities

# Automotive Business

## The New Medium-Term Management Plan

- In the Core businesses, strengthen cost competitiveness and profitability, including structural improvements, while continuing our pricing policy and accelerating efforts to expand sales of high-functional, high-value-added products
- In the cover glass for car-mounted displays, expand our business to meet demand for complex shapes, larger areas, and higher functionality, and strengthen our earnings base
- In the Mobility business, promote the commercialization of next-generation products that meet the needs of the CASE era, such as sensors and connected products that will be necessary for autonomous driving
- Company-wide, steadily promote the transformation from volume to value
- Accelerate and promote business innovation and the creation of new business opportunities by incorporating digital technology and sustainability initiatives into all areas of our business
- Promote DE&I (diversity, equity & inclusion) and utilize it for business growth

President of the  
Automotive Company  
Yoshio Takegawa



## Strengths of the Company

There are four main strengths, the first of which is our market-leading customer base. We have built unshakable relationships of trust with many customers and partners that do business globally. Through these relationships, we are able to explore business opportunities in CASE and the shift to EV. Second is our global production, sales and development system. With sites in over 15 countries around the world, our strength is the ability to provide high-quality products and services anywhere. Third is

the AGC Group's comprehensive technological capabilities. New products are created by combining a wide range of material technologies, functional design capabilities, and production technologies. Fourth is a competitive advantage through synergies between our Core business of Automotive glass and our Strategic business of Mobility.

## Review of the Previous Medium-Term Management Plan

In addition to the COVID-19 pandemic, the business environment over the past three years has been extremely challenging, with a decline in automotive production due to parts supply shortages, the Ukraine crisis, rising raw material and fuel prices, and inflation. In order to revitalize our Core business of Automotive glass as a sustainable business, we have begun to review our pricing policy, improve our supply chain structure, and increase functionality and added value. The review of the pricing policy has achieved positive outcomes. Last year, we significantly improved our profitability through various measures including cost improvements, productivity enhancements, and the introduction of high-efficiency production equipment for competitiveness. There was also a global recovery in automotive production volumes. With regard to structural improvements, progress has been made in optimizing production capacity in Europe, and the effects are expected to appear from this year. In the Strategic Mobility business, mass production of cover glass for car-mounted displays began at a new site in China. Productivity is steadily improving at our sites in Japan.

To expand high-functional and high-value-added products, which is a medium- to long-term challenge, we will strengthen initiatives in each division of manufacturing, sales, and development. In the Mobility business, we are focusing on areas such as sensors that will be required for autonomous driving. The key is how to grasp market trends and lead them into profits.

## Priority Targets and Measures of the New Medium-Term Management Plan

While automotive demand is expanding in some regions, such as the global south, it is already on a downward trend in developed countries, and the new medium-term management plan does not anticipate a further increase in automotive production. For this reason, we are shifting our business operations away from dependence on sales volume toward an emphasis on increase of added value. In the Core business, we will focus on strengthening profitability by introducing high-efficiency

equipment to improve productivity and reduce costs. We will continue the pricing policy we are already implementing and accelerate the expansion of sales of high-functional, high-added-value products, thereby promoting the transformation from volume to value and improving profitability and asset efficiency as a sustainable business.

We will expand our business in cover glass for car-mounted displays, which is our current main product in Mobility, to respond to demand for more complex shapes, larger areas, and higher functionality. We will also work on the commercialization of next-generation products compatible with CASE, such as sensors that will enable autonomous driving and connected products. We also plan to focus on creating products that contribute to the improvement of safety and creating synergies by combining Automotive glass business with products from the Mobility business.

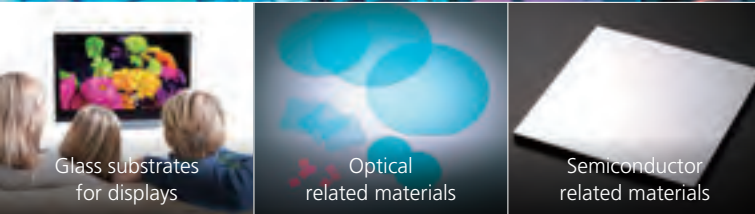
We are also promoting sustainability initiatives. To improve carbon efficiency, we are working to reduce GHG emissions in the glass melting and processing. We will also continue to develop and deploy products that contribute to the reduction of GHG emissions during vehicle use, such as high-insulation glass that reduces the load on car air conditioners and thin glass that helps reduce vehicle body weight. We also contribute to comfortable cabin spaces and improved safety through products such as light control glass and automotive sensing radar components.

In addition, in response to market changes such as CASE and GHG emissions reduction, we aim to achieve business transformation by promoting DX. For example, digital technology can be used to speed up design and prototyping. The use of digital technology is also achieving positive outcomes in cost reduction and supply chain optimization.

## Toward Medium- and Long-Term Growth of AGC

The Company's goal is to transform from volume to value. To this end, it is important to steadily implement the transition to high-functional, high-value-added products. The 2023 performance of the Company is only one steppingstone, and we must address the next challenges with a clear vision and sense of urgency toward our medium- to long-term goals. Looking to the future, we will continue to reform by changing what needs to be changed and preserving what needs to be preserved.

# Electronics Business



## Business Overview

### Display Business

#### ■ Glass substrates for displays

The Display Business has the second-largest shares\* of the global markets for glass substrates for thin-film-transistor (TFT) liquid crystal displays (LCDs) and glass substrates for organic light-emitting diode (OLED) displays. We are further heightening our global competitiveness by using proprietary manufacturing methods and advanced production technologies. At the same time, we are focusing on the development of next-generation display devices.

##### Main Products

Glass substrates for TFT LCDs and OLEDs

\*AGC estimation based on sales

#### ■ Specialty glass for displays

Utilizing the distinctive thinness, lightness, and strength of specialty glass, we are constantly adding to our product lineup, which includes cover glass for smartphones, tablet computers, and other electronic devices as well as glass substrates for touch-panel displays.

##### Main Products

Specialty glass for chemical strengthening, high quality soda-lime glass

### Electronic Materials Business

#### ■ Optical related materials

We are expanding our business primarily in optoelectronic materials for new devices such as infrared ray-absorbing glass filters for smartphone cameras, and for LiDAR, AR/VR applications.

##### Main Products

High refractive index glass substrates, diffractive optical elements and glass diffusers, glass ceramic substrates, optical planar devices, infrared ray-absorbing glass filters, aspherical glass lenses, and microlens arrays

#### ■ Semiconductor related materials

Primarily manufacturing semiconductor-related products, this business offers synthetic fused silica glass, which has established a leading market share; extreme ultraviolet (EUV) lithography photomask blanks; high-purity silicon carbide (SiC) jigs; and chemical mechanical polishing (CMP) slurries.

##### Main Products

Synthetic fused silica glass, silicon carbide (SiC), CMP slurries, EUV lithography photomask blanks, glass substrates for semiconductor packages, glass frit, glass pastes, and low-temperature hermetic sealing parts

#### ■ Printed circuit board materials

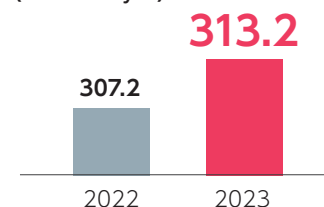
We are developing our business focusing on printed circuit board materials for high-performance applications such as advanced driver-assistance systems and 5G.

##### Main Products

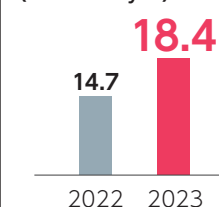
Copper-clad laminates and industrial polytetrafluoroethylene (PTFE) composite derivatives

### Fiscal 2023 Performance

Net sales  
(Billions of yen)



Operating profit  
(Billions of yen)



### Business Environment

#### Opportunities

- Rise in demand for infrastructure-related products indispensable for a data-driven society enabled by big data
- Growth in demand for products essential for the safety, security, and comfort of autonomous driving-based mobility
- Growing demand for related materials that contribute to the further evolution of semiconductors

#### Risks

- Measures to reduce GHG emissions
- Market trends in the electronics industry, which is undergoing rapid market changes

#### Strengths

- Marketing capabilities and ability to offer customers solutions that include technical support
- Technology development capabilities resulting from the establishment of an integrated system that enables us to handle everything from material design to material production and processing in-house
- Production technology for the efficient manufacturing of differentiated materials
- Ability to develop businesses globally
- Competitive products realized through our proprietary glass manufacturing methods and development capabilities

### Review of Medium-Term Management Plan **AGC plus-2023**

#### Results

##### Display Business

- In the area of glass substrates for displays, promote business restructuring to focus on glass substrates for large panel displays, withdraw from low-profit sizes, and discontinue production at the Takasago Plant
- Implement a review of pricing policy
- Further strengthen relationships with leading Chinese customers



# Electronics Business

## Review of Medium-Term Management Plan **AGC plus-2023**

### Results

#### Electronic Materials Business

- Expand production capacity and increase orders for EUV lithography photomask blanks
- Infrared ray-absorbing glass filters for cameras are designed to accommodate the increasing number of lenses and enhanced functionality in smartphone cameras, as well as the upscaling of camera sensors
- Consolidate the product lineup of optical components for LiDAR (lenses, diffractive optical elements (DOE), diffuser plates, optical filters, cover glass), etc.

### Tasks

#### Display Business

- Improve asset efficiency. Continue to promote the following three measures and aim to achieve a return on capital employed (ROCE) of 10% during the new medium-term plan period.
  - 1) Promote business restructuring to focus on glass substrates for large panel displays, 2) Strengthen competitiveness through technological innovation, and 3) Review pricing policy.

#### Electronic Materials Business

- Expansion of high-value-added products
- Improved profitability of printed circuit board materials

## The New Medium-Term Management Plan

#### Display Business (Core Business)

- Improve profitability and asset efficiency by restructuring our business, strengthening competitiveness through technological innovation, and revising pricing policy

#### Electronic Materials Business (Strategic Business)

- Expansion of high-value-added products such as EUV lithography photomask blanks
- Expansion of high-value-added products including both enhancements to device functionality and compatibility with new devices
- Continuous creation of new businesses, such as full-scale development of glass core substrates for next-generation semiconductor packages
- Improve productivity in the manufacturing process of printed circuit board materials, accelerate development of new products and increase orders

### President of Electronics Company Nobuyuki Suzuki



### Strengths of the Company

Our strengths lie in the material technologies for organic and inorganic materials that we have developed through our experience in glass, chemicals, and ceramics, in addition to our wide range of processing, design, and evaluation technologies, as well as in our proprietary glass manufacturing methods. Leveraging these capabilities, we possess a high competitive advantage in various products, including high-quality glass substrates for displays and cutting-edge semiconductor-related materials.

### Review of the Previous Medium-Term Management Plan

In the Display Business, demand for glass substrates for displays has been sluggish since 2021 due to a rebound in stay-at-home demand following the spread of COVID-19. In the long term, however, demand is expected to grow steadily as the size of TV screens increases. On the other hand, improving profitability is an urgent issue, and we have been promoting structural reforms such as switching to production facilities that are optimal for large-scale panel production and withdrawing from low-profit sizes. We also reviewed our pricing policy.

In the Electronic Materials Business, both semiconductor-related materials and optical-related materials grew significantly. In particular, for photomask blanks for EUV lithography, which are used in the manufacture of high-performance semiconductors, we have expanded production capacity to respond to the market expansion, while simultaneously advancing technology development for next-generation products. Orders for CMP slurries, one of our main products in semiconductor-related materials, are also increasing. In the field of optical components, our business has grown significantly due to the increase in the number of cameras on smartphones and the size of the sensors.

### Priority Targets and Measures of the New Medium-Term Management Plan

In the Display Business, improving profitability and asset efficiency are key issues. From 2024 onward as well, we will continue to promote structural reforms focused on glass substrates for large panels, review our pricing policy, and strengthen our competitiveness through technological innovation. Aiming to improve carbon efficiency and reduce GHG emissions, we will switch fuels from heavy oil to natural gas, change from air combustion to oxygen combustion systems, and introduce electrical boosters.

In the Electronic Materials Business, we will continue to increase our production capacity for semiconductor-related materials as the market is set to continue to grow in the future. Additionally, we will continue to stay at the forefront of trends and advance the development of next-generation products, leveraging our relationships with our customers, who are leading companies. Also, while our materials have traditionally centered on the front-end processes of semiconductor manufacturing, we believe there are abundant opportunities to utilize them in the back-end processes as well. To capitalize on these opportunities, we are intensifying our development of glass core substrates for next-generation semiconductor packages and actively pursuing market exploration. Currently, our core optical components are focused on smartphone-related materials. However, we are also dedicating efforts to growth areas such as LiDAR (Light Detection and Ranging) sensors essential for autonomous driving, and emerging technologies like AR (Augmented Reality) and VR (Virtual Reality), as well as next-generation high-speed communications and large-capacity data centers.

### Toward Medium- and Long-Term Growth of AGC

We place great importance on both new and existing businesses. We will grow new businesses through innovation and marketing, while we will grow our existing businesses through innovation and operational improvements. Innovation is required to develop new products that support next-generation semiconductors, AI, and autonomous driving. That is where human resources come in. At the Electronics Company, diversity is prioritized, and with the expansion of our business, there has been an increase in career hiring, creating a foundation where individuals with various characteristics can work together. To rapidly respond to changes in the business environment, we are committed to fostering a culture of openness, which ensures psychological safety, allows for co-creation across various fields, and promotes free and open sharing of ideas.

# Creating Social Value ①

The AGC Group will further refine the technologies it has cultivated to create both economic value and social value.

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

## Leveraging the unique properties of glass to support the evolution of semiconductors

With the evolution of technologies such as generative AI and the increase in the volume of data traffic, semiconductors are required to have even higher performance. The glass core substrate developed by AGC is expected to become a new generation of semiconductor packaging substrates.



Manager of Advanced Materials  
Business Development  
Department  
Electronic Materials General  
Division, Development Office  
Electronics Company

**Yoshiaki Takahashi**



- Leveraging the advantages of glass materials
- Advanced processing technology is also one of our strengths
- Expectations for market expansion

### Toward a new generation of semiconductor packages

The semiconductor package is responsible for supplying power to the IC chip, inputting and outputting signals, and protecting the IC chip. In the core substrate of a semiconductor package, resin materials are used; however, AGC is currently engaged in the development of glass core substrates instead, which are expected to become the next generation of semiconductor package substrates. Recently, with the rapid spread of generative AI, there is demand for even higher performance semiconductors, which in turn calls for innovation in semiconductor packaging substrates.

Compared to conventional resin substrates, a glass core substrate has a number of outstanding features. Due to its excellent rigidity, it can support many chips, and allows for the enlargement of substrates. It is smooth and highly stable, and accommodates fine and high-precision processing. Glass has other features including thermal and mechanical

shape stability, low electric loss, and insulation, and significant power savings are expected. Practical application will begin in the latter half of the 2020s, and it is said that semiconductor packages themselves will change based on this glass core substrate.

### Development that links both fields of materials and processing

AGC has been pioneering the development of glass core substrates for more than a decade. In addition to our abundant expertise in the field of glass materials, we also boast advanced processing technologies cultivated through the manufacture of glass substrates for flat panel displays.

In glass core substrates, fine via drilling with diameters of less than 100 microns is performed using laser-based technology. Additionally, it is necessary to meet various specifications required by customers, not only in terms of the fine micro-processability, but also the positional accuracy, shape, and angle of the inner walls in an via. In order to realize advanced processing, it is essential to have deep knowledge of both the material and processing fields and development of optimization that links both fields. We are one of the few manufacturers in the world that can achieve this.

The market for advanced semiconductor packaging substrate is growing rapidly, and there is a forecast that the global market will grow by ¥5 trillion in 2028, approximately double from the 2022 actual market size of ¥2.7 trillion\*. There is the possibility that a percentage of these substrates will be replaced by glass core substrates in the future, creating an extremely large market.

\* According to Yole Intelligence of the French research company Yole Group.

### Exploring the possibilities of glass alongside scientific advances

Glass is a material that has a lot of potential, not only for semiconductor packages. One of the technologies that has recently garnered attention is optoelectronic fusion, which combines optical and electrical circuits. Glass is also expected to be a core material for these optoelectronic fusion devices. If realized, it will be possible to create highly integrated optoelectronic glass core substrates that incorporate electrical signals

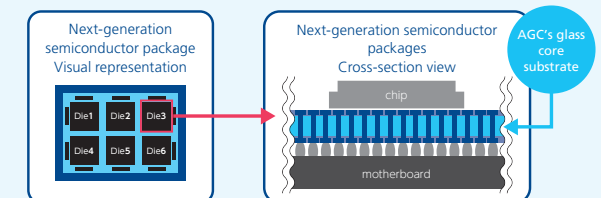
through fine vias and optical signals through optical waveguides, utilizing the unique properties of glass, and this is expected to result in overwhelming power savings. As a glass manufacturer, this is our ultimate goal in the field of semiconductors and high-speed communications.

With the expansion of demand for generative AI, power consumption in data centers is also increasing rapidly, and it is said that it will account for about 10% of global electricity consumption by 2030\*. If the application of glass materials such as semiconductor packaging substrates expands, it may be possible to achieve revolutionary power savings and contribute to the advancement of science and technology such as generative AI. I believe this to be a technology development of very high social value.

\* Estimated by the Center for Low Carbon Society Strategy of the Japan Science and Technology Agency



### AGC's glass core substrate



### Six advantages of glass core substrates

- |   |                            |   |
|---|----------------------------|---|
| 1. Rigidity                               | 2. Flatness and smoothness | 3. Fine and high-precision via processability |
| 4. Thermal and mechanical shape stability | 5. Low electric loss       | 6. Insulation                                 |

# Chemicals Business



Industrial salt for  
Chlor- Alkali products

Polyurethane-related products  
for automotive seats

Fluoropolymer film for  
football stadiums

## Business Overview

### Essential Chemicals

#### ■ Chlor-Alkali Business

We contribute to society through the stable supply of essential products for a wide range of industries, such as caustic soda and polyvinyl chloride (PVC), both of which are produced through the electrolysis of brine.

#### Main Products

Caustic soda, polyvinyl chloride (PVC), epichlorohydrin, sodium hypochlorite, sodium bicarbonate

#### ■ Urethane Business

We manufacture and sell polyurethane-related products that are used as materials for various products necessary for comfortable living, such as insulating materials and automotive seat cushions. We conduct integrated production starting from propylene oxide (PO), which is the raw material for polypropylene glycol (PPG), which is the main raw material, enabling us to consistently provide high-quality PPG with few impurities. We also helps lower environmental burdens by providing products compatible with hydrofluoroolefin (HFO), which are used as environmentally friendly refrigerants and foaming agents, as well as flexible adhesives for electronic applications.

#### Main Products

Propylene oxide, propylene glycol, and polyol

### Performance Chemicals

We offer a wide range of high-functionality products, primarily focusing on various fluorinated products that leverage physical and chemical characteristics such as superior heat and chemical resistance of organic fluorine compounds. These include, Fluon® ETFE, which holds the world's top market share for fluoropolymers\*. In addition to applications such as automobiles, aircraft, semiconductors, and construction materials, our products are expected to be used in fuel cells and water electrolysis for the realization of a hydrogen-based society, making them indispensable in a wide range of industries.

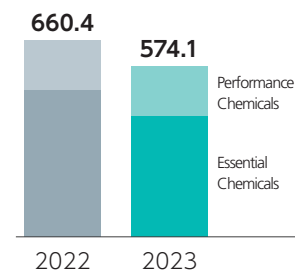
\* AGC estimation based on sales

#### Main Products

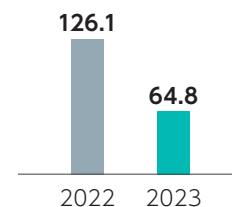
Fluoropolymers, elastomers, films, fluoropolymer resin for paint, fluorinated refrigerant gases and solvents, electrolyte polymers, membranes and devices, water and oil repellents, coatings, fine silica

## Fiscal 2023 Performance

### Net sales (Billions of yen)



### Operating profit (Billions of yen)



## Business Environment

### Opportunities

#### Essential Chemicals

- Growth of the Southeast Asian market

#### Performance Chemicals

- Catering to needs related to energy conversion, including water electrolysis and fuel cells
- Catering to demand for ultra-high-frequency substrates and other products required for 5G and 6G communications
- Increased sophistication of specifications required for materials due to higher functionality of products in each field

### Risks

#### Essential Chemicals

- Trend toward carbon neutrality for electricity consumed in electrolysis

#### Performance Chemicals

- Trend toward the stricter regulation of fluorinated products

## Strengths

### Essential Chemicals

- Strong market presence in eastern Japan and Southeast Asia established through a regional concentration strategy as well as sales and logistics networks built up in these regions over many years
- Collaboration among sites in Indonesia, Thailand, and Vietnam
- Integrated production from chlorine and PO to PPG and synthesis technology utilizing special catalysts

### Performance Chemicals

- Development of mass production technologies and high-performance materials based on proprietary organic synthesis technology
- Global operation of manufacturing, marketing, and TS\* sites

\* TS: technical service

# Chemicals Business

## Review of Medium-Term Management Plan **AGC plus-2023**

### Results

#### Essential Chemicals

- Expanding the Chlor-Alkali business within the Southeast Asia while addressing GHG issues (decision made to enhance capacity in Thailand)
- Signed a purchase agreement for electricity derived from renewable energy in Indonesia (PT. Asahimas Chemical)

#### Performance Chemicals

- Achieved the net sales and operating profit targets set in **AGC plus-2023**
- Promptly proceeded with capital investment necessary to capture demand in global niche markets, as well as the establishment of overseas sales and TS channels.

### Tasks

#### Essential Chemicals

- Responding to the further growth of the Southeast Asian market
- Strengthening the foundation of our domestic business

#### Performance Chemicals

- In addition to the ongoing chemical recycling (utilization of waste hydrofluoric acid and recovered fluorite), establishing schemes for material recycling and reuse
- Raising public awareness about the necessity of fluorinated products, which have multiple high functionalities, in daily life and industries

## New Medium-Term Management Plan

#### Essential Chemical

- Continuing and strengthening our regional focus strategy in the growing market of Southeast Asia
- In the Urethane business, while maintaining sales volume in existing fields, simultaneously entering high-value-added fields

#### Performance Chemicals

- Aiming to expand global niche top products
- Promote business portfolio management and execute and realize business selection and concentration. Define businesses related to hydrogen and semiconductors as key fields

### President of Chemicals Company Tatsuo Momii



### Strengths of the Company

In the Core Business, Essential Chemicals, we follow a strategy of regional concentration, and our strength lies in our commitment to local production for local consumption in regions where there is demand. In particular, we maintain a competitive advantage and a high market share covering the entire Southeast Asia, where there are also expectations for growth. In the Strategic Business, Performance Chemicals, the source of competitiveness lies in the creation of high-performance materials based on fluorine organic synthesis technology that are unmatched by competitors. We have built our current position through a strategy of taking advantage of the characteristics of our materials to gain a high market share in niche markets.

