

# AGC Integrated Report 2025

For the Year Ended December 31, 2024



# Introductory Remarks and Highlights of this Report

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

Operating under the AGC Group Philosophy **"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, the AGC Integrated Report 2025 provides detailed explanation on key strategies for realizing our long-term management strategy Vision 2030 as well as progress on 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.

I hereby declare that our process for creating the AGC Integrated Report is fair, and it appropriately describes the status of the AGC Group. We are striving to improve and expand information disclosure through various means, including this report. In doing so, we aim to further deepen dialogue with stakeholders. Thank you for your continued support.

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

## Highlights of AGC Integrated Report 2025

### Messages from Management

The CEO explains the AGC Group's strategies for enhancing corporate value and our long-term management strategy, Vision 2030 for stakeholders. The CFO explains management strategies with a focus on cost of capital and stock price, while the CTO discusses our technical strengths, as well as our technology development and intellectual property strategies.



p. 03



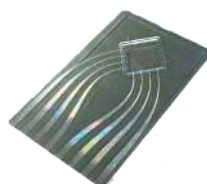
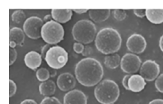
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### Special Feature

With continued growth expected in the semiconductor market, the AGC Group develops high-value-added products through collaboration between business divisions and the Technology General Division, unbounded by organizational barriers.



p. 54

### Technology and Innovation ▶ p. 33

We provide information on AGC's core technologies, examples of new product development driven by the complexification of core technologies, and our progress on technology development strategies.

### Human Resources ▶ p. 59

We provide information on human capital management represented by "AGC People: Driving our Growth!", to achieve our long-term management strategy, Vision 2030, and realize continuous corporate growth.

### Environment ▶ p. 65

We introduce environmental initiatives in representative business value chains, as well as examples of value creation. We also provide information on our response to climate change, in line with the TCFD framework.

### Message from Independent Directors ▶ p. 78

Three Independent Directors provide information on matters such as deliberations at meetings of the Board of Directors, assessments of the AGC Group's corporate governance system, and approaches to achieving greater corporate value for the AGC Group.





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### The Cover

This cover illustrates the three types of social value that the AGC Group aims to create: “Blue planet” (realization of a sustainable global environment), “Innovation” (creation of an innovative future society), and “Well-being” (contribution to safe and secure living).



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### Reporting Scope (report issued in June 2025)

- Reporting Period  
January 1 to December 31, 2024
- Reporting Organizations  
AGC Inc. and its 186 consolidated subsidiaries in and outside Japan

### Principal Expressions and Their Scope

- “The AGC Group” refers to the abovementioned reporting organizations.
- “AGC”: If there is no note, it is the same as AGC Group.

### 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.

### Forward-Looking Statements

Data and forward-looking statements in this integrated report are based on information available at the time of publishing. Actual business performance may differ significantly from forecasts owing to various factors. Accordingly, readers should not exclusively rely on these forward-looking statements. In addition, the Company bears no obligation to update these forward-looking statements based on new information, future events, or other factors.



## Main Communication Tools of the AGC Group

Financial Information	Non-Financial Information
 <p>AGC Integrated Report 2025 (this report) Introducing a wide range of corporate policies, business strategies, and activities aimed at enhancing corporate value over the long term <a href="https://www.agc.com/en/company/agc_report/index.html">@ https://www.agc.com/en/company/agc_report/index.html</a></p>	
 <p>Financial Review 2024 (English version only) Reporting on financial matters, including business overviews and consolidated financial statements <a href="https://www.agc.com/en/ir/library/financial/">@ https://www.agc.com/en/ir/library/financial/</a></p>	 <p>AGC Sustainability Data Book 2025 Reporting on non-financial data and policies for various initiatives aimed at achieving sustainability (publication scheduled for August 2025) <a href="https://www.agc.com/en/sustainability/book/index.html#ac02">@ https://www.agc.com/en/sustainability/book/index.html#ac02</a></p>
 <p>Shareholder and Investor Information Distributing detailed, timely information on the AGC Group to investors, with a focus on financial information <a href="https://www.agc.com/en/ir/">@ https://www.agc.com/en/ir/</a></p>	 <p>Sustainability Reporting on non-financial data and policies for various initiatives aimed at achieving sustainability <a href="https://www.agc.com/en/sustainability/index.html">@ https://www.agc.com/en/sustainability/index.html</a></p>
 <p>The AGC Website Providing a broad range of in-depth, timely information on the AGC Group <a href="https://www.agc.com/en/">@ https://www.agc.com/en/</a></p>	