### Review of the Previous Medium-Term Management Plan

Over the past three years, we have continued our strategy of concentrating on Southeast Asia and have been working to steadily grow the Essential Chemicals Business. Due to the ongoing shortage of supply against demand, we decided to increase capacity in Thailand in 2022\*. In addition to generating steady earning in response to market growth, we are also making investments in preparation for the new medium-term management plan. Performance Chemicals saw significant growth in demand in the fields of electronics and mobility. The timing of the surge in demand aligned with our significant increase in capacity through investment, allowing us to substantially expand earning. Although there was some stagnation in 2023 in the semiconductor and automotive markets, leading to a pause in progress, we have decided to increase the production of fluorinated products anticipating future growth.

A challenge for Essential Chemicals is the influx of Chinese products into the Southeast Asian market, which temporarily lost their domestic destinations due to an economic slowdown, resulting in a decline in

profitability. Regarding Performance Chemicals, we are closely monitoring trends toward the stricter regulation on fluorochemicals in Europe.

We believe that our mission is to grow this business as a Strategic Business while fulfilling our supply responsibility as a fluorinated products manufacturer and providing safe, reliable, and highly essential products to the world.

\*Operations are scheduled to begin in the first quarter of 2025.

### Priority Targets and Measures of the New Medium-Term Management Plan

There is no change to the Essential Chemicals strategy of focusing on Southeast Asia. Although sales and profits declined in the previous fiscal year, the operating profit margin was about 8%, indicating high asset efficiency. As a Core Business, we will continue to generate cash reliably. Our most important task is to monitor economic trends in China and North America to determine the best timing for the next investment in increasing capacity.

Performance Chemicals anticipates significant growth in demand for fluorinated products, particularly in the semiconductor industry, and will therefore continue to pursue aggressive investment in increasing capacity. From a long-term perspective, we would also like to work on the creation of new businesses. We have some ideas and would like to transform our organization to be able to test them out at an early stage. Green hydrogen is one of the fields of focus. We will construct a new plant at our Kitakyushu site for the FORBLUE™ S-SERIES of fluorine-based ion exchange membranes, which are suitable for the production of green hydrogen. We would like to use this as a stepping stone to grow green hydrogen as a pillar of our business.

### Toward Medium- and Long-Term Growth of AGC

Especially now, when sustainability management is being advocated, I believe that the words established in 2008 as our company vision, “Chemistry for a Blue Planet—We will create a safe, secure, comfortable, and environmentally friendly world with chemical technology,” should be firmly acknowledged. This is our top priority of our business, and it is also in line with the direction in which the AGC Group is heading.

Our two businesses are indispensable for expansion of social infrastructure, improvement of the living environment, and growth of cutting-edge industries, and they contribute to the realization of a sustainable society. As the backbone of the AGC Group, we will continue to challenge ourselves to expand the scope of our business.



# Creating Social Value ②

The AGC Group will further refine the technologies it has cultivated to create both economic value and social value.

Expansion of production capacity of the FORBLUE™ S-SERIES, fluorinated sulfonic acid ion-exchange membranes

## Supporting the expansion of a hydrogen society with ion-exchange membranes with the world's top-level efficiency and safety performance

Interest in clean hydrogen energy is growing worldwide as a means to realize a sustainable society. The AGC Group is focusing on fluorinated sulfonic acid ion-exchange membranes, which are suitable for the production of green hydrogen, and plans to start operation of a new plant at the Kitakyushu site from 2026.



General Manager, FORBLUE Div.,  
Performance Chemicals General  
Div.,  
Chemicals Company

Sin Katou



- Accelerating the introduction of water electrolyzers for hydrogen production
- Utilizing our strengths in polymer design and membrane processing technologies
- Boasting high efficiency and safety

### Initiatives for a hydrogen society

In addition to climate change, in recent years, there has been rising interest in hydrogen, a next-generation energy source, from the perspective of energy security and other issues. Hydrogen does not emit CO<sub>2</sub> when used, and can be utilized in fuel cells and other applications to efficiently extract electricity and heat. The AGC Group's long-term management strategy Vision 2030 sets out the goal of contributing to the realization of a sustainable society by providing differentiated materials and solutions. In the Architectural Glass business, for example, we are promoting various initiatives toward a hydrogen society, including developing technologies that use hydrogen as an alternative to fossil fuels.

### Pioneering developments in the field of fuel cells

Pioneering developments in the Chemicals business include products in the fuel cell field. One example is fluorine-based electrolyte polymer dispersions (the FORBLUE™ i SERIES)\*. The electrolyte is designed to resist degradation during power generation, achieving high durability while contributing to cost reduction of the entire fuel cell device. These features have been highly evaluated, and the company has gained an overwhelming share of the electrolyte polymer market for fuel cells.

Fuel cells, which use hydrogen for energy, are one of the applications expected to grow significantly in the future as an indispensable technology for the expansion of a hydrogen society.

\* Details on the right side of p.51

### Achieving world-class performance

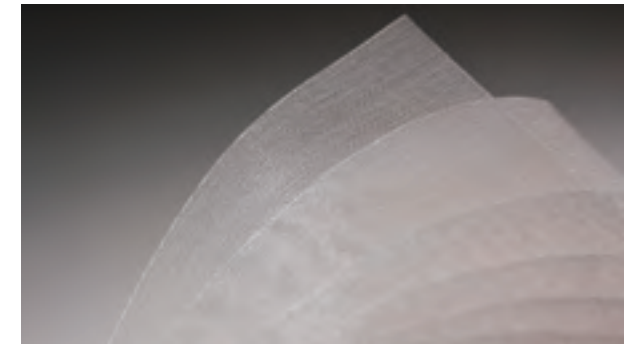
Our fluorinated sulfonic acid ion-exchange membranes (the FORBLUE™ S-SERIES) were also developed based on such electrolyte technology for fuel cells. This product is at the core of water electrolyzers that produce green hydrogen. Green hydrogen, which is produced by splitting water with electricity derived from renewable energy, is attracting attention as a new clean energy source, and water electrolyzers are planned to be introduced in countries around the world.

The mainstream water electrolyzers that have already been put into practical use are called the alkaline systems, which are said to be unsuitable for cases where power sources that tend to fluctuate in voltage, such as solar power, are used for water electrolysis. Therefore, interest is growing in the PEM (proton exchange membrane) systems, which uses ion-exchange membranes that can be efficiently utilized with these types of power sources. Fluoropolymers are also attracting attention as materials that can extend the life of ion-exchange membranes.

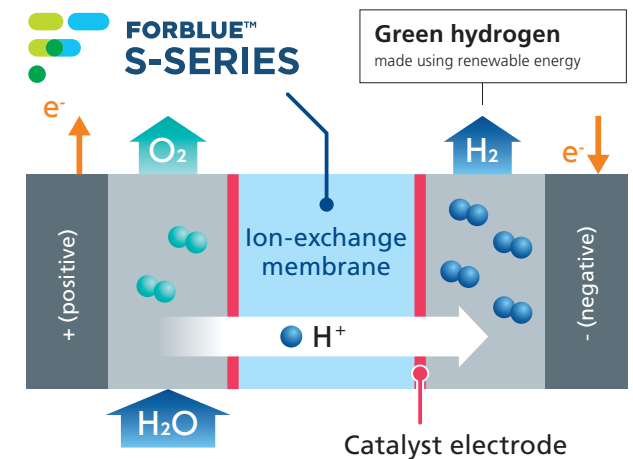
A PEM water electrolyzer uses an ion-exchange membrane to split water to hydrogen and oxygen. The FORBLUE™ S-SERIES developed by the AGC Group combines the polymer design and membrane formation technologies that we have cultivated over many years, and features

world-class voltage performance with low electrical resistance and low power consumption. It has received high praise for its high gas barrier performance, which prevents the mixing of hydrogen and oxygen and ensures safe operation, garnering recognition across various industries.

### FORBLUE™ S-SERIES



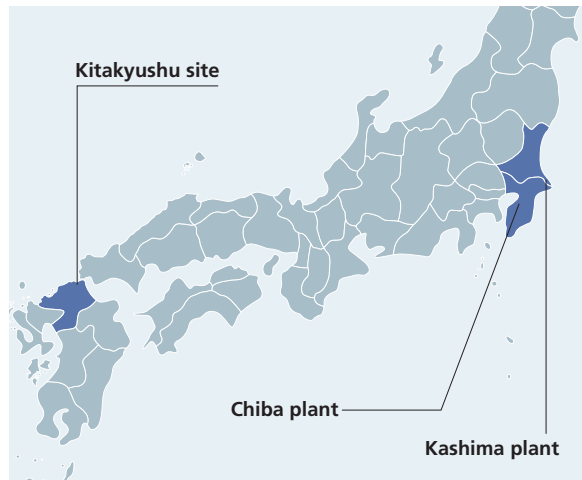
### Mechanism of PEM water electrolysis



# Creating Social Value ②

The AGC Group will further refine the technologies it has cultivated to create both economic value and social value.

## Expansion of production capacity of the FORBLUE™ S-SERIES, fluorinated sulfonic acid ion-exchange membranes

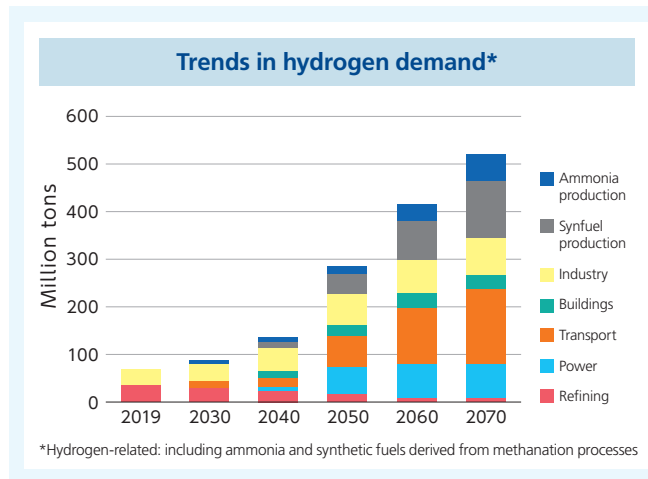


Chemical plant operation in Kitakyushu site for the first time in 24 years as the third domestic chemical site after the Chiba and Kashima plants

### Construction of a new plant at the Kitakyushu site

The AGC Group has decided to construct a new manufacturing facility at its Kitakyushu site in order to begin full-scale production of the FORBLUE™ S-SERIES. We will invest approximately ¥15.0 billion, and the plant is scheduled to start operation in 2026. After that, we plan to continue expanding, aiming for sales of ¥30.0 billion by fiscal 2030.

This will be the first time in 24 years that the company has operated a chemical plant in Kitakyushu site. With the launch of this new plant, we aim to establish it as our third domestic chemical site, following the Chiba and Kashima plants. We believe that this will also contribute to job creation in the region.



Source: IEA Energy Technology Perspectives 2020

Demand for clean hydrogen energy is expected to grow at an accelerating rate, with a full-fledged hydrogen society expected to arrive by 2050. Although many issues such as reliability and safety remain to be resolved, we will keep pushing forward with the development of technologies to utilize hydrogen energy and contribute to the realization of a sustainable society. I believe this will lead to the sustainable growth of the AGC Group.

## The AGC Group's other hydrogen-related products



### Electrolyte polymer dispersions for fuel cells FORBLUE™ i SERIES

The FORBLUE™ i SERIES is a fluorine-based electrolyte polymer dispersion developed based on ion-exchange membrane technology that the AGC Group has cultivated in the Chlor-Alkali electrolysis business. It is used for electrodes and electrolyte membranes in automotive and stationary fuel cells.

Compared to conventional fluorinated polymers, our FORBLUE™ i SERIES achieves higher electrolyte membrane durability, enabling operation under harsher conditions. It eliminates the need for equipment conventionally required for fuel cell vehicles, thereby reducing the cost of fuel cells.

In electrode applications, fluoropolymer's unique design technology has made it possible to significantly reduce the amount of platinum used as a catalyst in electrodes. These characteristics have been highly evaluated, and the material has been used in the electrodes of Toyota Motor Corporation's second-generation MIRAI fuel cell vehicle.

# Life Science Business



## Business Overview

We are globally expanding our contract development and manufacturing organizations (CDMO)\* business, which develops processes for and manufactures pharmaceuticals and agrochemicals.

In addition to synthetic pharmaceuticals and agrochemicals that leverage organic synthesis technology fostered in the Performance Chemicals Business, the Life Science Business is focusing on biopharmaceuticals, for which demand is growing worldwide, and the leading-edge cell and gene therapy fields. With business sites in Japan, Europe, and the United States, we will contribute to the safe, secure, comfortable, and healthy lives of people around the world by providing high-quality services that meet the diverse needs of customers in each market.

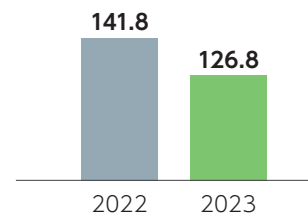
\* Contract Development & Manufacturing Organization: Refers to a company that undertakes contract manufacturing of pharmaceuticals and other products, as well as developing manufacturing methods on a contract basis.

### Main Products

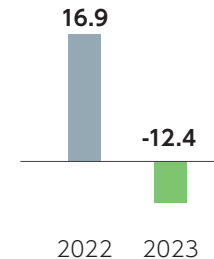
Synthetic pharmaceutical and agrochemical intermediates and active ingredients, Biopharmaceuticals, etc.

## Fiscal 2023 Performance

Net sales  
(Billions of yen)



Operating profit  
(Billions of yen)



## Business Environment

### Opportunities

- Meeting the needs of a health-focused, long-lived society
- Contribution to food supply
- Increase the demand for the outsourcing for pharmaceutical and agrochemical development and manufacturing

### Risks

- Shortage of talented personnel due to rapid market expansion
- Shortage of materials

### Strengths

- Globally integrated network that meets customer needs through sites in Japan, Europe, and the US
- Extensive track record of authority inspection, and the pharmaceuticals development and commercial manufacturing based on advanced quality assurance and technological development capabilities
- Ability to use leading-edge technologies to provide the solutions for development and manufacturing

## Review of Medium-Term Management Plan *AGC plus-2023*

### Results

- Building a globally integrated development and manufacturing network in the newly entered field of gene and cell therapy
- Enhancing capabilities and expanding business in our core areas of synthetic pharmaceuticals and agrochemicals, mammalian cell cultures, and microbials
- Acquisition of further advanced technologies (mRNA, exosomes) and rolling out services

### Tasks

- Delay in launching new lines in the US biopharmaceutical CDMO business
- Reduction in early-stage pharmaceutical development projects due to a temporary decrease in capital inflow to biotech startups

## The New Medium-Term Management Plan

- Early re-establishment of the US biopharmaceutical CDMO business
- Make the new facilities contribute to earnings promptly
- Return to a growth trajectory by leveraging our strengths in global network and technologies

# Life Science Business

President of the  
Life Science Company  
**Tadashi Murano**



## Strengths of the Company

Our strengths are threefold. First is our global network. We provide high-level integrated services from 10 sites in three regions, Japan, the United States, and Europe. Second is our extensive track record of the development and manufacturing, and authority inspection. Our track record built on many years of business experience has increased our credibility as a CDMO, creating a positive spiral where increased trust leads to further orders. Third is our technologies. With multiple modalities\*, we can meet a wide range of customer needs and applications, from the early stages of development to commercial production.

\* Modality: Refers to the classification of methods and means in basic drug discovery technologies.

## Review of the Previous Medium-Term Management Plan

It is a significant achievement that we have established a global framework in the leading-edge fields of gene and cell therapy, as CDMO technologies from our Milan site in Italy have been introduced to a new site in the US and will be introduced to a site in Japan. We have established a solid foundation for business growth by investing in sectors such as synthetic pharmaceuticals, agrochemicals and mammalian cell cultures, which are expected to continue to grow steadily. We have also started to provide CDMO services for next-generation modalities such as exosome pharmaceuticals, and we have made solid progress.

One challenge was the delay in launching new lines at the Boulder site in the US. Also, some of our customers are biotech startups engaged in biopharmaceutical R&D, and due to the global tightening of financial conditions, the flow of funds to such companies has stagnated, leading to a series of project delays and cancellations, which has had a significant impact on our business. As for the launch of new lines in the US, we have implemented drastic measures and started commercial operations at the end of 2023. Inflow of funds to biotech startups is on

a recovery trend, but we will continue to monitor the pace of recovery and implement necessary measures according to the situation.

## Priority Targets and Measures of the New Medium-Term Management Plan

Establishing a mass production system on new lines at the Boulder site in the US is a priority issue in the short term. We will also continue to make the expanded facilities at the planned Fukui (Japan), Copenhagen (Denmark) and Malgrat de Mar (Spain) fully contribute to earnings promptly as part of our new medium-term plan. In the medium to long term, our focus will be on further strengthening our global network, leveraging one of our core strengths, and introducing advanced technologies. Moreover, exploring opportunities for acquiring new technologies and expanding into new areas through M&A remains a key consideration.

## Toward Medium- and Long-Term Growth of AGC

The pharmaceuticals and agrochemicals industries will continue to grow over the long term due to population growth and longer life expectancies. Due to the increasing complexity of pharmaceutical and agrochemical structures and the sophistication of technology,

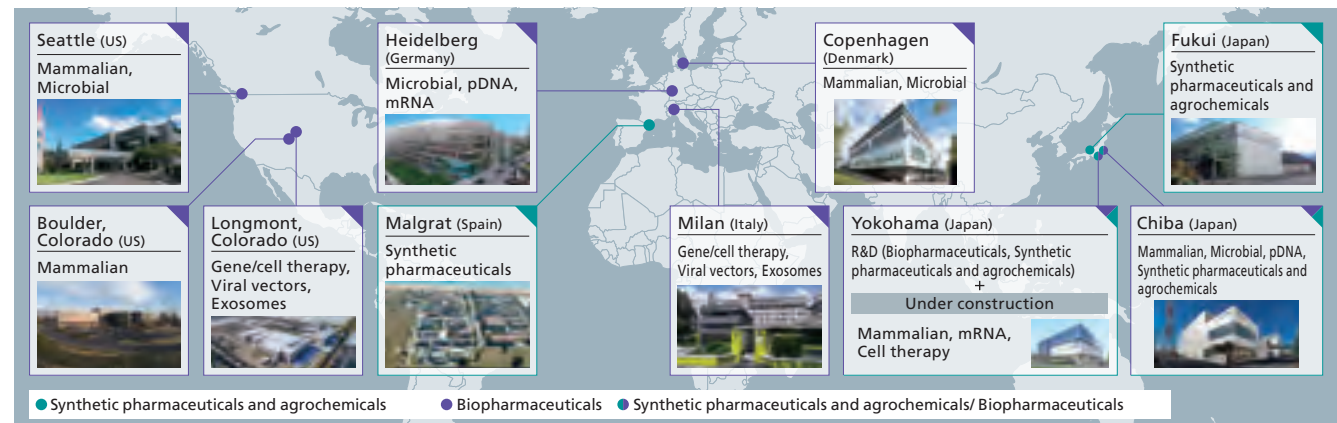
pharmaceutical and agrochemical companies are expected to devote more resources to research than ever before to create new drugs. Moving forward, we anticipate that the proportion of outsourced development of manufacturing methods and actual production will increase further, and the market for CDMO business will expand over the medium to long term. By quickly and stably supplying pharmaceuticals needed by patients around the world and more environmentally friendly agrochemicals, we can contribute to the well-being of people in society and their safe, secure, comfortable, and healthy lives. This will also lead to an increase in the corporate value of the AGC Group as a whole.

The Life Science Company is a diverse organization with employees of many different nationalities and many mid-career hires. We would like to be a model for global members working together as One Team to create synergies.

The period up to the previous medium-term management plan was Chapter I, and from the current medium-term management plan we are entering a new stage, Chapter II. So far, we have expanded our business mainly through M&A. In the future, we intend to further expand our business by actively applying the broad range of technologies of the AGC Group, including not only production technology but also molecular-level material design and digital transformation (DX), to the Life Science Business, as well as by advancing differentiation strategies that push AGC's strengths even further to the forefront.

## Global Service Deployment

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.





# Creating Social Value ③

The AGC Group will further refine the technologies it has cultivated to create both economic value and social value.

Expansion of biopharmaceutical CDMO capability in Yokohama, Japan

## Contributing to the well-being of people in Japan and around the world by strengthening its global network for biopharmaceuticals CDMO services

AGC is expanding its biopharmaceutical CDMO capability at the AGC Yokohama Technical Center (YTC). The total investment is expected to be approximately ¥50 billion, and full-scale services are slated to begin in 2026.



General Manager  
Japan New Facility Project Team,  
Life Science Company

**Ryo Kanno**



- One of the largest CDMO facilities in Japan
- Leading-edge and multi-modality
- Transfer of a wealth of knowledge cultivated in Japan, the US, and Europe

### One of the largest scale CDMOs in Japan

In the Life Science Business, we have 10 sites in the three regions of Japan, the United States, and Europe, and we are engaged in the CDMO business, which develops processes for and manufactures pharmaceuticals and agrochemicals. Biopharmaceuticals account for about 70% of these sales, and the expansion of the Yokohama site will meet the strong demand for biopharmaceuticals development and manufacturing services not only in Japan, but worldwide.

In expanding the Yokohama site, we will bring together leading-edge technologies and knowledge cultivated at existing sites in Japan, the US, and Europe. The mammalian cell culture bioreactors, which will be the core of the facility, is planned to have one of the largest capacities in Japan among CDMOs. We will introduce facilities for leading-edge modalities such as biopharmaceuticals made using mammalian cell

cultures, mRNA pharmaceuticals, and gene and cell therapies, and build a high-standard, high-quality development and manufacturing system. The facility is also designed for dual use, and can be applied to vaccine production in the event of a pandemic.

### Challenges in biopharmaceuticals industry in Japan

In recent years, there has been a growing trend toward pharmaceutical companies contracting out development and manufacturing functions to CDMOs. Demand for biopharmaceutical CDMOs is also expected to grow steadily worldwide.

On the other hand, looking at the Japanese market, there are serious challenges. Japan is largely dependent on overseas sources for the production of biopharmaceuticals. For that reason, in Japan's pharmaceutical industry, there is high demand for CDMOs located in Japan, and as highlighted during the COVID-19 pandemic, strengthening the domestic manufacturing system for biopharmaceuticals and vaccines has become a social issue that must be addressed immediately. That is why the expansion of the Yokohama site is attracting attention. I believe that expectations are very high. It has also been selected by the Ministry of Economy, Trade and Industry (METI) as part of its "Developing biopharmaceutical manufacturing sites to strengthen vaccine production project."