## Message from the CEO

### Overcoming challenges and promoting our ambidextrous strategy

### Enhancing corporate value with long-term management and talent development

Representative Director  
President & CEO  
**Yoshinori Hirai**

#### **AGC-ness and our strengths and challenges** **Growth and evolution driven by our long-term perspective and our people**

What is AGC-ness? It is our corporate culture, built on open communication, taking on challenges, and encouraging initiative. These values empower each of us to grow proactively and fully utilize our strengths. This is what makes the AGC Group unique, and it is also one of our greatest strengths. For almost 120 years since its foundation, it is this culture that has enabled us to continually transform our business portfolio by taking on a wide range of challenges.

In 2016, to further refine our unique approach, we incorporated the concept of “ambidextrous strategy” into our business strategy. This management policy is to ensure that our existing “Core Businesses” are long-term, stable sources of earnings, while also creating highly profitable “Strategic Businesses” in new growth areas. This dual approach reflects a tradition that has been at the core of the AGC Group throughout our long history.

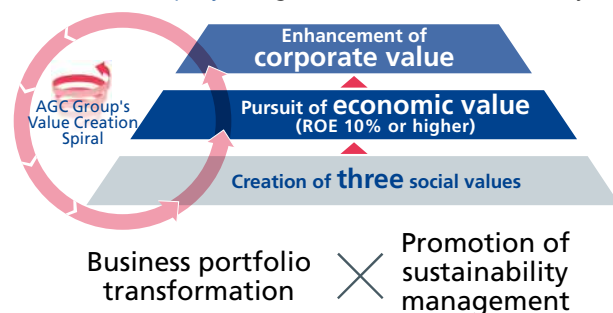


# Message from the CEO

The research and development, as well as the commercialization, of the materials requires a significant investment of time and effort. To achieve the long-term management strategy “Vision 2030”—that is, to contribute to the realization of a sustainable society through materials and to grow and evolve continuously—we are committed to leveraging the AGC Group’s unique strengths while adopting a long-term perspective in our management approach.

## 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.



## Challenges and initiatives for our “ambidextrous strategy”

Continuous growth and evolution are never easy. People often become reluctant to take on new challenges after experiencing success. While it’s easy to simply encourage people to take on challenges, it’s important that management themselves lead the way if we truly want our employees to do so. In 2016, we defined our Strategic Businesses, launched our ambidextrous strategy, and actively shared this new initiative throughout the Group. As a result, an increasing number of people have stepped forward to take on new challenges themselves.

Still, we face a difficult path ahead, as we look to continue our ambidextrous strategy and achieve our Vision. We are currently facing two challenges. First, we still have a way to go to transform our Core Businesses into foundations for



generating long-term, stable earnings. Second, our Strategic Businesses still lack sufficient resilience to respond to changes in the environment.

We achieved continuous growth in sales and profits in our Strategic Businesses from when we defined them in 2016 through 2021. Subsequently, the Life Science Business took a sharp downturn, and recorded a loss for two years. This was partly due to factors such as the petering out of extraordinary demand related to COVID-19, and global monetary tightening, which caused funding for small and mid-sized biotech companies to dry up. Yet it is fair to say that our inability to withstand these conditions is indicative of our true capabilities. Strategic Businesses have high growth potential, but this does not mean that instability in performance is acceptable. For example, the Electronics Business has continued to grow and

generate strong earnings. We must put the Life Science Business back on a similar growth trajectory, and ensure it is a resilient business. To achieve this goal, we have already begun overhauling our operational systems, which had not kept up with the rapid growth in production, and introducing digital transformation (DX) to eliminate reliance on manual labor.

Meanwhile, in our Core Businesses, performance was weak in the Display and Automotive Businesses, but substantial structural reforms are driving a rapid recovery in profits. We are no longer chasing volume and market share, like before. Instead, we have consolidated our production capabilities with profitability in mind, and implemented strategic pricing policies. We will apply similar approaches in other Core Business fields, transforming them into solid foundations for earnings, as we look to achieve and continue our ambidextrous strategy.