### Contributing to the well-being of people around the world

The AGC Group has already been engaged in the biopharmaceutical CDMO business at its Chiba site in Japan for many years, and we believe that the trust built there will serve as a tailwind for the expansion of the Yokohama site. Through the collaboration of our two domestic sites in Chiba and Yokohama, we will be able to offer end to end services from raw materials to pharmaceuticals within Japan, and we believe this provides a competitive advantage over our competitors in Japan.

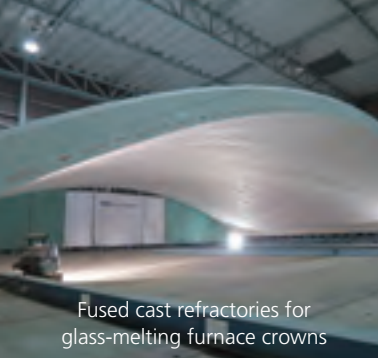
The Yokohama location also offers an advantage, as its proximity to Haneda Airport will facilitate smooth cooperation with overseas

customers and the AGC Group's overseas sites. Biotech human resources in Japan are scarce, but thanks to our favorable location, we are making steady progress in recruiting personnel. When fully operational, we expect to employ approximately 400 people.

As we expand our Yokohama site, we will utilize the knowledge that AGC has uniquely cultivated in areas such as engineering, DX, and R&D. We are committed to expanding our Life Science Business through our global network as the AGC Group, and we aim to contribute to the safe, secure, comfortable, and healthy lives of people in Japan and around the world.



# Ceramics Business



Fused cast refractories for  
glass-melting furnace crowns



Monolithic refractory for  
industrial furnaces



Fine ceramics



THERMOTECT WALL™

## Business Overview

The main products of this business are refractories, which play a crucial role behind the scenes in the infrastructure of daily life. As well as being integral to the facilities of companies in such key industries as iron, cement, and glass manufacturing, AGC's products are essential for the inner walls of power plants that have boilers and municipal waste incinerators. We also offer high-performance ceramic products such as fine ceramics and a ceramics molding agent for 3D printers, aiming to contribute to saving energy, conserving resources, improving efficiency, and protecting the global environment.

### Main products

Fused cast refractories, monolithic refractories, bonded refractories, fine ceramics, and a ceramics molding agent for 3D printers

## Business Environment

### Opportunities

- Stability of the refractory market and the potential of high-performance ceramics
- Expansion of the market for refractories for new glass applications such as solar and fiberglass kilns for electronic materials

### Risk

- Customers who own high-temperature equipment are under pressure to transform their manufacturing processes to achieve decarbonization

### Strengths

- Extensive lineup of products with reliable quality accumulated since we began manufacturing refractory bricks for glass furnaces in 1916
- Proactive efforts in new material development, application proposal, design solutions, construction engineering provision, and support for customers' operations
- Abundant materials and applications that contribute to the stable operation of environmental plants such as waste power incineration plants and biomass boilers

## President of AGC Ceramics Co., Ltd. Masaru Ota



We pursue an "ambidextrous strategy" approach to business management based on refractories and high-performance ceramics. We aim to improve asset efficiency by clarifying our portfolio and allocating management resources appropriately. The market for refractories, which we aim to deepen, is a solid market as these are indispensable materials in society. We not only develop, manufacture, and sell products as a manufacturer but also focus on supporting customers' facilities during their life cycles through the provision of design solutions, construction engineering, and operational support. We will also promote DX to provide new value. We will also promote DX in the manufacturing process to bolster our manufacturing structure and strengthen supply chains in cooperation with our sites in China and our global network. Meanwhile, the efforts of the Ceramics Business to explore and create new value in the field of high-performance ceramics, which includes fine ceramics and 3D molding (additive manufacturing), promise to generate significant growth. We will leverage the assets of all of the AGC Group and pursue open innovation to accelerate our business.

There are increasing demands for industries that use high-temperature equipment to contribute to the creation of a sustainable society by innovating their manufacturing processes. By offering refractories suited to new processes and providing peripheral engineering services, we will benefit society and turn changes into opportunities for growth. With quality, integrity, and pride as watchwords, we are committed to being a reliable partner for our customers.

# New Business Creation Initiatives of the Business Development Division

Through the tireless pursuit of ambitious innovation from a farsighted perspective, the Business Development Division will propose and advance new businesses, thereby enabling the AGC Group to realize sustainable business growth and address social issues.

## Missions of the Business Development Division

In 2011, the Business Development Division was established as a dedicated organization for the creation of businesses that allow the AGC Group to take maximum advantage of its comprehensive strengths in business areas and regions with considerable growth potential. The division has two missions: **new business creation** and **human resource development**. Further, the purpose of the former is to create businesses that will sustain the Group's growth. To this end, the business creation process includes exploring and selecting ideas for new businesses, formulating commercialization hypotheses and conducting market validation of them, developing businesses for transfer to business divisions, and transferring business management to these divisions. As for the development of human resources, through flexible assignment the Business Development Division increases the number of personnel who gain experience of business creation. This approach simultaneously realizes the "incubation" of businesses and personnel while also fostering numerous in-house entrepreneurs, who we refer to as "intrepreneurs."

## Collaboration with Business Partners

As well as analyzing macro trends to discover promising ideas, the Business Development Division analyzes the commercialization of projects that would be difficult for in-house companies to analyze. In preparing proposals for and advancing new businesses, the division collaborates not only with various organizations in the Group—such as in-house companies and the Technology General Division—but also with external partners, including educational institutions and venture capital companies. Moreover, the division develops new businesses on a global scale by partnering with AGC Business Development Americas and AGC (China) Holdings Inc., the Group's sites in the United States and China, respectively.

## Achievements and Outlook

Through the aforementioned activities, the Business Development Division has incubated new Strategic Businesses and then transferred their management to in-house companies. Currently, these businesses manufacture such products as biopharmaceuticals, EUV lithography photomask blanks, cover glass for car-mounted displays, and copper-clad laminate substrates for high-speed communications. At the same time, the division is also currently proposing and advancing new businesses related to the Electronics, Mobility, Life Science Businesses, and Performance Chemicals, which are the Group's Strategic Businesses.

Through the tireless pursuit of innovation from a long-term perspective, the Business Development Department is dedicated to proposing and advancing new businesses to achieve sustainable business growth and address social challenges.

### Two missions of the Business Development Division

Gathering of Ideas and Formulation of Commercialization Hypotheses

Validation of Commercialization Hypotheses (Analyzing Themes)

Examination of Commercialization and Preparation for Transfer to Business Divisions

Transfer of Business Management to Business Divisions

01: Creation of new businesses

02: Cultivating intrepreneurs

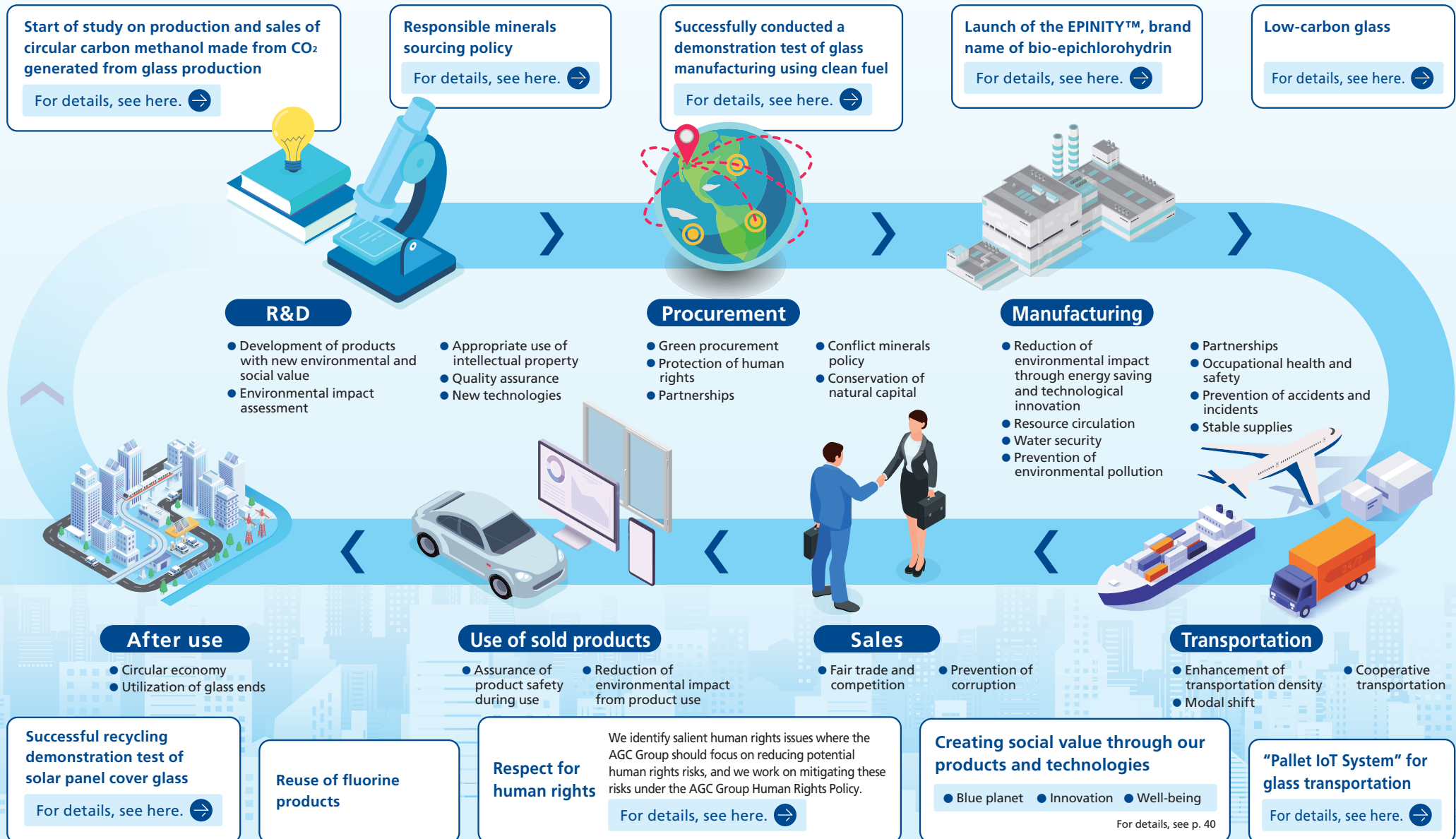
Flexible personnel assignment

Commercialization



# A Wide Range of Initiatives throughout the Value Chain

The AGC Group is advancing various activities throughout the entire value chain, based on AGC's Material Issues (Major opportunities and risks), aiming to enhance long-term sustainable corporate value and address social issues.





# AGC's Human Capital Management

Aiming to realize

"AGC People: Driving our Growth!"

It has been 117 years since Toshiya Iwasaki founded Asahi Glass Company (now AGC) in 1907 and began manufacturing flat glass. Today, AGC continues to pursue its mission of supporting the lives of people around the world with its unique strengths in materials and innovation. We always consider the lives of people with various nationalities, ages, genders, cultural backgrounds, and values, each in different environments, as we work to solve social issues and transform our business portfolio based on a corporate culture that encourages taking on challenges, which has been passed down since our founding.

As part of the key strategy of strengthening the management foundation in our medium-term management plan **AGC plus-2026**, we will promote human capital management to achieve stable and continuous corporate growth.

## AGC's human capital management, "AGC People: Driving our Growth!"

AGC's diverse people are committed to realizing Our Mission as stated in the Group Vision **"Look Beyond"** and enabling sustainable corporate growth.

- We will unlock the unique strengths and abilities of each individual. We foster a culture of continuous learning, professional development and support embracing new challenges.
- The collective growth of each individual creates a highly engaged and resilient organization, which enhances our corporate value, enabling us to fulfill our mission.

Based on this "AGC People: Driving our Growth!" concept, we will develop people who will contribute to the realization of a sustainable society from a long-term perspective.

## Building diversity, equity and inclusion into the workplace

Diversity is one of the four values of the AGC Group Vision **"Look Beyond"** and is the foundation of the AGC Group as well as a source of competitive advantage. Our business management encourages innovation and value creation by providing opportunities for diverse people to realize their full potential. Therefore, we strive to realize systems and environments that facilitate the work of diverse people in order to proactively transform diversity in all its forms into a Group strength, from gender, gender identity, age, ethnicity, nationality, the presence or absence of disabilities, sexual orientation, religion, principles, and values to careers, experience, and workstyles.

One of the important themes is to ensure diversity in decision-making. The Group has set the target of having women account for 30% of its directors and Audit & Supervisory Board members, 20% of its executive officers, and 8% of its managers (AGC on a non-consolidated basis) by 2030. The AGC Group is actively recruiting and nurturing female

employees and creating a culture that transforms diversity into strength. To create an environment in which diverse people can maximize their individual abilities, the Diversity Council, chaired by the President & CEO, discusses policies and measures for leveraging diversity. As a Groupwide common theme, we have been providing learning opportunities, focusing on unconscious bias since 2022 and building psychologically safe teams since 2023.

In addition, we started the Employee Resource Group (ERG), which promotes the creation of an inclusive workplace environment through voluntary efforts by employees, and activities rooted in the needs of each region and each country have begun.

## AGC People: Driving our Growth!



# AGC's Human Capital Management

## Developing management who practice *ambidextrous strategy*

In order to develop management talents, we select key management positions globally, register potential successors in the talent pool management system, and visualize the progress of development.

Underpinning such leadership development is the AGC Leadership Competency model, in which the capabilities and qualities required of leaders in the AGC Group are defined as eight competencies in the two areas of "Leading the Self" and "Leading the Team" and 43 specific behaviors.

Development is carried out from the three perspectives of *growth through work*, *mentorship and coaching*, and *training*, by formulating and implementing the necessary plans for each individual. A key focus when it comes to growing through work is the concept of "stretch assignments," which promote the growth of individuals by assigning them to challenging positions and tasks that call for levels of ability slightly beyond their current skill sets. Also, global management development plans are optimized through the cross-divisional assignment of the aforementioned candidates to key positions and projects throughout the Group. In addition, we conduct 360-degree appraisals to support personnel growth and carry out mentorship and coaching in line with the needs of individual personnel. In order to enhance the effectiveness of training, we offer training programs such as "Global Leadership Sessions" for division general managers, "AGC University" for

each region at the global, business unit, and regional levels, as well as MBA study abroad programs and external programs for executives.

In these ways, the AGC Group encourages candidates to acquire the experience and knowledge necessary for management through planned assignments, coaching, training, and other developmental activities while reviewing the levels of performance and leadership qualities displayed by candidates in their current positions and tailoring placement and development plans for the following year based on candidates' progress. The HR Committee—comprising the President & CEO, CFO, and CTO, General Manager of the Human Resources Division, and Presidents of in-house companies—is involved in the talent development cycle, and outside directors give lectures at training programs. The management directly participates in identifying and developing the next-generation of leadership talent.

## Developing talents to create technological strengths

Since its founding, AGC has created materials and products that support society in response to the demands of the times. Through such development of materials and products, we have nurtured material technologies with unique advantages, composite technologies that enhance the functionality of materials, black-boxed manufacturing technologies, and common basic technologies such as for analysis and simulation, which are the source of our current technological strengths. Training of engineers is also carried out through the technological

development of these materials and products. We have established a personalized career path and training system, accommodating individuals who progress from elementary engineers to mid-level engineers, those who move from mid-level engineers to management personnel, and those who further enhance their expertise and advance to professional fellows.

CNA activities (Cross-Divisional Network Activities), in which people with the same expertise work beyond the boundaries of an organization, are used for networking and human resource development. Additionally, in product development, individuals with diverse technical backgrounds collaborate on projects, and human resources are assigned across organizational boundaries. This broad interaction with a wide range of technologies and human resources also promotes their growth as engineers.

AGC selects focus areas in key domains through macro trend analysis from a long-term perspective and decides development themes. In order to transform our business portfolio, we also need to transform our technology portfolio, and we are systematically developing our technology talent in conjunction with our portfolio strategy. Through human resource allocation that transcends organizational boundaries, mid-career hiring, and open innovation, we are fostering technical human resources who will support AGC in the future.

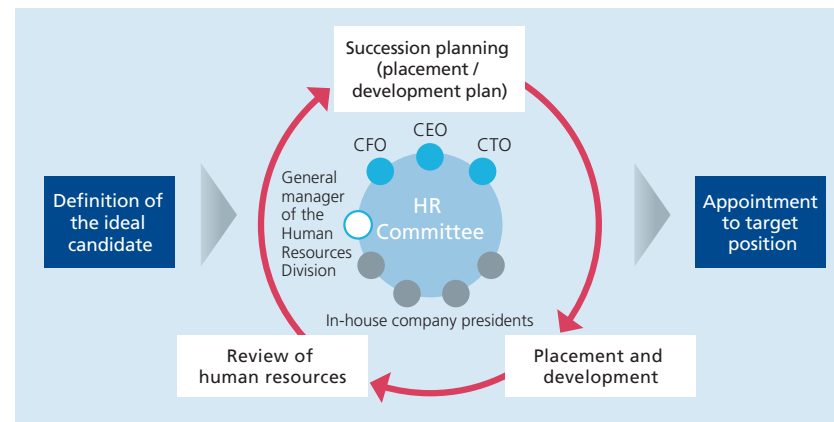
## Developing human resources to realize intellectual property strategies

To ensure appropriate protection of its rights and respect for those of others, the AGC Group emphasizes employee training on patent applications, patent searches, and other aspects of intellectual property rights. In Japan, in addition to intellectual property education at the initial stage of employment, we conduct various training programs, and in-house companies, technology divisions, and research divisions also conduct intellectual property education. Further, at overseas Group companies, intellectual property training tailored to local conditions is provided. AGC has introduced the Award System for Inventors to incentivize researchers to work on inventions and obtain patent rights that could impact competitors.

### AGC Leadership Competencies



### Group Management Personnel Development Cycle



# AGC's Human Capital Management

## Developing human resources to promote value creation DX

In order to develop dual-skilled personnel who combine expertise in their respective operational fields with competence in digital technologies, which is indispensable for value creation DX, the basic strategy of our medium-term management plan, we have established a multi-layered curriculum tailored to their respective job duties. The data scientist training program Data Science Plus, which began in 2018, consists of three levels: introductory, basic and applied, and advanced. The advanced level has already trained over 80 people toward the goal of 200 by 2030\*. In 2022, we began conducting the basic and applied course in Thailand, where we have numerous production sites, and we plan to expand it to other overseas locations in the future.

In 2021, we also launched Digital Transformation Training for Managers, which targets the senior managers of in-house companies, and Data Utilization Training for plant technicians. The former is a program aimed at developing leaders who can exploit digital technologies to implement corporate transformation that aligns with the strategies of in-house companies. It has already achieved 110 participants, against the target of 400 by 2030. \* Data Utilization Training heightens the operational excellence of our manufacturing even further through promotion of data utilization to visualize sites, thereby complementing the intuition, know-how, and experience of plant technicians.

We have also set data science as a skill for the CNAs, to be mentioned later, and we are promoting skill development and networking among data scientists within the AGC Group.

Furthermore, to strengthen employees' focus on digital transformation, we are conducting seminars with outside experts as well

as holding in-house exhibitions and study sessions that allow employees to learn about digital transformation based on case studies from other in-house companies in Japan and overseas. Since 2021, a total of five study sessions have been held, where CEO Hirai has explained the DX strategy in AGC and his expectations for employees. Responsible staff share initiatives of each division and engage in dialogues with top management, providing opportunities to learn about DX globally across different organizational levels. Exhibitions have been held regularly since 2018 as a global event to promote information sharing and horizontal expansion across divisions within the AGC Group, with a cumulative total of about 1,000 DX stakeholders having participated online.

\*As of the end of 2023

## Learning opportunities that suit individual needs

The AGC Group emphasizes the importance of self-motivated learning in line with each employee's individual career goals. After discussing plans for skills and career development using HDC, a human resource development communication tool for supervisors and their subordinates, employees at AGC can choose from a wide range of training options, including position-specific training, leadership training, language courses, technical training, and digital transformation training. To further expand the selection of the types of training on offer, we grant learning points\*1 to support self-study.

In addition to our external secondary job program, we have established a new in-house program "Job Challenge" in which employees can assume a secondary position in another division within AGC. Employees can allot up to 20% of their workload to their secondary position under the program, which provides support for

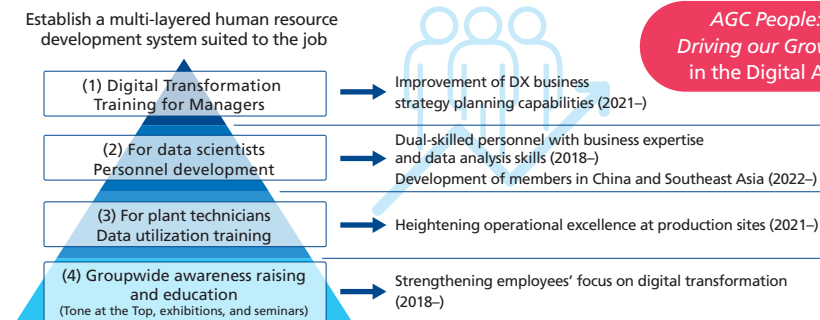
independent skills development, career development, and reskilling. The program was introduced on a trial basis in 2022 and officially in 2023, with more than 110 employees participating to date (AGC on a non-consolidated basis).

In addition, in the CNA program, which aims to improve employees' specialized skills\*2, employees can register their own skills and engage in cross-divisional activities with other employees who have the same skills. Each community, organized around a skill, is led by a skill leader and includes workshops and study sessions to transfer skills, develop human resources, and engage in social activities. Recently, there has been an increase in cases where employees register skills they wish to learn, in addition to their area of expertise, as desired skills for participation, and apply them to their relearning efforts. In FY2023, the number of activity participants exceeded 10,000 globally. With a wealth of ideas, stimulation, and contacts built around their skills, CNAs provide employees with a valuable opportunity to realize their contribution to the company's value over the long term.

\*1 As part of the company's\* selection-based benefits program, 1,200 points (1 point = ¥100) are granted annually to each employee to support their self-study efforts. Employees can allocate points up to half of their language and business-related self-study expenses. (\* AGC on a non-consolidated basis)

\*2 Comprised of 29 technical categories and 12 sales and administrative categories, and is used as a skill map.

## Toward AGC People: Driving our Growth! in the Digital Age



## Cross-Divisional Network Activity



# AGC's Human Capital Management

## Fostering a positive corporate culture

Since its founding, AGC has forged its competitive advantages based on a corporate culture that encourages ambitious initiatives. By fostering a culture of openness, we aim to spur innovation by encouraging employees with diverse ideas to share their opinions freely and openly, and to enhance each other's strengths by engaging in friendly competition.