## Reflecting on 2024 and our progress toward **AGC plus-2026**

### Leaving the time of weak PBR and ROE behind

Looking back on 2024, first, I must face the fact that our largest-ever net loss for the period has caused concern among all stakeholders. Our exit from the Russian business was something that we had to do, despite losses. On the other hand, we must reflect on the fact that we had not built a resilient business structure capable of withstanding changes in the environment, as described, which resulted in impairment losses in the CDMO for biopharmaceuticals business. Over the last decade, our total profitability, measured by operating profit, has almost doubled, to more than 120 billion yen. Yet, the fact that we recorded a net loss is a major issue.

Our PBR is less than 1x, and I think this is mostly due to the fact that ROE has been weak as a result of these issues with our profit structure. ROE hit 10% in 2021, but has been unstable since, and our top priority is to ensure this indicator stays stable at 8% or more. Achieving a ROE of 8% will come within reach if we can reliably generate stable operating profit of 180 billion yen. To achieve this, we must ensure we make our Core Businesses solid foundations for long-term, stable

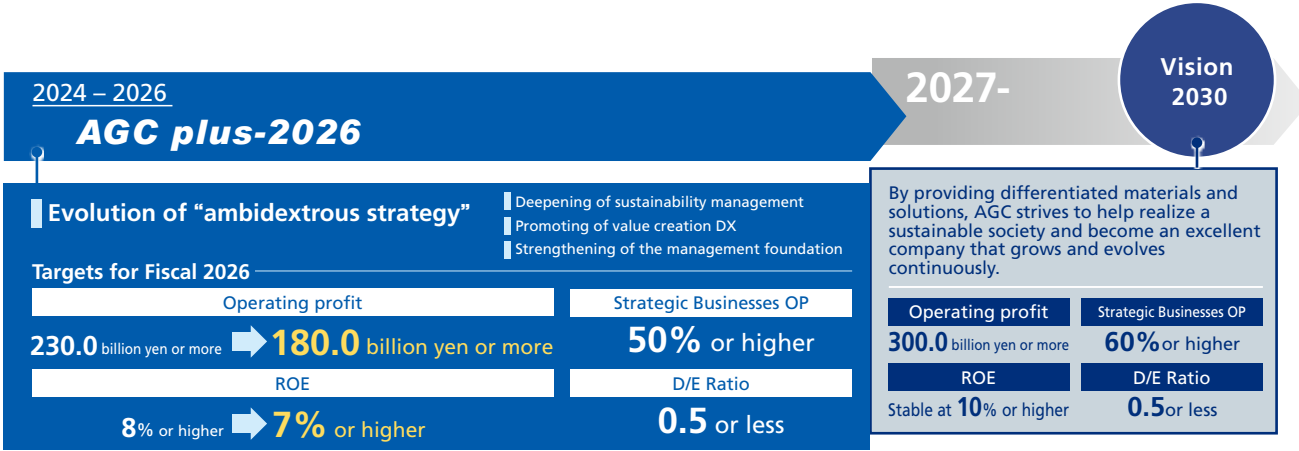
# Message from the CEO

earnings, while also making our Strategic Businesses resilient. In this way, we will restore our reputation with equity markets.

Approximately one year has passed since we announced our medium-term management plan, **AGC plus-2026** (the “current MTP”) in February 2024. We have substantially lowered our operating profit target for 2026 by 50.0 billion yen, from 230.0 billion yen to 180.0 billion yen. This is largely due to the weak performance of the Life Science Business. Additionally, it also includes the impact of factors such as lower sales prices in the Chlor-Alkali Business in Southeast Asia as the growth of the Chinese economy has slowed, and the slump in the Architectural Glass Business caused by slackness in the European economy. Although the Life Science Business has performed sluggishly in recent years, there is significant growth potential in the markets. We have improved our production and sales structures, and have submitted an increasing amount of proposals for potential orders. Accordingly, we expect the deficit to be resolved and profitability to be within sight by 2026. Although we cut our operating profit target, we still expect to generate 100 billion yen, or around 56%, of our 180 billion yen target from Strategic Businesses, which will mark significant progress for us. If this happens, both sides of our originally envisioned ambidextrous strategy will begin to move.