As part of our efforts to foster this corporate culture, our management team actively engages in dialogue sessions with employees at our offices in Japan and overseas. Although the COVID-19 pandemic meant fewer face-to-face dialogues in 2020, we continued to hold them online. We resumed visits to our overseas offices in 2022, and in 2023, the CEO alone conducted 107 dialogue sessions at 31 locations. We also hold "town hall meetings" on an ongoing basis, which connect our global bases, helping to foster a sense of unity within the Group.

In addition, we have established the AGC Group CEO Awards as an opportunity to cross organizational boundaries and recognize and praise one another's daily efforts and achievements. Nominations are received from around the world, out of which 42 projects that embody AGC's four key values will receive the AGC Group CEO Award, and the **Look Beyond** Award will be presented to the most outstanding initiative among them.



AGC Group CEO Awards (Japan)

## Improving employee engagement

Employee engagement is strengthened when highly motivated individuals and companies fostering a better corporate culture work together to mutually grow and improve. Since 2005, we have conducted employee engagement surveys every three years to improve employee engagement by better understanding the current situation.

Among the 14 survey question categories, the results of the "employee engagement" and "employee enablement" categories are considered the most important by the AGC Group.

Key drivers that have significant impacts on both of these categories are classified as "Strengths," "Issues to Focus on," and "Issues for Improvement" compared to the global average (data from an external research organization), and are working to address each of these issues. High scores in the categories of "Clear and Promising Direction" (degree of satisfaction with Company policies and goals), "Authority and Empowerment," and "Quality and Customer Focus" suggest they are particular strengths of the AGC Group, and management will work to further build on these strengths through ongoing dialogue sessions with employees and communication at all levels of the organization. On the other hand, with regard to "recognition and praise" in "respect and recognition" and "understanding of expected results" in "performance management," for which issues were identified, it is necessary to work on supporting the management skills of superiors and strengthening psychological safety in the workplace.

In addition, starting in 2023, we launched an annual simplified survey to check the effectiveness of actions taken from the large-scale survey conducted every three years and to assess the organization's condition once a year. Through this survey, we aim to support ongoing engagement improvement activities.



CEO Dialogue Session (Thailand)

## Employee Engagement Survey Results

Positive response rate (%)



## Toward Improving Engagement

### - Dialogue sessions being held in various sites -

AGC defines the purpose of engagement improvement activities as "to foster a better organizational culture by thinking together about how to solve problems through various dialogues between employees, management, and the Company based on survey results that show the state of the organization. We will repeat this process to realize our vision."

As an example, in the Procurement & Logistics Division of AGC, the general manager and staff at each level continue to hold regular dialogue meetings in small groups, and the results of the meetings are utilized in the management of the organization. At AGC Seimi Chemical, executives are addressing the issues identified in the engagement survey results and learning from each other how to improve organizational operations. Additionally, we are organizing dialogue sessions between in-house company presidents and site members, as well as within various organizations, to foster a better organizational culture.



# Environment

Contributing to the Creation of  
a Sustainable Society in Harmony with Nature



## The AGC Group and the global environment

In the AGC Group Vision **“Look Beyond,”** we have identified the environment as one of Our Shared Values, the key ideas that all AGC Group members must share as the basis for every action we take. The concept “We will contribute to the creation of a sustainable society in harmony with nature as successful and responsible global citizens” is an important element of our sustainability management that leads to the creation of social value, which the AGC Group has pursued in its business activities. We contribute to the sustainability of the planet on which all life depends by reducing the environmental impact of our products throughout the value chain, from raw material procurement to use by customers.

## Key initiatives based on AGC Materiality

The AGC Group recognizes that “Addressing climate change”, “Using resources effectively” and “Considering relationships with local communities and the environment” are long-term social issues (materiality) that are closely related to environmental activities. We will address these material issues after appropriately assessing our Company’s impact on these issues and their potential impact on our Company.

### Addressing climate change

Risks and opportunities associated with climate change affect the entire value chain of the AGC Group, and we consider them to be factors that significantly influence our decisions on business strategies to realize the AGC Group’s corporate philosophy. The Group, which operates an energy-intensive business, as exemplified by the manufacture of glass and chemicals, has recognized the importance of this issue and has prioritized it.

In our efforts, we are strongly aware of contributing to the Paris Agreement and the Glasgow Climate Pact. We recognize the importance of regularly reviewing our transition plans while considering the trends in international discussions and policies in various countries and regions. Additionally, we will continue to take advantage of opportunities to contribute to the environment through our own products and integrate addressing these issues into our management strategies.

### Using resources effectively

The AGC Group’s products are made from natural resources such as silica sand and fluorite. We aim to effectively utilize the earth’s limited resources and enhance resource circulation across the entire value chain by deepening our existing 3R initiatives (Reduce, Reuse, Recycle), expanding the use of recycled resources, reducing the use of newly extracted resources, and improving resource productivity, including packaging materials. Furthermore, we will expand the provision of products with long lifespans and products designed for the 3Rs, aiming to realize a resource recycling society, thereby achieving both social sustainability and economic growth. To this end, we are promoting activities to set medium- to long-term targets while aiming to achieve short-term KPIs.

### Considering relationships with local communities and the environment (conserving natural capital)

Natural capital, including biodiversity, is one of the management resources that underpin the value creation of the AGC Group. We recognize that maintaining its soundness is essential for our business continuity, so we are striving to minimize our environmental impact by managing the impact factors of our business activities on natural capital throughout the value chain. Based on this thinking, we are promoting activities to realize a society in harmony with nature by identifying issues from various perspectives such as preventing environmental accidents, proper use of water, and reduction of pollutants. We are also setting mid- to long-term goals while aiming to achieve short-term KPIs. In addition to minimizing any negative impacts, the Company aims to contribute to recovery of natural capital.

The following pages explain our climate change response strategy based on the recommendations of the TCFD.

Please refer to the Sustainability Data Book for the full scope of the AGC Group’s environmental management, including the issues of effective use of natural resources and relationships with local communities and the environment (conserving natural capital). (English version is published in September each year)

 <https://www.agc.com/en/sustainability/book/index.html>

# Environment

## Addressing climate change: analysis based on the recommendations of the TCFD

Climate change has a major impact on our efforts to improve corporate value and make decisions on business strategy.

The AGC Group endorses the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and properly discloses information useful to stakeholders based on its analysis of climate change risks and opportunities.

## Management system for climate change-related issues

### Decision-making flow for climate change

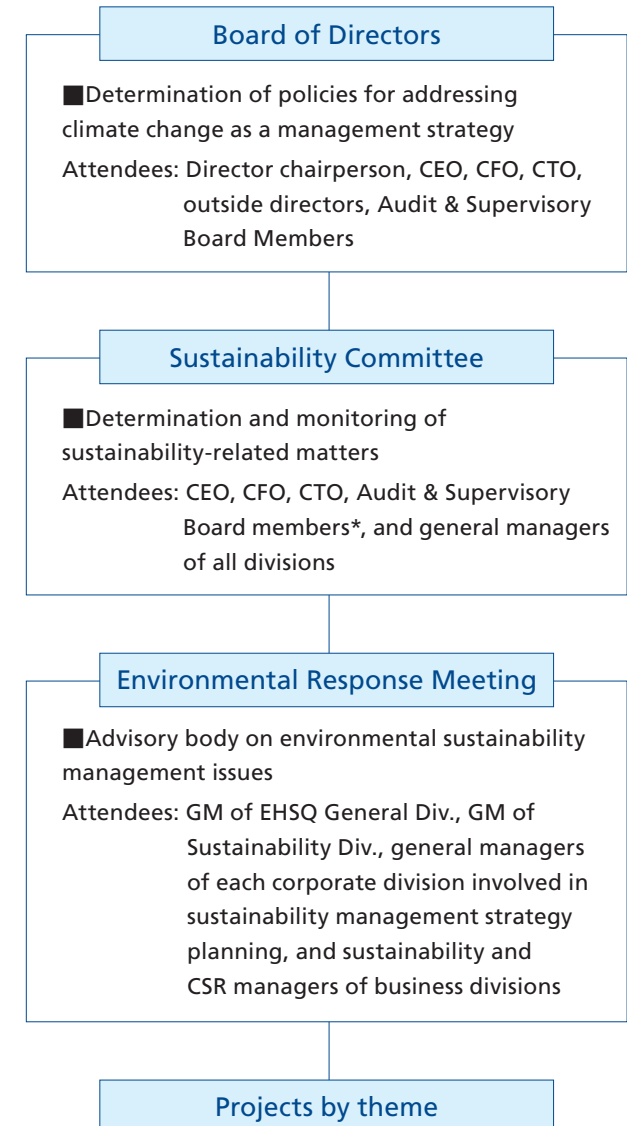
The AGC Group's Board of Directors deliberates and makes decisions on the appropriateness of governance, including management targets and responses to risks and opportunities related to climate change issues for the entire Group.

The Sustainability Committee, which is the body responsible for determining and monitoring the execution of sustainability-related matters, decides the climate change-related matters to be brought before the Board of Directors for discussion and reporting. The Sustainability Committee is positioned on par with the Executive Committee as an advisory body to the CEO. The committee meets four times a year, chaired by the CEO and is attended by the CFO, CTO, Audit & Supervisory Board Members, and general managers of each division. The details of the meetings are reported to the Board of Directors twice a year.

We have established an Environmental Response Meeting as an advisory body on sustainability management issues related to the environment, including climate change, among the matters decided and reported by the Sustainability Committee. Environmental Response Meeting has been operational since 2024, inheriting the companywide climate change response framework previously conducted as the Strategy Meeting for Climate Change and the GHG Emissions Reduction Framework Steering Committee, to advance discussions and deliberations with a broader range of internal stakeholders. The meetings are co-hosted by the General Manager in charge of environmental affairs (EHSQ General Div.) and the General Manager in charge of sustainability

promotion (Sustainability Div., Corporate Planning General Div.), and are held approximately twice a quarter, with the attendance of the sustainability and CSR managers of the business divisions and the general managers of each corporate division involved in sustainability management strategy planning. We have established projects for each theme and a promotion system that allows us to quickly respond to issues. Based on these decision-making flows, we are working to achieve climate action targets and addressing risks and opportunities associated with climate change. The progress and appropriateness of these activities are verified in the operation of the ISO 14001 environmental management system.

### Decision-making flow on climate change



\* On full-time basis

# Environment

## Strategy

### Identification of climate change-related risks and opportunities

Since the manifestation of climate change-related risks and opportunities varies depending on the business domain, scenario analysis was carried out for each business in order to perform appropriate analysis and determine responses based on the results. Among the risks and opportunities identified in this process, we conducted a more detailed impact analysis of those risks and opportunities that are common to the entire Group or multiple businesses.

In 2023, we built on the analysis conducted in 2022. The AGC Group uses the results of scenario analysis to formulate management strategies and business plans to reduce risks and gain opportunities to maintain resilience to the impacts of climate change. Risks and opportunities were identified and evaluated based on multiple scenarios. Here we mainly show the results of identifying and evaluating risks and opportunities based on two scenarios that have a large impact on our Group: NZE, which limits the temperature rise to 1.5°C or less from before the industrial revolution as a socioeconomic scenario, and RCP8.5, where the temperature rise progresses around 4°C as a temperature rise scenario.

### Assessing the impact of climate change-related risks and opportunities by business segment

As a result of the analysis, with regard to risk, we identified rising carbon prices and physical risks in each country and region as factors that affect the entire Group. In addition, although the impact of customers' expectations to reduce our GHG emissions has been confirmed across multiple businesses, the degree of manifestation differed by business.

Regarding opportunities, in a market environment that is changing due to climate change, there are various possibilities to expand business opportunities in each business domain. In the field of architectural glass, for example, the long-term expansion of the building renovation market in developed countries is accelerating, and in the fields of automotive, electronic components, and chemicals, the market growth of materials for the ZEV (zero-emission vehicle/EV\*<sup>1</sup>, FCV\*<sup>2</sup>) market is accelerating. In the chemicals field, we expect to expand our business in markets for next-generation energy, coolants, and solvents, and we are also preparing to provide various solutions for the hydrogen-related market.

\*1 EV: Electric vehicles  
\*2 FCV: Fuel cell vehicles

### Results of Climate Change-Related Risk and Opportunity Assessments by Business Segment

Business segments where risks have been identified Business segments where opportunities have been identified

Climate change Scenario	Identified Risks and Opportunities				Business segment						
	Main categories	Subcategories	Risks / opportunities	Occurrence timeframes	Architectural Glass	Automotive	Electronics	Chemicals	Life Science	Ceramics	
NZE (1.5°C), etc.	Transition risks	Government policies, laws, and regulations	Increase in carbon prices	Short to medium term							
		Reputation	Customer demands to reduce GHG emissions	Medium term							
		Technologies	Scope 1 emission reductions at in-house power generation facilities	Medium term							
	Opportunities	Products and services	Building renovation market	Short to medium term							
			Solar power generation market	Short to medium term							
			Hydrogen-related market	Medium to long term							
			Electric vehicle / fuel-cell vehicle market	Medium to long term							
			Next-generation coolants and solvents market	Medium to long term							
RCP8.5 (4°C), etc.	Physical risks	Acute	Sudden disasters	Long term							
		Chronic	Water stress	Long term							
			Rising temperatures	Long term							

### Analysis of climate change scenarios

In the NZE scenario, we assessed the extent to which transitional policies, such as carbon pricing, could lead to cost increases. In the NZE scenario, it is projected that a carbon price of US\$140/t-CO<sub>2</sub> could be imposed in developed countries and US\$90/t-CO<sub>2</sub> in emerging countries that have declared carbon neutrality. Reconciling these figures with the recent emissions of the AGC Group by business and country, we can estimate the overall financial impact on the Group. To mitigate the impact of these transition risks, we are promoting companywide business portfolio assessments, investments to reduce Scope 1 and 2 emissions, and the operation of an internal carbon pricing system that contributes to incentives for the development of technologies to reduce emissions.

On the other hand, there are many important opportunities under the NZE scenario. To address changes in its product markets, the AGC Group creates business plans based on the market projections of trustworthy third-party organizations. Our products that meet new market needs include heat-insulating window glass for buildings, which excels in

durability and recyclability with consideration given to resource recycling, and next generation coolants and solvents with low global warming potential (GWP) coefficients.

In order to address these climate change-related risks and opportunities, **AGC plus-2026** calls for investments of more than ¥50 billion for Scope 1 and 2 emissions reduction targets, and more than ¥30 billion for investments to expand sales of products that contribute to reducing GHG emissions.

Under the RCP8.5 scenario, we evaluate the impact of intensified sudden disasters such as floods and storm surges caused by climate change on the operations of manufacturing plants. In 2021, we analyzed the risk of floods, storm surges, and droughts at all sites, including sales offices. The results are used to implement flood prevention measures at individual sites and offices. From 2022 to 2023, in order to make more specific estimates of potential damage, we calculated impact amounts for 23 Group sites in Japan. We will continue to identify specific risks and implement risk avoidance measures.

# Environment

## Business impact analysis and response based on climate change scenarios

Main Categories	Risks / opportunities	Scenarios	Financial impact	Response
Transition risks	Increase in carbon prices	Developed countries: US\$140/t-CO <sub>2</sub> Emerging countries: US\$90/t-CO <sub>2</sub> 2030 / NZE (1.5°C)* <sup>1</sup>	Up to US\$1,109 million <ul style="list-style-type: none"> <li>Assumes no change from 2022 emissions level (Scope 1, 2)</li> <li>Considers possible introduction of carbon pricing in each country and region by 2030 consolidated basis / NZE (1.5°C)</li> </ul>	<ul style="list-style-type: none"> <li>Fuel conversion, oxygen combustion, electrification of float glass melting furnaces</li> <li>Reduce electricity consumption intensity and introduce renewable energy in chlor-alkali electrolysis facilities</li> <li>Reflect internal carbon pricing in investment decisions</li> <li>Evaluate and transform business portfolio based on scenario analyses and carbon efficiency</li> </ul>
Physical risks	Sudden disasters (Floods and storm surges)	2030 / RCP8.5 (4°C)	Up to ¥20 million / year (23 sites in Japan) Yearly average impact amount* <sup>2</sup>	<ul style="list-style-type: none"> <li>Installation of flood and storm surge prevention equipment</li> </ul>
Opportunities	Building renovation market	2030 / NZE (1.5°C)	Renovation rates in Europe to double by 2030	<ul style="list-style-type: none"> <li>Sales of window glass that excels in heat insulation and recyclability</li> <li>Sales of Building Integrated Photovoltaics (BIPV)</li> </ul>
	Market for next-generation coolants and solvents	2030 / NZE (1.5°C)	Low-GWP coolant market expected to expand 2.2x in size by around 2030	<ul style="list-style-type: none"> <li>Sales of next-generation coolants and solvents</li> </ul>
	Hydrogen market	2030 / NZE (1.5°C)	Increased water electrolyzer installation capacity (cumulative) (2.2 GW to 599 GW)	<ul style="list-style-type: none"> <li>Sales of materials related to the production and use of hydrogen</li> </ul>

\*1 The NZE scenario-based calculation results that represent the highest risk for calculating financial impact based on multiple scenarios

\*2 The yearly average impact amount is calculated based on the total impact at the time of the disaster, taking into account the frequency of occurrence and other factors.

## Managing climate change-related risks

### Process for identifying and assessing climate change-related risk

For short-term and medium-term climate change-related risks, we identify and assess major risks that require a response as part of risk analyses under enterprise risk management conducted every three years. We address identified risks in accordance with the AGC Group Enterprise Risk Management Basic Policies, basic policies aimed at reinforcing the risk management structure of the AGC Group.

Additionally, addressing climate change is listed as one of the long-term social issues (materiality) that could affect the long-term direction of management and corporate value, and we analyze various risks and opportunities caused by climate change from a long-term perspective. We will minimize risk and reinforce our competitiveness by continuing to evaluate the appropriateness of our strategies through the deliberations of the Sustainability Committee.

\*We recognize that addressing climate change is both a risk and an opportunity.

### Process for management of climate change-related risks

The Board of Directors and the Management Committee regularly monitor the management status of identified climate change-related risks. Corporate divisions, in-house companies, and SBUs analyze risks and examine countermeasures for each business and project. If necessary, such risks are deliberated on by the Board of Directors and the Management Committee.

### Integration of risk management processes with climate change-related risk identification, assessment, and management processes

In accordance with the AGC Group Risk Management Implementation Rules, risk factors that are expected to have a significant impact on AGC Group management if manifested have been selected as "important risk factors." Risk control plans are established for important environment-related risk factors, and the corporate division, in-house companies, and SBUs will endeavor to establish and improve management levels in accordance with that plans. Around the end of the year, each division regularly self-checks its own risk management level, and management monitors the results and runs a PDCA cycle.



# Environment

## Metrics and Targets

### Metrics and targets for climate change-related issues

As a metric used to assess climate change risks and opportunities, AGC sets and manages reductions in scope 1, 2, and 3 emissions as a KPI, and calculates and monitors the emissions for each of them. With the aim of achieving carbon net-zero\*<sup>1</sup> by 2050, AGC has set a milestone target of reducing GHG emissions by 30% by 2030 compared with the 2019 levels for Scope 1 and Scope 2. For Scope 3, we aim to reduce GHG emissions by 30% by 2030 compared to the 2019 levels for Categories 1, 10, 11, and 12, which account for approximately 70% of Scope 3 emissions. These 2030 milestones\*<sup>2</sup>, along with the engagement goal to encourage suppliers accounting for 30% of Scope 3 Category 1 and Category 3 emissions to obtain Science Based Targets certification by 2027, was approved as a Science Based Target to limit the global average temperature increase well below 2°C above pre-industrial levels. AGC received certification from SBTi for its “WB2°C” reduction target.

We are also working to refine our data, and from 2022 we began full-scale operation of an online platform that manages various environmental performance data, including Scope1, 2, 3 emissions. This is helping to make emissions at each base, as well as bottlenecks, more visible. From 2023 onward, we will set targets each year for Scope1, 2 emissions by business activity, and create a structure for advancing a PDCA cycle while keeping track of actual emission results. Please refer to p. 68 for our Scope 1,2 and 3 emission data.

With the launch of **AGC plus-2026**, which aims to deepen sustainability management, a new sustainability KPI has been established to incorporate sustainability perspectives into overall management and monitor the status of its implementation. As a result, Scope1, 2 emissions intensity per unit of sales has been added as a calculation method for stock compensation for directors and executive officers. Additionally, to quantify and further enhance contributions to Blue Planet, we have decided to also monitor “the shipment volume index for architectural products contributing to GHG reductions” and “the Index for GHG emissions reduction by low-GWP products” \*<sup>3</sup>.

\*<sup>1</sup> Scope 1 and 2

\*<sup>2</sup> The electricity CO<sub>2</sub> emission coefficient for 2030 is based on the figures determined using the Sustainable Development Scenarios (SDS) published by the IEA.

\*<sup>3</sup> For both, figures for 2023 and after are calculated with 2022 as 100.

### Scope 1 and 2 emissions from our operations

AGC intends to create and achieve measures based on the characteristics of each business to reduce Scope1, 2 emissions to achieve net-zero carbon emissions.

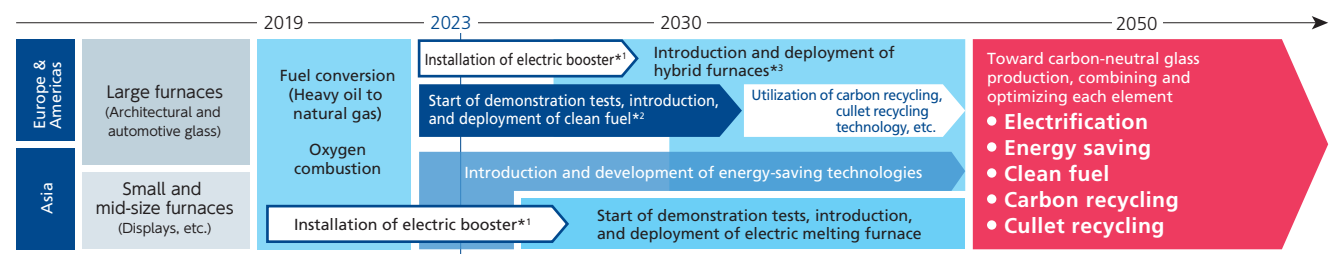
Approximately 99% of the AGC Group's Scope 1 and 2 emissions come from its glass segment (broadly divided into Architectural and Automotive), Electronics, and Chemicals businesses. The total of the glass segment and the Electronics Business and the emissions from the Chemicals Business are approximately 50% of each.

The glass segment and the Electronics Business have float glass furnaces in common, and nearly 70% of the emissions from these businesses come from the energy consumption required to operate the furnaces. To achieve the 2030 milestone, we are formulating measures based on the projected CO<sub>2</sub> emission factor for electricity power in each country. In Europe and Americas where a decline in the emission factor is expected, we will prioritize the introduction of electrical boosters (electrical auxiliary heating). In Asia, where the progress in reducing the emission factor is relatively slower, we plan to prioritize the introduction of energy-saving technologies. In parallel, we will promote the demonstration test and introduction of clean fuels. Toward 2050, we aim to achieve the 2050 net-zero target by reducing our GHG emissions during manufacturing by switching the heat source of furnaces to electricity and clean fuels, reducing emissions from raw materials by

recycling glass cullet (offcuts and debris), and recycling CO<sub>2</sub> emitted from the operation of the furnaces. Once a float glass melting furnace is operational, it will continue to operate for about 15 years. In order to appropriately incorporate new technology at the timing of replacement of each furnace, prioritization of technology development is carried out under a project directly supervised by the CTO, and the overall progress is managed.

Scope1, 2 emissions from the Chemicals Business are mainly derived from the electricity used to operate chlor-alkali electrolysis facilities, and decarbonization is a challenge here. Approximately 40% of the emissions come from on-site power generation for the chlor-alkali electrolysis facilities, and the remaining 60% comes from electricity purchased externally for the electrolysis facilities. While taking into consideration the progress of renewable energy supply capacity in the market, we are promoting the use of biomass fuel in our own power generation facilities, purchasing electricity derived from renewable energy, and switching to energy-saving battery containers.

### Technology roadmap and progress in reducing GHG emissions from float glass furnaces



Progress in  
2023

● **Fuel conversion** rate 92% (calculated as the total heat generated by natural gas for all furnaces in 2023 / natural gas heat value + heavy oil heat value)

● **Ammonia combustion**: Successful demonstration test

● **Hydrogen combustion**: Successful demonstration test

● **Hybrid furnace of electricity and oxygen combustion**:

Start of joint research with Saint-Gobain (2nd half of 2024 onward)

● **Carbon recycling**: Start of consideration on production and sale of environmentally recyclable methanol

● **Cullet recycling**: Successful demonstration test of glass recycling for solar panels

\*<sup>1</sup> Electrical auxiliary heating \*<sup>2</sup> Ammonia, hydrogen, etc. \*<sup>3</sup> Energy sources are provided by a combination of electricity and fuel

# Environment

## Scope 3 emissions from the AGC Group's value chain

Approximately 70% of our emissions from the supply chain are accounted for by purchased products and services (Category 1) and processes related to the processing of sold products (Categories 10–12). Efforts across the entire value chain are essential to reduce Scope 3 emissions, and we are working to reduce emissions through engagement activities. In addition to encouraging our business partners to obtain SBT certification for their emission reduction targets, we aim to create a system to collect primary emission factor data for each raw material through surveys, quantitatively evaluate the reduction efforts of each material supplier, and reflect this in our Scope 3 measurements.

## Initiatives to contribute to the reduction of GHG emissions

In the AGC Group, products that contribute to the environment and energy field account for about 10% of total sales. We as the AGC Group's will continue to utilize our technological capabilities to identify areas where we can contribute to the reduction of GHG emissions in the world and work to contribute through our products.

**In AGC-plus 2026**, we have set "the shipment volume index for architectural products contributing to GHG reductions" and "Index for GHG emissions reduction by low-GWP products" as sustainability KPIs. We will monitor these indices and accelerate the creation of social value through our products.

## Sustainability KPI

### Shipment volume index for architectural products contributing to GHG reductions Examples of included products

We contribute to the reduction of GHG emissions in the world through both energy conservation and energy creation, such as vacuum-insulating glass that contributes to improving the energy efficiency of homes and Building Integrated Photovoltaic modules.

#### Vacuum-insulating glass FINE0™

Achieves world-class thermal insulation performance and high durability. Meets the renovation demand in Europe.



#### BIPV \*Building Integrated Photovoltaics

BIPV with power generating cells enclosed between two glasses.



DP Architects Pte., Ltd.

### Index for GHG emissions reduction by low-GWP products Examples of included products

AMOLEA® 1234yf and 1224yd are next-generation coolants that have little impact on the natural environment with Ozone Depleting Potential (ODP) of almost zero\* and a GWP value under 1.

#### AMOLEA® 1234yf

International regulations on coolants with high GWP have led to an increase in demand for automotive air conditioners, including EVs



#### AMOLEA® 1224yd

Demand is growing due to international regulations on coolants with high GWP. In addition to being used in air conditioning systems for large-scale commercial facilities, it is also used as a coolant for geothermal power generation and as a raw material for insulation materials for refrigerators.



\*Ozone Depletion Potential (ODP): AMOLEA®1234yf: zero, AMOLEA®1224yd: near zero

# Environment

## Scope 1, 2, and 3 emissions (2023)

### Scope 1, 2, and 3 emissions

	2019	2020	2021	2022	(1,000 t-CO <sub>2</sub> ) 2023
Scope 1 (direct emissions)	6,200	6,469	6,903	6,075	5,970
Scope 2 (indirect energy-related emissions)	5,493	4,792	4,595	4,835	4,050
Scope 3 (other indirect emissions)	13,341	11,659	11,585	10,508	9,501
Total	25,035	22,920	23,084	21,418	19,520

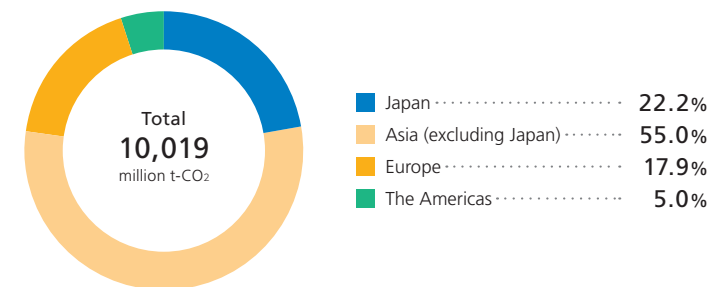
### Scope 3 emissions

	2019	2020	2021	2022	(1,000 t-CO <sub>2</sub> ) 2023
Category 1 Purchased goods and services	4,321	3,716	3,406	4,004	3,746
Category 2 Capital goods	389	684	685	778	744
Category 3 Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	1,297	1,102	2,266	1,334	1,263
Category 4 Upstream transportation and distribution	1,021	1,007	1,293	954	901
Category 5 Waste generated in operations	56	35	14	49	91
Category 6 Business travel	19	43	18	53	90
Category 7 Employee commuting	21	51	20	31	38
Category 8 Upstream leased assets	-	-	-	-	-
Category 9 Downstream transportation and distribution	-	-	-	-	-
Category 10 Processing of sold products	245	269	261	344	154
Category 11 Use of sold products	2,302	1,945	1,681	1,483	1,378
Category 12 End-of-life treatment of sold products	3,442	2,581	1,716	1,259	806
Category 13 Downstream leased assets	167	167	167	162	151
Category 14 Franchises	-	-	-	-	-
Category 15 Investments	59	58	58	58	139
Total	13,341	11,659	11,585	10,508	9,501

### Scope 1, 2 emissions and intensity per unit of sales by business segment (2023)

Business Segment	Scope 1 and 2 emissions (1,000 t-CO <sub>2</sub> )	Intensity per Unit of Sales (1,000 t-CO <sub>2</sub> /¥100 million)
Architectural Glass	2,553	0.58
Automotive	1,432	0.29
Electronics	1,416	0.45
Chemicals	4,497	0.78
Life Science	34	0.03
Ceramics and other businesses	86	0.10
Total	10,019	0.51

### Scope 1 and 2 emissions by region (2023)



\*The Scope 1, 2, 3 figures for 2023 are preliminary values / Emissions before 2022 include emissions from transferred businesses. Figures for each year might be different from previously disclosed information due to revisions made for the purpose of refining the data.

\*The 2023 results do not include emissions from the Russian business (transferred in February 2024).

\*Sites included in Scope 1,2 calculation: AGC Inc. and consolidated companies, a total of 128 manufacturing and non-manufacturing sites as defined by the AGC standards.

\*Sites included in Scope 3 calculation: AGC Inc. and consolidated companies, a total of 197 manufacturing and non-manufacturing sites as defined by the AGC standards.

\*Details of the calculation conditions are provided in the Sustainability Data Book 2024.

# Dialogue The Chairperson of the Board of Directors and the President & CEO



Outside Director, Chairperson of the Board of Directors,  
Member of Nominating Committee and  
Compensation Committee

Hiroyuki Yanagi



Representative Director,  
President & CEO

Yoshinori Hirai

## Leading the way in innovation from lively discussions at the Board of Directors

Here is an interview between Mr. Hiroyuki Yanagi, Chairperson of the Board of Directors, and Mr. Yoshinori Hirai, CEO. They candidly exchanged opinions on a wide variety of topics, including the operation of the Board of Directors, which has changed significantly in the past few years, and strengthening of the corporate governance system, discussed the formulation of **AGC plus-2026**, and presented their thoughts for the future.

### Reform of the Board of Directors progresses, leading to more active discussions

**Hirai** It has been about five years since Mr. Yanagi became an outside director. In the past few years, the discussions at the Board of Directors seem to have changed significantly. What do you think?

**Yanagi** I think you're right. In the past three years, reform of the Board of Directors has progressed, and discussions have become very lively. To put it succinctly, the Board of Directors has changed from a place for reporting to a place for discussion. In the past, reporting materials extended to dozens of pages, and much time was devoted to explanations, which inevitably limited the time available for active discussions. However, with a review of the operational methods, there is now much more time for active exchanges of opinions among internal and external directors, auditors, and executive officers.

**Hirai** AGC's business consists of six companies and one SBU\*, each of which is engaged in its own unique business. Executive officers tended to report meticulously in an effort to ensure that their business was thoroughly understood. So, we have been implementing reforms such as incorporating videos into advance explanations of agenda items and holding off-site meetings before the Board of Directors meetings. I think, as a result, that the attendees are now able to attend the Board of Directors meetings with a deeper common understanding. As the CEO, I also serve as the chairperson of the Management Committee, so I am conscious of communicating the state of discussions at meetings of the Management Committee to the Board of Directors to ensure that the discussions proceed smoothly.

**Yanagi** I feel that the perspectives on both the supervisory and execution sides are now more aligned than before, and discussions have a clearer focus. The background to this seems to be that management issues are becoming more organized and clearer.

\*Strategic Business Units



# Dialogue: The Chairperson of the Board of Directors and the President & CEO

**Hirai** AGC's outside directors and Audit & Supervisory Board members come from a wide variety of backgrounds. Some have global experience in the manufacturing industry, such as Mr. Yanagi, and others are experts in governance and legal affairs. I think this kind of diversity is reflected in the discussions in a positive way. The supervisory and executive sides are not only fulfilling their respective roles, but are also engaging in cohesive and interlocking discussions. I believe that is a great strength in the governance of the AGC Group. I also think that Mr. Yanagi's role as chairperson is largely responsible for the lively discussions at Board of Directors meetings. Is there anything in particular that you pay to as the chairperson?

**Yanagi** First is efficient operation. As you just mentioned, I think that operations have become very smooth thanks to the improvements made by the secretariat. Second, in terms of the monitoring function of the Board of Directors, it is necessary to clarify what to look at and how to look at it for each proposal. Third is whether the Board of Directors is functioning properly—whether there is sufficient trust, problem solving, checks and balances, and decisive decision making. I am conscious of these three things in my role as chairperson.

## Strengthening the governance system by linking the vertical and horizontal axes

**Yanagi** I believe that there are two main factors with respect to governance. One is the effectiveness of the Board of Directors. We have already made reforms to the system for evaluating the overall effectiveness of the Board of Directors, and we have also introduced a mechanism to evaluate the CEO on an annual basis to consider whether he should be reappointed. In the future, I think we should consider a system to also evaluate the chairperson and outside directors. I believe that the issues discussed at the Board of Directors are very well balanced between the “company” vertical axis and the “corporate” horizontal axis.

**Hirai** I agree with Mr. Yanagi that a system for evaluating effectiveness of the Board of Directors has been put in place. The introduction of a system that clarifies the roles to be played by the CEO and makes evaluation based on the clarified roles has been stimulating for me as well, and I approach meetings of the Board with an appropriate sense of urgency.

**Yanagi** Another important aspect of governance is the Group

governance. Regarding the governance system of the AGC Group, we recognize that there are still many issues to be addressed, as the Group consists of a wide variety of companies and a large number of Group companies. We should continue to work on this.

**Hirai** Mr. Yanagi just talked about the vertical and horizontal axes, and I think the key to enhancing companywide governance is to exercise the corporate function, which is the horizontal axis. In addition to corporate planning, accounting, and finance, I believe that we should be particularly conscious of the area of sustainability, which includes human resources, the environment, safety, and quality, all of which are prerequisites for sustainable business operations.

**Yanagi** That's absolutely right. I believe that if we can establish a foundation that thoroughly addresses these aspects horizontally, AGC will become an even more wonderful company.

**Hirai** With regard to our human resource strategy, we started implementing reforms relatively early among Japanese companies, such as the introduction of a global job grade system in 2005, and I think that these reforms are yielding positive results. However, this does not mean that the current situation is satisfactory. I believe this is an important issue for the AGC Group, as globalization has been progressing year by year and the ratio of employees overseas is now more than 70%.

**Yanagi** When it comes to issues related to sustainability, the environment and way of thinking differ depending on the country and region. With this in mind, we should clearly set out the policy of the AGC Group as a whole and enhance the governance system.

## Looking back on the previous medium-term management plan *AGC plus-2023*

**Yanagi** Looking back on *AGC plus-2023*, I believe there are three things to evaluate first. First is capital investment in anticipation of growth in the Strategic Businesses. In particular, I believe that the expansion of the AGC Yokohama Technical Center is an important investment for the growth of the Life Science Business. Second is the fact that awareness of pricing has changed throughout AGC. Third is that our baseline profitability has improved.

**Hirai** Investing in the Strategic Businesses was a strategy that could be said to be at the very center of the portfolio

transformation which was the pillar of *AGC plus-2023*.

Although the Strategic Businesses stalled in FY2023, profitability has steadily grown overall, as evidenced by significant growth in the Core Business of the Chemicals Business. We believe that the capital investments made under *AGC plus-2023* have led to results.

**Yanagi** I think the increased baseline of profitability is one of the results.

**Hirai** In terms of baselines, one particular area that could be improved is cash generation. Compared to *AGC plus-2020* in FY2018–FY2020, EBITDA has increased by about ¥100 billion per year. We were able to reinvest a significant portion of the cash generated by our operations into investments for future growth and increase shareholder returns. This is another result of our portfolio transformation. As Mr. Yanagi mentioned, I think the change in awareness of pricing is also a new achievement. There has been a growing awareness of appropriately evaluating the value of products on our own, without being excessively constrained by traditional practices in the supply chain, and basing our pricing on that evaluation. Enhancing the value of our products, reflecting that value in our pricing, and as a result, increasing our own wages—I think that this positive cycle has begun to turn.

**Yanagi** On the other hand, issues highlighted by *AGC plus-2023* include the ability to respond to market fluctuations, the commoditization of Core Businesses, and enhancing management in new businesses. In particular, I believe that the impact of market fluctuations, although there are certainly structural elements, can be dealt with by analyzing the business in a little more detail.



# Dialogue: The Chairperson of the Board of Directors and the President & CEO

**Hirai** You are right, and looking back on the three years of **AGC plus-2023**, there were certainly many occasions when we were affected by market fluctuations. However, there are also some areas that are not as susceptible to market conditions as they used to be. In that sense, I think that even though we use the word “volatility,” the very nature of what that means is changing. To minimize the impact of market volatility and stabilize prices, it is important to secure a firm market share. To that end, I believe it is important not only for AGC to work by itself, but also to work together with partners throughout the entire supply chain, especially with our retail partners, to stabilize the foundation of the industry.

## Discussions toward developing **AGC plus-2026**

**Hirai** In formulating the new medium-term management plan **AGC plus-2026**, the Board of Directors held more in-depth discussions than ever before.

**Yanagi** In the course of those discussions, we recognized the importance of earnings stability as a major premise of the medium-term management plan. This means moving away from a corporate structure in which earnings fluctuate widely with changes in the environment. In **AGC plus-2026**, we set a target of operating income of ¥230 billion in FY2026. The Board of Directors conducted thorough analyses and detailed discussions on each business unit to develop this target. In addition to these business portfolio considerations, we also redefined our KPIs for sustainability items. I believe that as a result of repeated discussions, we have been able to produce some good results.

**Hirai** In examining the business portfolio to evolve “ambidextrous strategy,” we thoroughly discussed how we could achieve growth in the highly profitable Strategic Businesses while stabilizing earnings in our Core Businesses. Regarding the Strategic Businesses, the biopharmaceutical CDMO business struggled in FY2023, but the Life Science Business and Electronics Business have the potential for continued growth in the medium to long term. We intend to steadily put these Strategic Businesses on a growth track, including the newly added Performance Chemicals. This will enhance the profitability of the AGC Group and lead to improvements in ROE and other indicators.

**Yanagi** Looking at each business, the focus of discussion has

been on the biopharmaceutical CDMO in the Strategic Businesses, and the structural reform in the Display Business in the Core Businesses.

**Hirai** In the Display Business, we launched a business structure reform project led by the CFO and have begun initiatives in unison with the Corporate divisions. We are also implementing drastic measures such as equipment improvement for the biopharmaceutical CDMO.

**Yanagi** It's the linkage between the vertical and horizontal axes that we have been talking about.

**Hirai** Exactly. On the other hand, as Mr. Yanagi mentioned, we have reorganized our perspective and clarified the direction of sustainability management, which is an important pillar of **AGC plus-2026** as well as of the previous medium-term management plan. This is because, in the previous **AGC plus-2023**, we set forth two values, economic value and social value. However, we realized that some people view these two values as separate or even contradictory. But really, these two values are inseparable, and the creation of social value leads to economic value, which in turn enhances the value of the Company. This is not a new way of thinking; it's something AGC has been practicing ever since its founding.

## Creating innovation for the future

**Hirai** Lastly, I would like to ask Mr. Yanagi, for achieving innovation in the future, what do you think will be important for the AGC Group to do?

**Yanagi** There are several types of approaches that companies can take to create new value. These include deepening proprietary technologies, enhancing overall value while complementing the main businesses, and creating new value by integrating existing domains. The AGC Group aims to deepen its proprietary technologies while taking on the challenge of “domain integration.” For the AGC Group, there are various approaches to this integration. These include traditional integrations such as inorganic and organic, or the merging of design technology, material technology, and production technology. The current efforts to combine the Core Businesses with the Strategic Businesses through “ambidextrous strategy” also represent a form of domain integration. Above all, I believe the most important aspect is the diverse combination of people, technology, and

values. To create new value from integration, I think it's essential to build a culture that continues to take risks and challenge without fear of failure.

**Hirai** In order to make new innovations, I believe it is important to integrate within the Group, and also to integrate openly with external parties. To this end, it is essential to create a culture that encourages employees to pursue innovative ventures. The AGC Group conducts employee engagement surveys, and over the past few years we have seen a steady rise in employee engagement. We want to create an environment in which employees motivate each other and connect with people outside the Company to spark innovation.

# AGC's Basic Approach to and System of Corporate Governance

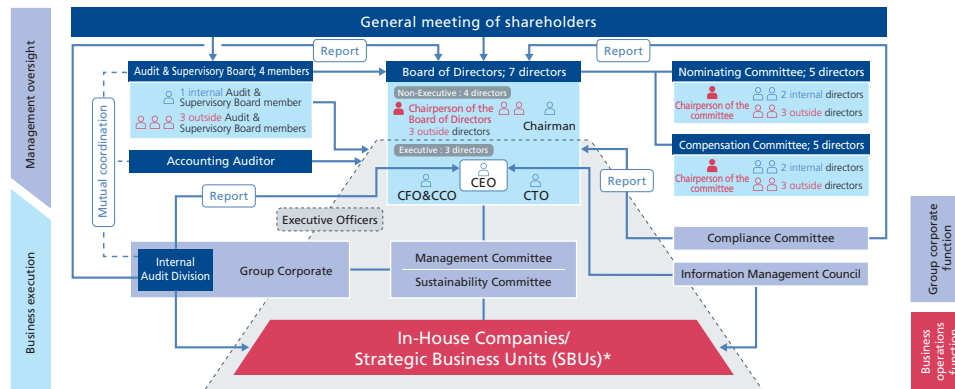
The AGC Group has established the AGC Group Corporate Governance Basic Policy and is committed to enhancing and strengthening corporate governance across the Group under Our Mission, Our Shared Values, and Our Spirit as articulated in our Group Vision **“Look Beyond”** in order to achieve sustainable growth and enhance corporate value over the medium to long term.

AGC has an Audit & Supervisory Board corporate governance system and strengthens management oversight functions through clear separation of the management oversight and business execution functions. Further, the Company's basic policy involves clearly separating the group corporate and business operations functions to accelerate decision-making in business execution and improve management efficiency.

## Corporate Governance System (as of March 31, 2024)

👤 : Internal directors or internal Audit & Supervisory Board member

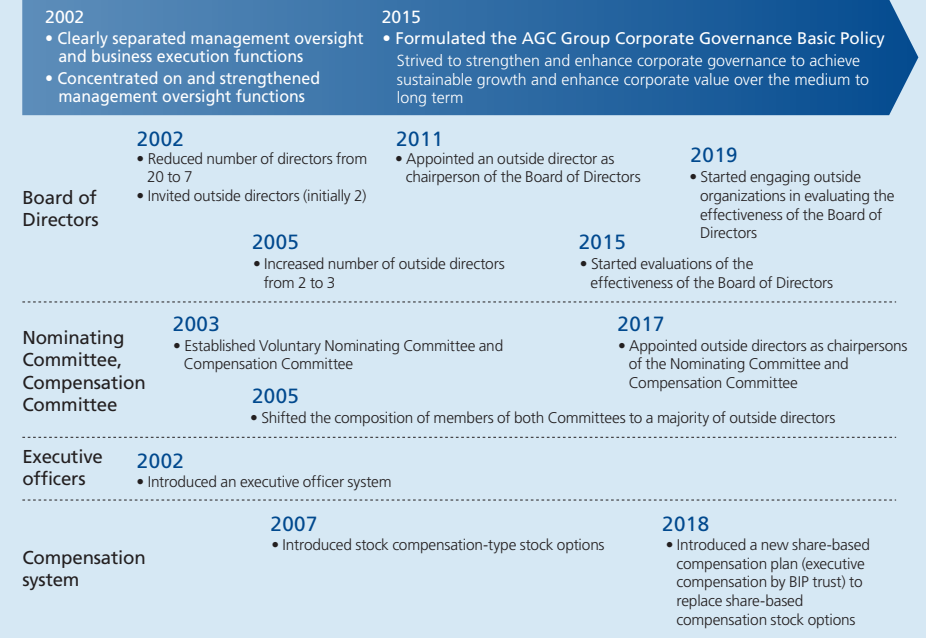
👤👤 : Outside directors or outside Audit & Supervisory Board members who satisfy Company's "Standards for independence of outside officers"



\* An in-house company is defined as a business unit that has net sales exceeding ¥200.0 billion and which conducts its business globally. As a result of the establishment of the Life Science Company on January 1, 2023, there are six In-House Companies as of March 31, 2024: the Architectural Glass Europe & Americas Company, the Architectural Glass Asia Pacific Company, the Automotive Company, the Electronics Company, the Chemicals Company, and the Life Science Company. Business units of a smaller size than these are defined as SBUs (strategic business units), and currently there is AGC Ceramics Co., Ltd.