## Holding firm to our 2030 targets of 300 billion yen in operating profit and stable ROE of 10% or more

Despite the cut to our operating profit for 2026, we are sticking firmly to our target for 2030 of operating profit of 300 billion yen or more, with no revisions. It is difficult to predict the future market conditions of the Essential Chemical Business in Southeast Asia and the Europe-focused Architectural Glass Business. However, we aim to achieve high levels of profitability, even in challenging market conditions, by considering pricing policies, structural reforms, and other concrete measures, as we have done in the Display and Automotive Businesses. Our goals for 2030—operating profit of 300 billion yen and stable ROE of 10% or more—are within



reach if we can grow our operating profit to 150 billion yen in 2025 and 180 billion yen in 2026.

## Continuously tracking our seven sustainability KPIs

In the current MTP, we have redefined three social values that the AGC Group will create through our products and technologies, as we look to enhance our sustainability management: Blue planet, Innovation, and Well-being. We have combined these with our efforts to “reduce greenhouse gas emissions with regard to limiting our environmental impact,” and “increase the engagement scores of our employees with regard to human capital,” and have set seven KPIs accordingly. We will closely track our progress in relation to these indicators.

Cutting greenhouse gas emissions is a very important issue for materials manufacturers , as consumers of large amounts of energy. Soon after my appointment as the group CEO in 2021, I declared our aim to achieve Net zero<sup>\*</sup> carbon emissions in 2050. We have set milestones for cutting greenhouse gas emissions by 2030 in the current MTP, are making steady progress toward these targets. It is challenging goal, but we aim to achieve our targets by growing our Strategic Businesses, which are highly carbon efficient, while also cutting CO<sub>2</sub> emissions in our Core Businesses. In 2024, we began demonstration testing with Saint-Gobain (France), followed by

a pilot project in 2025. Under this initiative, the two leading global glassmakers brought their respective technologies together to develop technology to substantially reduce CO<sub>2</sub> emissions when manufacturing flat glass. Responding to climate change is a global issue. Accordingly, we think it will be important that we work to solve this issue, not just as an individual company, but as an industry.

Regarding employee engagement, we conducted surveys each three years apart to measure employee engagement, and have found scores to be rising across all items. CFO, CTO and I regularly visit workplaces to engage in dialogue with employees on multiple occasions, which has contributed to a high level of understanding of our management strategy among employees. Going forward, we aim to continuously enhance engagement through improvement measures for items with low scores. In addition to the surveys conducted every three years, we also began conducting simplified annual surveys in 2023 for more detailed monitoring.

\*Scope1 + 2



Ongoing dialogue sessions between management and employees

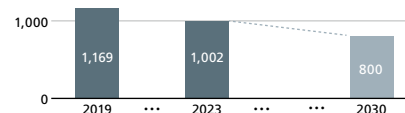


# Message from the CEO

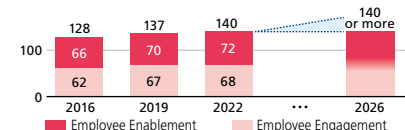
## Sustainability KPIs

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

GHG (Scope 1 + 2) emissions [10,000 ton-CO<sub>2</sub>]\*<sup>1</sup>



Employee engagement score\*\*



\*1 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.

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

### Blue planet

Shipment volume index for architectural products contributing to GHG reductions<sup>2</sup>

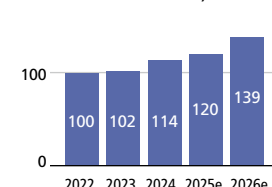


Index for GHG emissions reduction by low-GWP Chemical products<sup>2</sup>



### Innovation

Total sales index for products contributing to next-generation society (Electronics, Mobility, Performance Chemicals)<sup>2</sup>



### Well-being

Shipment volume index for products contributing to social infrastructure development in fast-growing regions (main chlor-alkali products)<sup>2</sup>



Index for Life Science sales<sup>2</sup>



## Pursuing value creation with DX

At AGC, we have been working on the digitalization of production at our plants since 2015. Since 2017, we have promoted wide-ranging digital transformation (DX) in areas such as office work and R&D. These efforts contribute to increased productivity. Our promotion of "value creation DX" in our current MTP, however, does not refer to that type of digitalization of single processes. For example, there is the digitalization of the supply chain. By using digital technology to optimize the entire supply chain from upstream to downstream, we can enhance logistics efficiency and optimize inventory, contributing to increased value for customers.