## Improvement of Corporate Governance

Since the early 2000s, AGC has been working to bolster and enhance its corporate governance. In 2002, we shifted to a system that clearly separates the management oversight and business execution functions and invited two outside directors. In 2003, we established a voluntary Nominating Committee and Compensation Committee. In 2005, we took proactive measures, including increasing the number of outside directors to three. In addition, outside directors have been appointed to serve as the Chairperson of the Board of Directors since 2011 and as the Chairperson of the Nomination Committee and Compensation Committee since 2017, further enhancing the objectivity and transparency of management oversight. In 2015, we formulated the AGC Group Corporate Governance Basic Policy, and reaffirmed our commitment to strengthening and enhancing corporate governance to achieve sustainable growth and enhance corporate value over the medium to long term. AGC will continue to maintain and evolve its corporate governance system to support the enhancement of corporate value.



For further details, please refer to the Corporate Governance Report submitted to the Tokyo Stock Exchange.

<https://www.agc.com/en/company/pdf/governance.pdf>

# AGC's Basic Approach to and System of Corporate Governance

## Governance system for sustainability management

One of the basic strategies in **AGC plus-2026** is to deepen sustainability management. At the core of the structure responsible for this is the Sustainability Committee, an advisory body to the President & CEO. The Committee is positioned as organizational rank equivalent to the Management Committee, which is also an advisory body to the President & CEO. It deliberates on decision-making and monitoring of business execution related to sustainability.

### Topics: Activities of the Sustainability Committee

The Sustainability Committee meets four times a year and is attended by the CEO, CFO, CTO, Audit & Supervisory Board members, and general managers of all divisions. The committee's deliberations are reported to the Board of Directors twice a year. Additionally, the Sustainability Division, which belongs to the Corporate Planning General Division, acts as the secretariat of the Sustainability Committee and leads the formulation and execution of sustainability management strategies for the entire AGC Group.

#### Agenda items of the Sustainability Committee in 2023

- Initiatives to combat climate change, such as the formulation of a roadmap for Scope 3 GHG emission reductions, review of the operation of the internal carbon-pricing system, and analysis of TCFD scenarios
- Initiatives to address human rights issues including the establishment of a human rights policy and responsible mineral sourcing due diligence
- Progress in employee engagement and other activities to achieve sustainability targets

## Management Oversight Functions

The Board of Directors, which approves the basic policies of the AGC Group and oversees its business execution, and the Nominating Committee and Compensation Committee, which are voluntary advisory bodies, are primarily responsible for the management oversight functions. In addition, the Company has adopted an Audit & Supervisory Board system to audit the execution of duties by directors. The composition and functions of each organization, as well as administrative features that enhance the objectivity and transparency of management, are as follows:

	Composition and Functions	Administrative Features
Board of Directors	<p>The Board of Directors, which approves the basic policies of the AGC Group and oversees its business execution, is primarily responsible for management oversight functions and its objectivity and transparency are enhanced as follows:</p> <ul style="list-style-type: none"> <li>• Three out of seven directors are independent outside directors, including one female director.</li> <li>• The Board is chaired by an outside director.</li> <li>• In light of the Board's roles, diversity in directors' skills is ensured.</li> </ul>	<p><b>Improvement of Board meetings with more focus on discussion by significantly reducing time for explanations</b></p> <p>Since 2022, explanatory videos have been distributed in advance, as a measure to enhance the effectiveness of the Board of Directors even further, thereby allowing the majority of the Board's deliberation time to be used for discussions. As a result of these initiatives, discussions at Board meetings have become lively, and directors and Audit &amp; Supervisory Board members are better able to conduct in-depth discussions and supervision utilizing their experience and expertise in their respective roles.</p>
Nominating Committee, Compensation Committee	<p>The establishment of the Nominating and the Compensation Committees as voluntary advisory bodies to the Board of Directors, as described below, enhances the objectivity of the evaluation, appointment, and compensation of directors and executive officers.</p> <ul style="list-style-type: none"> <li>• The majority of the members of each committee are independent outside directors.</li> <li>• Each committee is chaired by an independent outside director.</li> <li>• The Board of Directors shall respect and deliberate the proposals of both committees.</li> </ul>	<p><b>Improvement of the quality of discussion by continuously innovating agenda-setting for Board meetings and off-site meetings</b></p> <p>In 2023, the criteria for items to be submitted to Board meetings was reviewed to promote the delegation of authority to the executive side and agenda-setting for Board meetings and off-site meetings was innovated for improving the quality of discussion.</p>
Audit & Supervisory Board Members (Audit & Supervisory Board)	<p>Audit &amp; Supervisory Board members audit the performance of directors by attending important meetings, including meetings of the Board and the Management Committee, and by holding regular meetings with representative directors.</p> <ul style="list-style-type: none"> <li>• Three of the four Audit &amp; Supervisory Board members are independent outside Audit &amp; Supervisory Board members, including one female member.</li> <li>• One full-time Audit &amp; Supervisory Board member is an outside member.</li> <li>• The two full-time Audit &amp; Supervisory Board members have extensive expertise in finance and accounting.</li> </ul>	<p><b>Enhancement of the support system for outside directors and outside Audit &amp; Supervisory Board members to enhance the quality of the Board's discussions and supervision even further</b></p> <p>The Corporate Planning General Division, which is the secretariat of the Board, provides notifications of Board of Directors' meetings to outside directors, delivers related documents and videos to them in advance, and provides prior explanations of the agenda items of meetings as needed. Improvements are continuously made by incorporating the opinions of directors and Audit &amp; Supervisory Board members on administration.</p> <p>The Secretariat of the Audit &amp; Supervisory Board is tasked with assisting the duties of the outside Audit &amp; Supervisory Board members, including the convening of the Audit &amp; Supervisory Board; participation in important meetings; and coordinating meetings with the representative directors, outside directors, the Internal Audit Division, and the accounting auditor.</p> <p>Regular meetings for exchange of opinion between outside directors and Audit &amp; Supervisory Board members are held to activate communication and enhance quality of discussions among outside directors and outside Audit &amp; Supervisory Board members.</p> <p><b>Establishment of an effective audit system through reinforced coordination</b></p> <p>Audit &amp; Supervisory Board members endeavor to enhance the effectiveness of audits by coordinating with the accounting auditors and the Internal Audit Division, which executes internal audit functions; by holding meetings and obtaining information about the progress and results of accounting and internal audits; by regularly reporting and conducting exchanges of opinions.</p>



# AGC's Basic Approach to and System of Corporate Governance

## Administration of the Board of Directors, Nominating Committee, Compensation Committee, and Audit & Supervisory Board in 2023

◎ Indicates chairperson

		Board of Directors		Nominating Committee		Compensation Committee		Audit & Supervisory Board	
Composition		Internal	Outside	Internal	Outside	Internal	Outside	Internal	Outside
Directors	Takuya Shimamura	○ (Non-executive)		○		○			
	Yoshinori Hirai	○		○		○			
	Shinji Miyaji	○							
	Hideyuki Kurata	○							
	Hiroyuki Yanagi		◎		○		○		
	Keiko Honda		○		◎		○		
	Isao Teshirogi		○		○		◎		
Audit & Supervisory Board members	Tetsuo Tatsuno							◎ (Full-time)	
	Isamu Kawashima*								○ (Full-time)
	Tatsuro Ishizuka								○
	Haruka Matsuyama*								○
Members		7 (including 3 outside directors)		5 (including 3 outside directors)		5 (including 3 outside directors)		4 (including 3 outside Audit & Supervisory Board members)	
Discussion topics (Audit matters discussed by the Audit & Supervisory Board)		Oversaw the business execution of the AGC Group, decided on director candidates, nominated and decided on executive officers for the coming year, and approved significant matters, such as budgets and the acquisition and disposal of important assets		Selected director candidates, Audit & Supervisory Board members candidates, and executive officers for the coming year; evaluated the President & CEO's performance and decided on reappointment; considered succession planning for the President & CEO etc.		Deliberated on the planned bonus and share-based compensation amounts to be paid to directors and executive officers, the establishment of targets for performance-linked compensation, and the revision of the compensation system for directors and Audit & Supervisory Board members, and also submitted proposals to the Board of Directors		Conducted audits systematically and efficiently in accordance with the basic audit policy of properly overseeing and verifying whether the internal control system, as outlined in the Corporate Policy over Internal Control—which includes the compliance system, the risk management system, and the system for ensuring the accuracy of financial statements—was adequately maintained and implemented across the AGC Group	
Meetings		14		11		8		14	

\* Assumed office on March 30, 2023.

# AGC's Basic Approach to and System of Corporate Governance

## Evaluation of the Effectiveness of the Board of Directors

AGC believes that continuously strengthening and enhancing its corporate governance is vital to achieving sustainable corporate growth and raising corporate value over the medium to long term. As part of these efforts, the Company carries out an annual analysis and evaluation of the effectiveness of the Board of Directors based on the AGC Group Corporate Governance Basic Policy, with the goal of improving the effectiveness of the Board and increasing stakeholder trust in AGC's corporate governance.

### Evaluation Method

AGC has carried out the aforementioned evaluation every year since 2016. The overall evaluation score has improved each year thanks to efforts to remedy identified issues. Moreover, approximately every three years the Company enlists the help of an external organization, thereby enhancing the objectivity of the evaluation. In 2023, a self-evaluation was carried out based on the 2022 results, which was conducted with the assistance of external organization.

### Evaluation Process in 2023

#### 1 Self-evaluation based on questionnaires answered by directors and Audit & Supervisory Board members (September 2023)

The highlights of the evaluation are as follows:

- Role of the Board of Directors: roles and responsibilities of the Board of Directors and the execution side, state of deliberations
- Composition of the Board of Directors: the Board of Directors size, composition, diversity, etc.
- Operation of the Board of Directors: meeting frequency, deliberation time, selection of agenda items, support structure for outside directors, etc.
- Composition of the Audit & Supervisory Board: number of members, diversity, etc.
- Operation of advisory committees (Nominating Committee, Compensation Committee): deliberation time, selection of agenda items, provision of information, etc.

#### 2 Interviews with directors and Audit & Supervisory Board members (October 2023)

Each of the seven directors and the four Audit & Supervisory Board members were interviewed to verify their answers to the questionnaire and elicit additional opinions.

#### 3 Discussion at the Board of Directors Meeting (January 2024)

The Board of Directors assessed the overall effectiveness and confirmed the policy for further improvement of effectiveness from the results of the questionnaire-based self-evaluation and the results of interviews as well as the confirmation of the implementation status of initiatives from the previous year.

## Review of Evaluation Results and Future Initiatives

### Summary of 2022 Evaluation Results

In AGC's Board of Directors, the roles of supervision and execution are clearly defined, and diversity in the composition is secured based on the roles of the Board of Directors. Furthermore, each agenda item to be deliberated by the Board of Directors is subject to in-depth discussion and supervision in accordance with the roles of the Board of Director. In addition, the opinions of each Board member are incorporated into the Board's operations in a timely manner, leading to continuous improvements. In a small group with an open atmosphere, active discussions are conducted, and it has been confirmed through analysis by an external organization that the overall effectiveness of the Board is maintained at a high level.

### Implementation of Improvement Measures (Major improvement measures)

1. Further utilization of the insights of outside directors and others on important medium- and long-term management themes
  - In conjunction with the process of formulating the next medium-term management plan, active discussions on important themes such as sustainability were conducted at Board of Directors meetings and off-site meetings utilizing the insights of outside directors and others.
2. Setting monitoring themes at the Board of Directors to strengthen the supervisory functions
  - Discussions were enriched on non-financial indicators including human capital through regular semi-annual reports on sustainability activities and the process of formulating the next medium-term management plan.
  - The monitoring of Group governance was further strengthened through regular reports on integrated risk management and the status of compliance.
3. Continuous improvement of the quality of discussions by innovating agenda-setting for both Board of Directors meetings and off-site meetings
4. Ongoing discussions on ensuring diversity on the Board of Directors and other bodies as well as on the choice of governance style
5. Continuous improvement of the operations of the Board of Directors and committees

### Summary of 2023 Evaluation Results

AGC's Board of Directors maintains a certain degree of diversity in composition, and each director voices their opinions based on their respective knowledge and experience on themes to be deliberated by the Board. Lively and in-depth discussions are held in a small group with an open atmosphere. It is also confirmed that continuous improvements have been made in the operation of the Board of Directors and that a high level of overall effectiveness is being secured.

### Implementation of Improvement Measures

1. Further utilization of the insights of outside directors on important themes in the long-term management strategy and the new medium-term management plan
  - The Company plans to discuss important medium- and long-term management themes, such as the business portfolio and non-financial indicators including human capital, at Board of Directors meetings and off-site meetings, and will further utilize the insights of outside directors and others.
2. Continuous strengthening of the supervisory functions of the Board of Directors
  - The Company will strengthen the monitoring of Group governance through reporting on the internal control system and on the governance of its subsidiaries.
3. Ongoing discussions on ensuring diversity on the Board of Directors and other bodies as well as on the choice of governance style
  - The Company will continuously discuss the diversity of the Board of Directors and the governance style, taking into account the strategic direction and environmental factors etc.
4. Continuous improvement of the operations of the Board of Directors and committees
  - To further deepen discussions at Board and committee meetings, the Company will continue and further develop existing efforts such as distributing videos with advance explanations and concise materials highlighting key points.
  - The Company will set appropriate agendas for committee meetings and optimize the frequency of meetings.
  - To further promote understanding of our business, the Company will continue to provide opportunities for outside directors to visit our business sites etc.
5. Consideration of conducting evaluations of the Chairperson of the Board of Directors and outside directors
  - To further enhance the effectiveness of the Board of Directors, the Company will consider conducting evaluations of the Chairperson of the Board of Directors and outside directors.

# AGC's Basic Approach to and System of Corporate Governance

## Business Execution Functions

The business execution functions are the responsibilities of President & CEO and other executive officers. The Management Committee has been established as an advisory body to the President & CEO to deliberate business execution decision and business management monitoring. The functions of the organization, led by the Executive Officers, are clearly divided into group corporate functions and business operations functions. A system of in-house companies (quasi-subidiaries within the Group) has been introduced and a global consolidated management system has been adopted with regard to business execution.

## Management Control System under the In-House Company System

AGC's in-house company system separates the roles and functions of the Group corporate divisions and business divisions (in-house companies and SBUs), and the scopes of responsibility and authority are clearly defined. The Group corporate divisions aim to maximize the corporate value of the entire Group by formulating the Group vision and strategies, formulating Group business portfolio policies, establishing the Group's policies on the fundamental elements of business management, and providing a management platform. In-house companies and SBUs, which have received a substantial transfer of responsibility and authority for business execution, operate their businesses using the management resources entrusted to them by the Group corporate divisions, with the aim of maximizing their own business value. This separation of the roles and functions of the Group corporate and business divisions clarifies the scopes of responsibility and authority, thereby accelerating management decision-making and increasing management efficiency.

## The Group Governance System

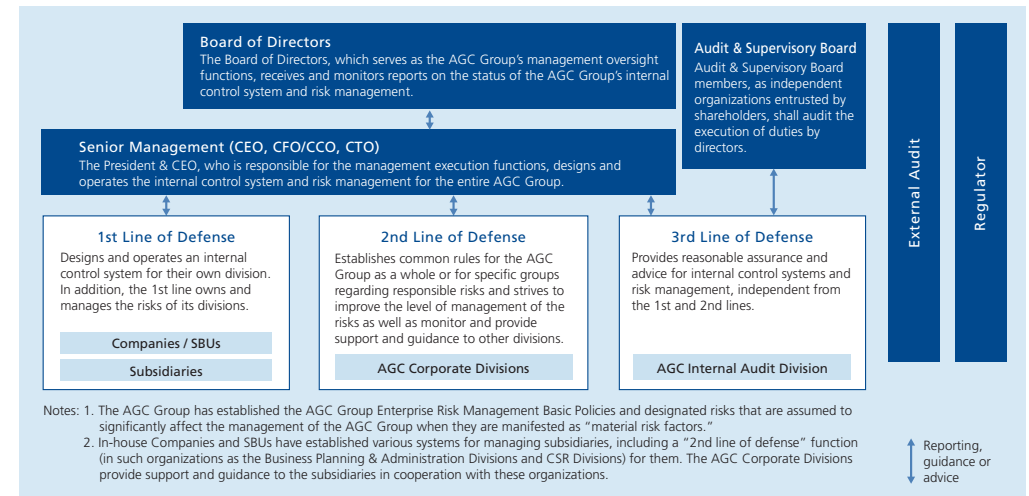
The AGC Group has set forth "strengthening of the management foundation" as one of its strategies in **AGC plus-2026**, its medium-term management plan, and is working to further enhance Group governance and internal control systems, including those of its subsidiaries.

- With respect to the Group governance system including its subsidiaries, the AGC Group has established management rule on the governance and internal control systems to prevent misconduct and compliance violations at its subsidiaries. In accordance with the rules, a system facilitating the autonomous functioning of the Board of Directors and internal control system of each subsidiary is established. AGC conducts management oversight and supervision with objectivity and independence, such as by appointing an individual belonging to one of the corporate divisions of AGC, who previously served as President (or of a similar executive position) at a subsidiary, to a major subsidiary in Japan or overseas as a part-time director or corporate auditor.
- Regarding its compliance system, AGC implements initiatives for ensuring observance of the AGC Group Code of Conduct and for raising awareness of and providing education on the code. The Group has also established a helpline and verifies its operation and consultation status which are reviewed and reported to the Board of Directors. In addition, the AGC Group maintains its compliance system by conducting compliance awareness surveys on a regular basis.

- Regarding risk management system under internal control initiative, AGC identifies risks that could hinder the achievement of the Group's management targets, and implements the risk management consisting of control to mitigate such risks and countermeasures against such risks when they are manifested in accordance with the AGC Group Enterprise Risk Management Basic Policies.

<b>Control to mitigate risk materialization</b>	The AGC Group has adopted the Three Lines of Defense Model (see the below figure). The second line of defense, the corporate divisions responsible for each risk, establishes and disseminates guidelines, conducts training, and monitors each risk, while the third line of defense, the AGC Internal Audit Division, conducts audits of the subsidiaries and business locations of the Group. In the initiatives under the AGC Group Enterprise Risk Management, AGC selects material risks that are anticipated to have a significant impact on the Group's management, and strives to improve the level of risk management by implementing and enhancing countermeasures based on an annual self-assessment of the status of risk management.
<b>Countermeasures when risks materialize</b>	In addition to establishing a crisis management reporting line, a system that enables prompt and appropriate initial response, such as setting up a Group response task force in the event of a crisis, has been established. As part of our Business Continuity Management (BCM) initiatives, mechanisms aimed at continuing critical business operations and achieving early recovery have been established in the event of risk occurrence, such as by developing a Business Continuity Plan (BCP) in preparation for natural disasters and outbreaks of infectious diseases.

## The AGC Group Three Lines of Defense Model



For information on the AGC Group's Corporate Policy over Internal Control:

<https://www.agc.com/en/company/internalcontrol/index.html>



For information on the overall risk management system and specific risks:

<https://www.agc.com/en/ir/rpolicy/risk/>

# Compensation System

## Basic Philosophy

The Company sets out, as its compensation principles, its basic philosophies on overall compensation for officers as follows.

- The compensation system shall be one that enables the Company to attract, secure and reward diverse and talented personnel, in order to establish and expand the Company's edge over its peers.
- The compensation system shall be one that promotes continued improvement of corporate values, and in this way allows shareholders and management to share gains.
- The compensation system shall be one that motivates the management to achieve performance goals relating to management strategies for the AGC Group's continuous development.
- The decision-making process of determining compensation shall be objective and highly transparent.

## Compensation Determination Method

The Compensation Committee deliberates on matters such as the compensation system and compensation amounts for directors and executive officers based on the Compensation Principles, makes proposals in that regard to the Board of Directors, and verifies the results of compensation payments in order to increase the objectivity and transparency of the compensation determination process.

## Compensation to Directors and Audit & Supervisory Board Members (2023)

	Number of recipients	Total payment (millions of yen)		Number of recipients	Total payment (millions of yen)
All directors	7	750	All Audit & Supervisory Board members	6	100
Outside directors only	3	59	Outside Audit & Supervisory Board members only	5	64

## Composition of Compensation

For AGC Group, which provides materials and solutions created from product development based on a long-term perspective, medium- to long-term technological development and investments in human resources and equipment are sources of competitiveness in addition to the Group's single-year business strategy. Accordingly, the Group has introduced an incentive system as one of the means for AGC's officers to take a balanced view of the short, medium, and long term and to further motivate them to achieve their goals for each time frame.

In addition to bonuses linked to the organizational performance for a single fiscal year, the Group has introduced stock-based compensation where the number of shares granted is determined based on performance and other factors within the period of a given medium-term management plan. Under the stock-based compensation system, officers granted shares must retain them during their terms of office, with the aim of motivating them to contribute to the improvement of corporate value over the medium to long term and to create shared gains between officers and shareholders.

Starting from January 2024, the performance indicators for stock-based compensation for a given period of medium-term management plan have been revised as follows with the aim of enhancing long-term corporate value, raising awareness of companywide performance, and achieving shared gains with shareholders.

Classification	Performance Indicators	Reason for Selection	Weighting
Financial Indicators	ROE	Key performance objective for long-term and medium-term plan periods	30%
	EBITDA	Improve cash generation capacity and profitability	30%
Stock Price Indicators	Relative TSR (against TOPIX)	Further sharing gains with shareholders	20%
Non-financial Indicators	GHG Emission intensity per unit of net sales	Aiming to contribute to the realization of a sustainable global environment	10%
	Employee Engagement	Aiming for the growth of the company through the growth of each employee and the demonstration of their abilities	10%

Notes: 1. Relative TSR (against TOPIX): TSR stands for Total Shareholder Return and means the total investment yield for shareholders that combines capital gains and dividends (total shareholder yield). Relative TSRs (against TOPIX) compares the Company's TSR with the average TSR of TOPIX constituents in the covered period.  
2. GHG Emission Intensity per Unit of Net Sales: GHG Emission Intensity per Unit of Net Sales is an indicator that divides the Company Group's amount of emitted GHG (Greenhouse Gas) by net sales, which shows the carbon efficiency in the business activities.

## Composition of Compensation\*

	Fixed Compensation	Variable Compensation	
	Monthly Compensation	Bonus	Stock Compensation
Director and President & CEO	35%	30%	35%
Directors who concurrently serve as Executive Officers (excluding President & CEO)	50%	25%	25%
Directors who do not concurrently serve as Executive Officers (Director & Chairperson)	60%		40%
Outside Directors	90%		10%

\* If none of the above applies, it shall be deliberated by the Compensation Committee and resolved by the Board of Directors.



# Compensation System

## Variable Compensation

	Bonus	Stock Compensation
Overview	The compensation for each officer's position is adjusted based on the consolidated performance indicators for the fiscal year, with the aim of further enhancing their motivation to meet the annual performance targets.	The plan is intended to enhance the motivation to contribute to medium- to long-term improvements in corporate value and to promote sharing of gains with shareholders, as well as to further enhance the motivation to achieve the performance targets in the medium-term management plan. Compensation under the plan consists of a performance-linked component, whereby the Company issues AGC shares—the number of which varies in accordance with each officer's position and their level of achievement of the consolidated performance indicators in the medium-term management plan—and a fixed component, whereby a fixed number of AGC's shares are issued in accordance with each officer's position.
Performance Indicators	Performance indicators shall be return (operating profit) on capital employed (calculated by dividing operating profit by operating assets) and cash flows, given the importance of improving business profitability and asset efficiency, as well as of generating cash flows.	Starting from January 2024, in addition to the financial indicators ROE (weighted at 30%) and EBITDA (also 30%), the Company introduced a new stock price indicator, TSR relative to TOPIX (20%), and non-financial indicators, GHG emission intensity per unit of net sales (10%) and employee engagement (10%).
Variable Elements	The amount shall vary in accordance with the level of achievement of the target for return (operating profit) on capital employed and the level of improvement of cash flows compared with the previous year. Further, the amount shall vary within a range of 0% to 200% of the standard payment amount, in principle, with consideration for factors including companywide performance, improvement of non-financial capital and progress in business portfolio conversion, as well as individual performance.	The performance-linked component is calculated as a weighted average with prescribed ratios (25% for the first year, 25% for the next year, and 50% for the final year) regarding the level of achievement of financial indicators (ROE and EBITDA) in each year during the medium-term management plan. In addition, stock price indicators and non-financial indicators are calculated as a lump-sum evaluation over the medium-term management plan period. As a general rule, it shall vary in the range of 0–200% of the standard payment amount. Officers shall continue to hold AGC shares acquired through the stock-based compensation system following the conclusion of the medium-term management plan until they retire from office.
Compensation Results Based on 2023 Performance Indicators	<p>2023 Results</p> <ul style="list-style-type: none"> <li>Return (operating profit) on capital employed was 4.7% (adjusted amount), compared with a target of 8.5%.</li> <li>Cash flow indicator turned out roughly as the previous year.</li> <li>In light of the two indicators above and a Groupwide evaluation, bonuses to be paid to directors serving concurrently as executive officers were set at 85% of the standard payment amount.</li> </ul>	<p>2023 Results</p> <ul style="list-style-type: none"> <li>Return (business profit) on capital employed was 5.9%, compared to the target of 7.0% set during the initial formulation of the medium-term management plan for the fiscal year ending December 31, 2023, the final year of the medium-term management plan.</li> <li>EBITDA was ¥304.1 billion (calculated simply by adding operating profit and depreciation and amortization), compared to a target of ¥344.0 billion set during the initial formulation of the medium-term management plan.</li> <li>The percentage change in the performance-linked portion during the period of the medium-term management plan that ended in the fiscal year ending December 31, 2023 is <math>\pm 0\%</math>, including the results for the first and second years of the medium-term management plan.</li> </ul>
Targets	<p>2024 Targets</p> <p>Given the importance of increasing the profitability and asset efficiency of businesses and generating cash flows, return on capital employed and cash flows will be used as performance indicators.</p>	<p>Medium-Term Management Plan (2026) Targets</p> <p>Among the performance indicators used for stock compensation, the targets for the financial indicators, ROE and EBITDA, for the fiscal year ending December 31, 2026 are as follows.</p> <p>ROE: 8.4% or more</p> <p>EBITDA: ¥441.0 billion or more</p>

Note EBITDA: Calculated simply by adding operating profit and depreciation

# Messages from the Chairperson of the Nominating Committee and the Chairperson of the Compensation Committee

## Developing next-generation leaders

Chairperson of the Nominating Committee, Outside Director

### Keiko Honda

Before becoming an adjunct professor specializing in environmental, social, and governance (ESG)-related investment at Columbia University in the United States, Keiko Honda was engaged for many years in consulting work on corporate strategy, M&As, and alliances at McKinsey & Company, Inc. Japan, and other firms, in addition to serving as the representative of a multinational organization. Utilizing her extensive knowledge on the management of corporations and global organizations, she provides expert recommendations on AGC's overall business management. Years of service as a director: Four (as of March 30, 2024)



### Committee support for organizational ambidexterity

The AGC Group was the first Japanese company to be featured by Charles A. O'Reilly (Professor at Stanford University Graduate School of Business) as an example of organizational ambidexterity. How should we grow Strategic Businesses in our business portfolio while strengthening Core Businesses to generate returns? At the same time, how should we pursue sustainability? We intend to fulfill our duties as the Nominating Committee with these matters in mind.

The businesses that are the main sources of revenue will change, so it is important to continually decide where and how much management resources to allocate. In FY2023, we took decisive action regarding the reappointment of CEO Hirai. Discussions were held involving Mr. Hirai himself, and as the Nominating Committee, we reported our evaluation to the Board of Directors. We believe this was an opportunity for gaining and understanding of what the Nominating Committee prioritizes and to consider the next objectives.

### Fostering the development of next-generation leaders

In FY2023, we discussed the development of next-generation leaders. This has been an ongoing effort, but under CEO Hirai's initiative, interviews with next-generation candidates have been conducted, and the results have been shared with the Nominating

Committee. It was a great achievement that we were able to conduct evaluations not only from an internal perspective but also from an external perspective, and to discuss how to develop their potential. Supporting the growth of next-generation leaders and next next-generation leaders is an important role for us, so we will continue to put even more effort into this in the future.

### A Board of Directors meeting where lively discussions take place

One of the great things about the AGC Group is that the Board of Directors holds lively discussions. Also, the Group has a culture in which the opinions of outside directors are listened to carefully. As for diversity, I, as a woman, am the chairperson of the Nominating Committee, and there are also female Audit & Supervisory Board member and executive officers. We also have foreign executive officers playing active roles. As a company with a global presence, we believe that we have room for greater diversity in nationalities.

### Meeting investor expectations

Investors' expectations are rising, not only for improved capital efficiency but also for sustainability. Reducing GHG emissions is a key management issue, and with clear goals set for employee diversity and certain results already achieved, I anticipate continued efforts in these areas. As an outside director, I will continue making proactive proposals.

## Revision of the compensation system is a major step toward growth

Chairperson of the Compensation Committee, Outside Director

### Isao Teshirogi

In 2008, Isao Teshirogi was appointed representative director, president and CEO of Shionogi & Co., Ltd., and serves as both Chairman and CEO of this drug discovery-based pharmaceutical company focused on high-value-added products and services. By utilizing his wealth of experience in overall corporate management, including the management of overseas business operations, he oversees and monitors the management of the Company from an independent standpoint and submits proposals on the overall management of the Company, including the development of its Strategic Businesses. Years of service as a director: Two (as of March 30, 2024)



### A compensation system that satisfies stakeholders

The Compensation Committee, an advisory body to the Board of Directors, emphasizes transparency and fairness in the compensation decision-making process. In considering the compensation system as part of the medium-term management plan from FY2024, the Compensation Committee held a series of lively discussions. Finally, the Board of Directors passed a resolution on the executive compensation plan for FY2024 and beyond. I believe that the compensation system has become one that all AGC Group stakeholders, including customers, shareholders, and employees, can recognize as steadily evolving.

### Including stock-price and non-financial indicators

In addition to the financial indicators ROE and EBITDA, this revision includes a stock price index that compares TSR (Total Shareholder Return) to the average of TOPIX component stocks as a performance-linked indicator for executive officers' stock compensation. This was designed with the objective of committing executive officers to the enhancement of corporate value over the medium and long term. We have also added non-financial indicators for GHG emissions per unit of sales and employee engagement.

### Importance of monitoring

I believe that the timing of going from zero to one is

important. A compensation system that takes non-financial indicators and stock price into consideration is a major change and should be an important turning point for the AGC Group. As the compensation system evolves, sales, profits, management efficiency, and profitability will also increase. Ideally, PBR will rise to reflect the stock price, and the entire AGC Group will evolve. The next step is to steadily monitor whether the new compensation system works as intended. The new medium-term management plan, which began in FY2024, will be a critical three-year period for AGC. We, as outside directors, are also expected to deliver results. It is necessary to monitor the situation closely and take action in accordance with the results obtained.

### Leveraging a strong and transparent governance structure

The governance structure of the AGC Group is very strong and highly transparent. The committee is chaired by an independent outside director, and the effectiveness of the Board of Directors is ensured. We also have open exchanges of opinions with our Audit & Supervisory Board members. The AGC Group aims to become a company that represents Japan in both name and reality, from both financial and non-financial perspectives. We also aim to be among the top 100 in the country in terms of market capitalization. Envisioning this goal, all directors will work hand in hand.

# Board of Directors, Audit & Supervisory Board Members, and Executive Officers (As of March 30, 2024)

## Board of Directors and Audit & Supervisory Board Members

Director & Chairman  
**Takuya Shimamura**



**Apr. 1980** Joined the Company  
**Jan. 2009** Executive Officer and GM of Planning & Coordination Office, Chemicals Company  
**Jan. 2010** Executive Officer and President of Chemicals Company  
**Jan. 2013** Senior Executive Officer and President of Electronics Company  
**Jan. 2015** President & CEO  
**Mar. 2015** Representative Director and President & CEO  
**Jan. 2021** Representative Director & Chairperson  
**Mar. 2021** Director & Chairperson (incumbent)

Representative Director,  
President & CEO  
**Yoshinori Hirai**



**Apr. 1987** Joined the Company  
**Jan. 2012** Executive Officer and GM of Business Development Office  
**Jan. 2014** Senior Executive Officer and GM of Technology General Division  
**Mar. 2014** Director, Senior Executive Officer and GM of Technology General Division  
**Jan. 2016** Director, Senior Executive Officer, CTO and GM of Technology General Division  
**Jan. 2018** Representative Director, Executive Vice President, CTO and GM of Technology General Division  
**Jan. 2019** Representative Director, Executive Vice President and CTO  
**Jan. 2021** Representative Director and President & CEO (incumbent)

Representative Director,  
Senior Executive  
Vice President, CFO and CCO  
**Shinji Miyaji**



**Aug. 1990** Joined the Company  
**Jan. 2010** Executive Officer and Group Leader of Corporate Planning Group, Office of the President  
**Nov. 2012** Executive Officer, Senior Vice President of AGC Flat Glass North America, Inc.  
**Feb. 2013** Executive Officer and Regional President of North America, Glass Company  
**Oct. 2013** Executive Officer and GM of Strategy Office, Glass Company  
**Jan. 2014** Executive Officer and GM of Electronics General Division, Electronics Company  
**Jan. 2015** Senior Executive Officer and GM of Office of the President  
**Mar. 2015** Director, Senior Executive Officer and GM of Office of the President

**Jan. 2016** Director, Senior Executive Officer, CFO and GM of Corporate Planning Division  
**Jan. 2018** Representative Director, Executive Vice President, CFO and CCO  
**Oct. 2019** Representative Director, Executive Vice President, CFO, CCO and GM of Corporate Planning General Division  
**Mar. 2020** Representative Director, Senior Executive Vice President, CFO, CCO and GM of Corporate Planning General Division  
**Jan. 2023** Representative Director, Senior Executive Vice President, CFO and CCO (incumbent)

Representative Director,  
Executive Vice President,  
CTO and GM of Technology  
General Division  
**Hideyuki Kurata**



**Apr. 1987** Joined the Company  
**Jan. 2018** Executive Officer and GM of Life Science General Division, Chemicals Company  
**Jan. 2019** Senior Executive Officer and GM of Technology General Division  
**Jan. 2021** Senior Executive Officer, CTO and GM of Technology General Division  
**Mar. 2021** Director, Senior Executive Officer, CTO and GM of Technology General Division  
**Jan. 2022** Director, Executive Vice President, CTO and GM of Technology General Division  
**Mar. 2022** Representative Director, Executive Vice President, CTO and GM of Technology General Division  
**Apr. 2022** Representative Director, Executive Vice President, CTO, GM of Technology General Division and GM of Business Development Division  
**Jan. 2023** Representative Director, Executive Vice President, CTO and GM of Technology General Division (incumbent)

Outside Director,  
Chairperson of the Board  
of Directors, Member of  
Nominating Committee  
and Compensation  
Committee  
**Hiroyuki Yanagi**



**Apr. 1978** Joined Yamaha Motor Co., Ltd.  
**Mar. 2007** Executive Officer of said company  
**Mar. 2009** Senior Executive Officer of said company  
**Mar. 2010** President, CEO and Representative Director of said company  
**Jan. 2018** Chairperson and Representative Director of said company  
**Mar. 2019** Director of the Company (incumbent)  
**Mar. 2021** Chairperson and Director of Yamaha Motor Co., Ltd.  
**Jan. 2022** Director of said company  
**Mar. 2022** Advisor of said company (incumbent)

Outside Director,  
Chairperson of  
Nominating  
Committee, Member  
of Compensation  
Committee  
**Keiko Honda**



**Apr. 1984** Joined Bain & Company Japan, Incorporated  
**May 1986** Joined Shearson Lehman Brothers Securities Co., Ltd.  
**Jul. 1989** Joined McKinsey & Company, Inc. Japan  
**Jul. 1999** Partner of said company  
**Jul. 2007** Director (Senior Partner) of said company  
**Jul. 2013** Executive Vice President & CEO of Multilateral Investment Guarantee Agency (World Bank Group)  
**Oct. 2019** Retired from said agency  
**Jan. 2020** Adjunct Professor of Columbia University in the City of New York (incumbent)  
**Mar. 2020** Director of the Company (incumbent)

Outside Director,  
Chairperson of  
Compensation  
Committee,  
Member of Nominating  
Committee  
**Isao Teshirogi**



**Apr. 1982** Joined Shionogi & Co., Ltd.  
**Jun. 2002** Director of said company  
**Apr. 2004** Director and Executive Officer of said company  
**Apr. 2006** Director and Senior Executive Officer of said company  
**Apr. 2008** Representative Director, President and CEO of said company  
**Mar. 2022** Director of the Company (incumbent)  
**Jul. 2022** Chairman of the Board, Representative Director, President and CEO, Shionogi & Co., Ltd. (incumbent)

# Board of Directors, Audit & Supervisory Board Members, and Executive Officers

Full-time Audit &  
Supervisory Board  
Member (Outside)

**Isamu Kawashima**



**Apr. 1981** Joined NEC Corporation  
**Jun. 2011** General Manager, Corporate Controller Division,  
General Manager, Internal Control over Finance  
Reporting Division and Member of the Board of said  
company  
**Jul. 2011** Senior Vice President, CFO and Member of the Board  
of said company  
**Apr. 2015** Executive Vice President, CFO and Member of the  
Board of said company  
**Apr. 2017** Representative Executive Vice President, CFO and  
Member of the Board of said company  
**Jun. 2018** Audit & Supervisory Board Member of said company  
**Jun. 2022** Retired from said company  
**Mar. 2023** Full-time Audit & Supervisory Board Member of the  
Company (incumbent)

Full-time Audit &  
Supervisory Board  
Member

**Tetsuo Tatsuno**



**Apr. 1982** Joined the Company  
**Jan. 2009** Executive Officer and GM of Finance & Accounting  
Center  
**Jul. 2009** Executive Officer and Deputy GM of Finance & Control  
Office  
**Apr. 2010** Executive Officer and Vice President, Planning and  
Coordination, Glass Company  
**Jan. 2013** Executive Officer and GM of Finance & Control Office  
**Jan. 2015** Senior Executive Officer and GM of Finance & Control  
Office  
**Jan. 2016** Senior Executive Officer and GM of Finance & Control  
Division  
**Jan. 2017** Senior Executive Officer and Assistant to CEO  
**Mar. 2017** Full-time Audit & Supervisory Board Member  
(incumbent)

Audit & Supervisory  
Board Member (Outside)

**Tatsuro Ishizuka**



**Apr. 1978** Joined Hitachi, Ltd.  
**Apr. 2011** Vice President and Executive Officer of said company  
**Apr. 2013** Senior Vice President and Executive Officer of said company  
**Apr. 2014** Representative Executive Vice President and Executive  
Officer of said company  
**Apr. 2015** Director and Deputy Chairperson, Hitachi Europe Ltd.  
**Jul. 2016** Director and Chairperson, Hitachi Research Institute  
**Apr. 2017** Representative Executive Officer and Chairperson,  
Hitachi Construction Machinery Co., Ltd.  
**Jun. 2017** Director, Representative Executive Officer and  
Chairperson of said company  
**Apr. 2019** Director of said company  
**Jun. 2019** Retired from said company  
President, The Hitachi Global Foundation  
**Mar. 2022** Audit & Supervisory Board Member of the Company (incumbent)  
**Jun. 2022** Retired from position of President, The Hitachi Global Foundation

Audit & Supervisory  
Board Member (Outside)

**Haruka Matsuyama**



**Apr. 1995** Appointed as Assistant Judge, Tokyo District Court  
**Jul. 2000** Registered as Lawyer (Daini Tokyo Bar Association)  
Joined Hibiya Park Law Offices  
**Jan. 2002** Partner, Hibiya Park Law Offices (incumbent)  
**Mar. 2023** Audit & Supervisory Board Member of the Company  
(incumbent)

## Executive Officers [For more information, please see here.](#)

### President & CEO

**Yoshinori Hirai**

### Senior Executive Vice President

CFO, CCO

**Shinji Miyaji**

### Executive Vice President

CTO, GM of Technology General Div.

**Hideyuki Kurata**

### Senior Executive Officers

GM of Finance & Control Div.

**Toshiro Kasuya**

President of Automotive Company

**Yoshio Takegawa**

GM of Human Resources Div.

**Junichi Kobayashi**

President of Electronics Company,  
GM of Electronic Materials General Div.,  
Electronics Company

**Nobuyuki Suzuki**

President of Life Science Company

**Tadashi Murano**

GM of Corporate Planning General Div.

**Noriyuki Komuro**

President of Architectural  
Glass Europe & Americas Company

**Davide Cappellino**

GM of EHSQ General Div., GM of  
AGC Yokohama Technical Center

**Shinya Mine**

President of Chemicals Company

**Tatsuo Momii**

### Executive Officers

GM of Technology Office, Automotive Company

**Tatsuo Sugiyama**

Regional President for Europe,  
Automotive Company

**Jean-Marc Meunier**

Chief Representative of AGC Group for China

**Toshihiro Ueda**

Senior Vice President of  
Architectural Glass Europe & Americas Company

**Atsushi Ichikawa**

Assistant to the President of  
the Electronics Company

**Satoshi Takada**

GM of Innovative Technology Laboratories,  
Technology General Div.

**Hiroki Kamiya**

GM of Internal Audit Div.

**Naoko Araki**

President of AGC Ceramics Co., Ltd.

**Masaru Ota**

GM of the Global OEM Management Office and  
Strategic & Planning Office, Automotive Company

**Takashi Narushima**

Regional President for Asia, Automotive Company

**Hiroyuki Ohtani**

President of Architectural Glass Asia Pacific Company

**Shigeki Yoshiba**

GM of Materials Integration  
Laboratories, Technology General Div.

**Shunsuke Yokotsuka**

GM of the Procurement & Logistics Div.

**Seigo Iwakura**

GM of Production Management  
General Div., Chemicals Company

**Yasuyuki Ueda**

GM of Essential Chemicals General Div.,  
Chemicals Company

**Yoshihisa Horibe**

GM of Display Glass General Div., Electronics Company

**Mitsuru Furuta**

GM of Strategic & Planning Div.,  
Corporate Planning General Div.

**Hiroaki Sano**

GM of Planning Div., Technology General Div.

**Yuriko Kaida**

GM of Business Development Div.

**Hiroshi Wakatsuki**

AGC Biologics CEO, Life Science Company

**Patricio Massera**

GM of Performance Chemicals General Div.,  
Chemicals Company

**Jiro Nishino**

GM of the Sustainability Div.,  
Corporate Planning General Div.

**Kazumi Tamaki**

GM of Production Technology Div.,  
Technology General Div.

**Isao Naruge**



# Board of Directors, Audit & Supervisory Board Members, and Executive Officers

## Skills of Directors and Audit & Supervisory Board Members

Name	Posts	Global Business Management	Legal & Compliance	Finance & Accounting	Sales & Marketing	Manufacturing & R&D	Business Development	IT, DX	Sustainability
Takuya Shimamura	Director & Chairman	●			●				●
Yoshinori Hirai	Representative Director, President & CEO	●			●	●	●	●	●
Shinji Miyaji	Representative Director, CFO & CCO	●	●	●			●	●	●
Hideyuki Kurata	Representative Director & CTO	●			●	●	●	●	●
Hiroyuki Yanagi	Outside Director	●			●	●		●	●
Keiko Honda	Outside Director	●		●					●
Isao Teshirogi	Outside Director	●			●	●	●		●
Isamu Kawashima	Full-time Audit & Supervisory Board Member	●	●	●					●
Tetsuo Tatsuno	Full-time Audit & Supervisory Board Member	●	●	●					●
Tatsuro Ishizuka	Audit & Supervisory Board Member	●				●		●	●
Haruka Matsuyama	Audit & Supervisory Board Member		●						●

## Reason for Selection of Each Skill and Definitions of Skills

The AGC Group uses a skills matrix for the purpose of verifying whether human resources are being properly selected by providing a visual representation to determine if the compositions of the Board of Directors and Audit & Supervisory Board are well balanced in terms of knowledge, skills, and experience. There are eight skill categories that relate to three perspectives, which are corporate governance, strategic coherence, and business characteristics. The Company examines whether it is necessary to reassess these skills when the corporate governance structure changes and when new medium-term management plans are formulated.

### Perspectives

#### 1 Corporate Governance

Aligned with functions required of the Board of Directors (advisory and monitoring)

#### 2 Strategic Coherence

Key strategies of **AGC plus-2026**

- Evolution of “ambidextrous strategy”
- Promoting of value creation DX
- Deepening of sustainability management
- Strengthening of the management foundation

#### 3 Business Characteristics

Includes diverse specialized skills

	Skills	Definitions of skills
Basic specialized skills	Global Business Management	The ability to manage a corporation from a global perspective, as well as the perspectives of business portfolios and human resource management
	Global management	The ability to manage a corporation from a global perspective
	Business portfolio management	The ability to optimally allocate management resources while considering an optimal balance of businesses
	Human resource management	The ability to develop and manage human resources related to management strategy
	Legal & Compliance	The ability to properly understand and manage risks with knowledge of legal and compliance matters
Diverse specialized skills	Finance & Accounting	The ability to propose financial strategies linked to management strategies with knowledge of financial and accounting matters
	Sales & Marketing	The ability to propose sales and marketing strategies while understanding the needs of customers
	Manufacturing & R&D	The ability to develop new products through research and technological innovation, as well as to operate and improve production systems
	Manufacturing	The ability to manage and reform production organizations with knowledge of manufacturing technologies, as well as of production and quality management
	Research and development	The ability to develop new products using research and technological innovation
	Business Development	The ability to grasp the needs of society and customers, and to promote the creation, building, and expansion of businesses
	IT, DX	The ability to transform business models, business processes, etc. through the use of data and digital technologies
	Sustainability	The knowledge of sustainability necessary to balance sustainable development of global environment and society with the sustainable growth of a corporation
	Environment	The knowledge necessary to balance a sustainable global environment with the sustainable growth of a corporation
	Society	The knowledge necessary to balance a sustainable society with the sustainable growth of a corporation
	Governance	The knowledge of fair and appropriate corporate governance

# Financial Data

Organizations covered in the report: AGC Inc. and its consolidated subsidiaries

Reporting period: January 1 to December 31

## Business Results

	2015	2016	2017	2018	2019	2020	2021	2022	(Millions of yen) 2023
Net sales	1,326,293	1,282,570	1,463,532	1,522,904	1,518,039	1,412,306	1,697,383	2,035,874	2,019,254
Operating profit	71,172	96,292	119,646	120,555	101,624	75,780	206,168	183,942	128,779
Profit before tax	84,522	67,563	114,424	128,404	76,213	57,121	210,045	58,512	122,775
Profit (loss) for the year	46,287	53,362	79,297	101,991	55,515	41,164	159,062	22,505	82,484
Profit (loss) for the year attributable to owners of the parent	42,906	47,438	69,225	89,593	44,434	32,715	123,840	(3,152)	65,798
Depreciation	137,381	121,803	128,226	121,668	143,361	143,716	166,756	185,656	175,346
Capital expenditure	125,103	126,025	165,095	230,598	207,661	241,348	216,503	236,553	231,715
R&D expenses	38,927	39,212	43,912	45,755	47,450	46,444	49,444	52,252	57,342
Cash Flows from operating activities	187,170	203,637	203,504	189,287	191,906	225,392	326,713	217,146	212,546
Cash Flows from investing activities	(115,951)	(113,596)	(209,560)	(194,450)	(182,636)	(230,248)	(123,787)	(145,312)	(179,790)
Free cash flow	71,218	90,041	(6,055)	(5,162)	9,269	(4,855)	202,926	71,834	32,755

## Major Investment Indices

	2015	2016	2017	2018	2019	2020	2021	2022	(Millions of yen) 2023
Market value	804,604	920,461	1,102,751	758,662	869,552	796,764	1,216,595	974,298	1,109,050
Return on equity attributable to owners of the parent (ROE)* <sup>1</sup>	3.9%	4.3%	6.1%	7.7%	3.9%	2.9%	10.2%	—	4.6
Return on assets (ROA)* <sup>2</sup>	3.5%	4.8%	5.7%	5.4%	4.4%	3.1%	7.9%	6.7%	4.5
Price / earnings ratio (PER) (times)	18.75	19.40	16.15	8.59	19.57	24.35	9.82	(309.07)	17.18
Price / book value ratio (PBR) (times)	0.74	0.84	0.93	0.67	0.75	0.71	0.93	0.70	0.77
Return on invested capital (ROIC)* <sup>3</sup>	2.6%	2.9%	4.1%	5.0%	2.4%	1.6%	5.9%	(0.1%)	2.9%
EBITDA* <sup>4</sup>	228,381	195,767	249,879	259,424	231,856	208,458	383,226	253,209	315,965
Earnings (loss) per share* <sup>5</sup> (yen)	184.85	204.25	300.65	397.58	199.95	147.24	557.10	(14.22)	304.01
Cash dividends per share* <sup>5</sup> (yen)	90.00	90.00	105.00	115.00	120.00	120.00	210.00	210.00	210.00
Consolidated dividend payout ratio	48.5%	43.9%	34.8%	28.8%	59.7%	81.2%	37.6%	—	68.9%

# Financial Data

## Asset and Efficiency Indicators

	2015	2016	2017	2018	2019	2020	2021	2022	(Millions of yen) 2023
Total assets	1,991,262	1,981,451	2,228,560	2,235,776	2,335,415	2,534,458	2,666,031	2,814,029	2,932,991
Property, plant and equipment	982,296	937,869	1,060,601	1,108,934	1,177,691	1,246,885	1,323,868	1,350,769	1,457,950
Inventories	235,374	227,284	261,708	277,014	291,224	274,835	330,101	436,516	454,056
Trade receivables	241,294	241,476	260,497	260,111	264,102	266,177	295,161	315,808	338,850
Total asset turnover* <sup>6</sup> (times)	0.65	0.65	0.70	0.68	0.66	0.58	0.65	0.74	0.70
Tangible fixed asset turnover* <sup>7</sup> (times)	1.29	1.34	1.46	1.40	1.33	1.16	1.32	1.52	1.44
Inventory turnover* <sup>8</sup> (months)	2.9	3.0	2.8	2.9	3.1	3.2	3.1	3.1	3.5
Receivables turnover* <sup>9</sup> (months)	2.3	2.3	2.1	2.1	2.1	2.3	2.0	1.8	1.9

## Indicators of Stability

	2015	2016	2017	2018	2019	2020	2021	2022	(Millions of yen) 2023
Shareholders' equity* <sup>10</sup>	1,094,172	1,095,438	1,184,034	1,137,204	1,157,097	1,115,142	1,314,161	1,390,254	1,447,080
Shareholders' equity ratio	54.9%	55.3%	53.1%	50.9%	49.5%	44.0%	49.3%	49.4%	49.3%
Debt-to-equity ratio* <sup>11</sup> (times)	0.40	0.37	0.38	0.43	0.47	0.63	0.41	0.41	0.42

\*1 Return on equity attributable to owners of percent = Profit (loss) for the year attributable to owners of the parent / Equity attributable to owners of the parent

\*2 Return on assets = Operating profit / Total assets

\*3 Return on invested capital = Profit (loss) for the year attributable to owners of the parent / Average invested capital. Invested capital = Total equity + Interest-bearing debt

\*4 Earnings before interest, tax, depreciation, and amortization (EBITDA) = Profit before taxes + Depreciation + Interest expenses

\*5 The Company consolidated its common shares at a ratio of 5 shares to 1 share on July 1, 2017. Accordingly, per-share data is calculated on the assumption that the consolidation of shares was conducted at the beginning of.

\*6 Total asset turnover = Net sales / Total assets \*Average of beginning and ending balance

\*7 Tangible fixed asset turnover = Net sales / Tangible fixed assets (Property, plant and equipment) \*Average of beginning and ending balance

\*8 Inventory turnover = Inventories / (Cost of sales / 12) \*Average of beginning and ending balance

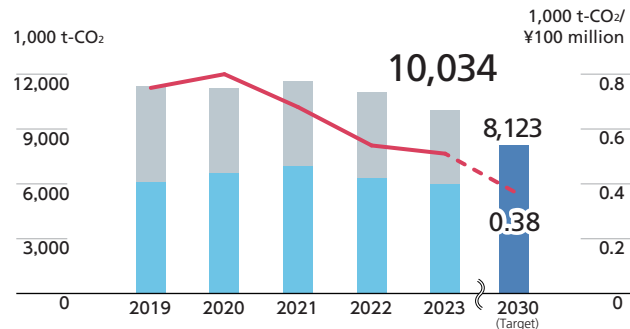
\*9 Receivables turnover = Trade notes and accounts receivable (Trade receivables) / (Net sales / 12)

\*10 Shareholders' equity = Net assets – Treasury shares – Minority interests

\*11 Debt-to-equity ratio = Interest-bearing debt / Net assets (equity)

## Non-Financial Highlights

### GHG Emissions (Scope 1 and 2)

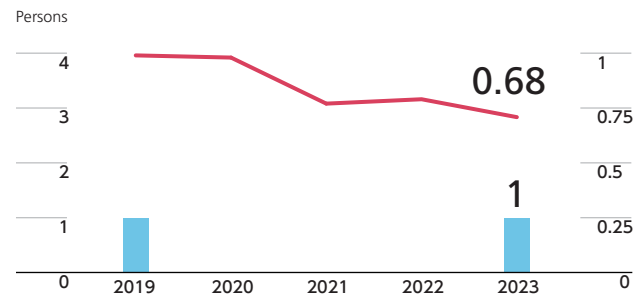


■ Scope1 (left axis) ■ Scope2 (left axis) — Emissions intensity (right axis)

\* The Scope 1, 2, 3 figures for 2023 are preliminary values / Emissions before 2022 include emissions from transferred businesses

We aim to achieve carbon net zero by 2050, a 30% reduction in GHG emissions by 2030 compared to 2019, and a 50% reduction in GHG emissions per unit of sales by 2030.

### Number of Occupational Accidents



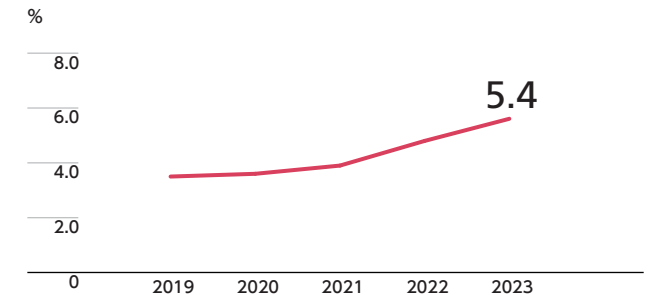
■ Number of fatalities (left axis) — Frequency of accidents requiring leave\* (right axis)

\* Frequency of accidents requiring leave = Fatalities and injuries due to work-related accidents (leave of one or more days) × 1,000,000 ÷ Total working hours

The AGC Group promotes health and safety activities based on its policy of "No Production without Safety."

Note: The frequency of accidents requiring leave in 2022 has been revised from 0.79 to 0.83 due to revisions to the number of accidents at overseas bases.

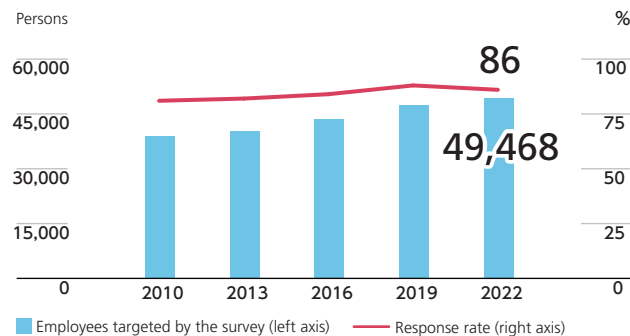
### Percentage of Female Managers\* (Section Managers and Above) (AGC, Non-Consolidated Basis)



\* As of December 31 of each year (excluding employees aged 60 and above)

To provide society with value through the realization of diversity that empowers talented personnel regardless of gender, AGC aims for women to account for 30% of its directors and Audit & Supervisory Board members, 20% of its executive officers, and 8% of its managers by 2030 on a non-consolidated basis.

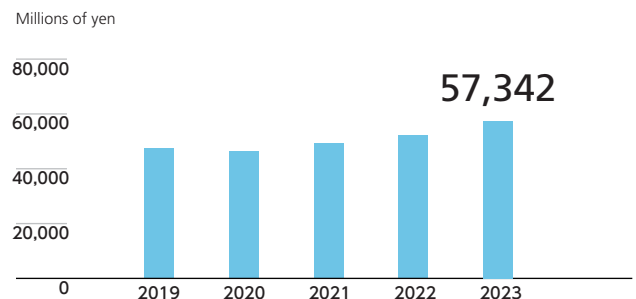
### Engagement Surveys



■ Employees targeted by the survey (left axis) — Response rate (right axis)

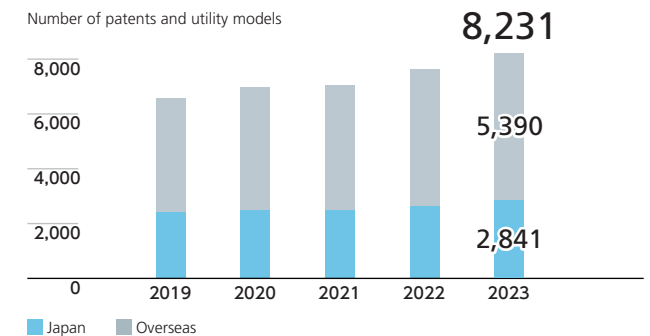
We conduct engagement surveys every three years targeting all AGC Group employees. Based on the survey results, we determine and implement necessary measures in each division and workplace. We continually strive to enhance engagement by verifying the effectiveness of these measures through annual simplified surveys.

### Research and Development Expenses



AGC will advance research and development to continuously create economic and social value based on the Company's core technologies, which span the glass, electronics, chemicals, and ceramics fields.

### Patents and Utility Models



In alignment with our management strategy, we are enhancing our competitiveness in the global market through a strategic approach to intellectual property.



## External Evaluations

The main socially responsible investment (SRI)- and environmental, social, and governance (ESG)-related indices for which the AGC Group has been selected, as well as the main external evaluations of the AGC Group's ESG activities, are as follows.

### Inclusion in SRI/ESG Investment Indexes

AGC has been selected for the FTSE4Good Index Series, an SRI index created by FTSE Russell (headquartered in the United Kingdom); the FTSE Blossom Japan Index, an integrated ESG index that acknowledges the excellent performance of Japanese companies in ESG activities; and the newly created FTSE Blossom Japan Sector Relative Index.\*<sup>1</sup>



The Climate Disclosure Project (CDP), which scores the environmental initiatives of companies and local governments and discloses this information to investors, certified AGC as an "A-List company" for 2023 in the area of "Climate Change."



AGC has received WB2°C\*<sup>2</sup> certification from the Science Based Targets initiative (SBTi), which encourages companies to set GHG emissions reduction targets based on scientific evidence and also conducts the screening and certification of these targets.



AGC was selected for inclusion in the MSCI Japan Equity ESG Select Leaders Index\*, an index created by MSCI Inc. of the United States, which selects companies that excel in ESG evaluations.

※ THE INCLUSION OF AGC Inc. IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HEREIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF AGC Inc. BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.

### External Evaluations of ESG Activities

Certain AGC bases have been highly evaluated in sustainability assessments conducted by EcoVadis (headquartered in France).



AGC has been included as one of the Innovation Momentum 2024: The Global Top 100 innovators. LexisNexis Intellectual Property Solutions compiles this list by selecting 100 companies that are developing groundbreaking solutions to current social issues and laying the intellectual property foundation for further breakthroughs.

AGC was selected for inclusion in the Clarivate Top 100 Global Innovators list for 2023, marking its eighth inclusion and sixth consecutive year on the list. Clarivate Plc (UK), one of the world's leading information service providers, compiles the list using its patent database to identify the world's most innovative companies and research institutes.



In the 2023 governance assessment conducted by Institutional Shareholder Services (ISS) (USA), a voting advisory firm, AGC was awarded an overall Quality Score of 1, the highest possible rating, with scores of (1)\*<sup>3</sup> for the composition of its Board of Directors, (2) for shareholder rights, (1) for executive compensation, and (1) for auditing and risk management.

AGC was one of 30 companies selected by the Ministry of Economy, Trade and Industry (METI) and the Tokyo Stock Exchange as a Digital Transformation (DX) Stock 2023, which recognizes companies that demonstrate outstanding utilization of digital technologies and the establishment of internal systems for promoting DX, thereby enhancing corporate value.



AGC received a four-star rating in the Seventh Nikkei Smart Work Management Survey, organized by Nikkei Inc. This survey recognizes advanced companies that are pioneering a productivity revolution through workstyle reforms.



\*1: The FTSE Blossom Japan Sector Relative Index is designed to measure the performance of Japanese companies with excellent track records in ESG activities relative to their sectors. To promote the transition to a low-carbon economy, only companies that are major greenhouse gas emitters and are actively improving their practices, as assessed by Transition Pathway Initiative management quality scores, are included in the index.

\*2: Well below 2°C

\*3: Figures in parentheses are scores ranging from 1 to 10, with lower scores indicating lower governance risk

# The Asahi Glass Foundation

Creating a Truly Rich Society by  
Supporting Trailblazing Research and Fostering Talent

**af** THE ASAHI GLASS FOUNDATION

The Blue Planet Prize symbol engraved on a trophy

The Asahi Glass Foundation traces its origins back to the Asahi Foundation for Chemical Industry Promotion, which was established in 1933 to commemorate the 25th anniversary of the founding of Asahi Glass Co., Ltd. (now AGC Inc.). In 1990, the foundation expanded its scope of grants and established new award programs, and the name of the foundation was changed to the Asahi Glass Foundation. In 2018, it assumed its current form through taking over the Scholarship Program of the Asahi Glass Scholarship Foundation.

The Asahi Glass Foundation is committed to enriching society through various activities, including providing grants for cutting-edge research, granting scholarships to future leaders, and recognizing individuals and organizations that have made significant contributions toward solving global environmental problems.

## Main Activities of the Asahi Glass Foundation

Since 2018, the foundation has focused on three key activities: the Commendation Program, the Research Grant Program, and the Scholarship Program.

### Commendation Program

- Presenting the “Blue Planet Prize,” an international environmental award.
- Conducting the Questionnaire on Environmental Problems and the Survival of Humankind as well as reporting the time on the “Environmental Doomsday Clock.”
- Conducting the Survey on the Awareness of Environmental Issues among the General Public.

### Research Grant Program

- Supporting original research by giving grants to universities and technical colleges in Japan, Thailand, Indonesia, and Vietnam.

### Provision of approx. ¥12.4 billion, covering 5,870 grants

- Launched the Blue Planet global environment special research grant program.  
This program was established to encourage collaboration with researchers with different fields of specialization, from basic research to research that attempts to verify social implementation, related to the global environment in line with the SDGs.



### Scholarship Program

- Fostering exceptional future leaders by providing scholarships to Japanese and international students enrolled in graduate schools in Japan.

### Provision of approx. ¥3.6 billion, covering 4,411 scholarships

- Establishment of Consistent scholarship students from Master to Doctor (CMD) program.  
Master's program students are selected as CMD, predicated on advancement to doctoral programs, and a scholarship (¥250,000 per month) is guaranteed after entering a doctoral program.

# Blue Planet Prize



The Blue Planet Prize is awarded to individuals and organizations in recognition of outstanding contributions toward solving global environmental problems. As a general rule, two recipients are selected each year, and the announcement of the awardees takes place in June. In the fall, an award ceremony and commemorative lectures are held in Tokyo and Kyoto to welcome the laureates. Each recipient receives a certificate of merit, a commemorative trophy, and 500,000 USD in prize money.

The award's name was inspired by the remark "The Earth is blue," uttered by the first human in space, Russian cosmonaut Yuri Gagarin, upon viewing our planet. The Blue Planet Prize was so named in the hope that our blue planet will be a shared asset capable of sustaining human life far into the future.

## Establishment of the Pioneering International Environmental Prize in 1992

Environmental conservation is one of the most pressing global issues humankind faces. In 1992, the year of the Earth Summit, the Asahi Glass Foundation established the Blue Planet Prize, an international environmental award, in the hope of restoring the global environment.

## TV mini-program: "Those Taking on the Challenge of Global Environmental Issues"

A total of 13 episodes of the mini-program aired on television from October to December 2023, showcasing the achievements of the 12 Blue Planet Award winners from 2012–2016 and 2023.

The content can also be viewed on the Blue Planet YouTube channel. <https://www.youtube.com/BluePlanetPrize>

## Former laureates (one of each year's two laureates)

**Dr. Syukuro Manabe**  
(USA)



**1992 (1st)**

Dr. Manabe pioneered research for predicting climate change by using numerical models. He was awarded the Nobel Prize in Physics in 2021.

**Dr. Gro Harlem Brundtland**  
(Norway)



**2004 (13th)**

Dr. Brundtland proposed and disseminated to the world the innovative concept of "sustainable development," which aims to balance environmental conservation with economic growth.

**Prof. Hirofumi Uzawa**  
(Japan)



**2009 (18th)**

Prof. Uzawa developed a theoretical framework for confronting environmental issues such as global warming, advocating the concept of Social Common Capital, which contributed to pioneering and highly original achievements.

**Barefoot College**  
(India)



**2011 (20th)**

The Foundation has supported rural villagers in developing countries and created a model for autonomous regional social development through educational activities that emphasize traditional ideas and self-respect.

**Prof. Jared Diamond**  
(USA)



**2019 (28th)**

Prof. Diamond regards environmental problems as fundamental to any study of human history and has influenced many people regardless of age or nationality to consider the next steps for civilization.

**Prof. Debarati Guha-Sapir**  
(Belgium)



**2023 (32nd)**

Prof. Guha-Sapir founded and led the development of the International Disaster Database (EM-DAT), the world's first data infrastructure of global disasters.

# Corporate and Stock Information

## Corporate Information

Head office	1-5-1, Marunouchi, Chiyoda-ku, Tokyo 100-8405, Japan
Company name	AGC Inc.
Founded	September 8, 1907
Incorporated	June 1, 1950
Representative	Yoshinori Hirai, Representative Director, President & CEO
Capital	¥90,873 million
Number of consolidated subsidiaries	194 (including 156 overseas)

## Stock Information

Stock listing	Tokyo Stock Exchange
Industry	Glass and ceramic products
Securities code	5201
Trading unit	100
Fiscal year	January 1 to December 31
Ordinary General Meeting of Shareholders	March
Stock authorized	400,000,000 shares
Stock issued	217,434,681 shares
Total number of shareholders	104,843

## Stock Information



Financial institutions	35.0%
Financial instruments business operators	8.2%
Other corporations	8.8%
Foreign corporations, etc.	20.8%
Individuals and others	27.2%

## Major Shareholders

	Number of shares held (Thousand shares)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	32,663	15.39
Custody Bank of Japan, Ltd. (Trust Account)	17,030	8.03
Meiji Yasuda Life Insurance Company	7,692	3.63
The Asahi Glass Foundation	6,297	2.97
Barclays Securities Japan Limited BNYM	6,000	2.83
Asahi Glass Business Partner Shareholding Association	4,663	2.20
STATE STREET BANK WEST CLIENT - TREATY 505234	3,690	1.74
Nippon Life Insurance Company	3,662	1.73
SMBC Nikko Securities, Inc.	3,646	1.72
Japan Securities Finance Co., Ltd.	3,566	1.68

### Notes

1. In addition to the above, AGC Inc. holds treasury stock of 5,256,180 shares.
2. The shareholding ratio is calculated excluding treasury stock.