We are also using digital technology to speed up all processes, from R&D to actual production. We will make it possible to produce more advanced products, quicker, and with higher productivity, by leveraging AI-based material informatics to enhance R&D, and developing digital twinning technology that will greatly contribute to stable operation for plants.

We are also making progress in the utilization of generative AI. We have been using an in-house conversational AI to make our operations more efficient. In 2024, we succeeded in cutting working hours by an estimated total of 110,000 hours.

## Strengthening of the management foundation and building trust

### AGC People: Driving our Growth! a new source of value creation

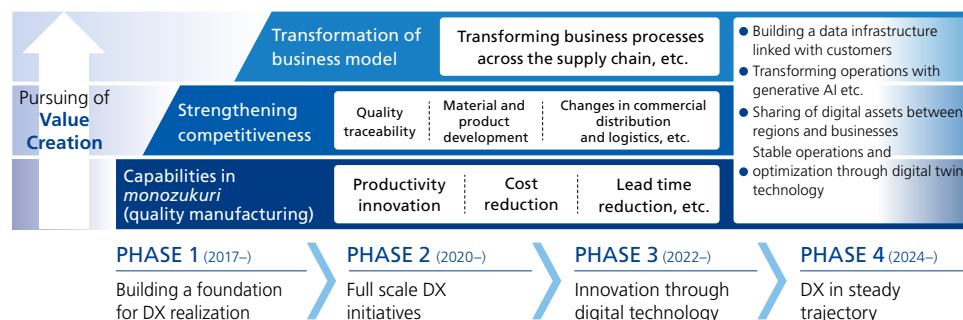
In our current long-term management strategy "Vision 2030," we state that we "strive to help realize a sustainable society and continuously grow and evolve as an excellent company." The AGC Group's products and services are based on materials, meaning they take many years to go from R&D to commercialization. Photomask blanks for EUV lithography are currently a hot topic, but it has taken twenty years to turn this

technology into a profitable business. Making a meaningful contributions through materials requires the efforts of multiple generations of people over many years, something that is not possible with short-term management policies. The fact that it takes such a long time means that the people of several generations are involved. This is connected to AGC's Human Capital Management, "AGC People: Driving our Growth!". Simply put, to contribute to the realization of a sustainable society through materials, it is essential that we have a long-term perspective and develop systems and the personnel to operate these systems over the long term.

Since I was appointed the Group CEO, I have always thought that personnel expenses are an investment, not a cost. We were a pioneer in substantially lifting base wages\* in 2022. Our corporate culture is based on three elements: open communication, taking on challenges, and encouraging initiative. With this culture, we aim to ensure high levels of engagement, support the chemical reaction of knowledge, and strengthen on-site capabilities—which will result in higher corporate value—by drawing out the strengths and unique characteristics of our diverse human resources and supporting self-directed learning and growth. The phrase AGC People: Driving our Growth! directly expresses this approach.

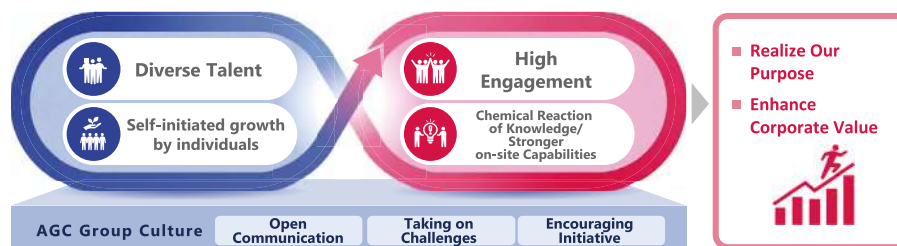
Our group has already achieved a certain level of diversity in terms of nationalities, as approximately 70% of our employees belong to overseas group companies. Still, the important thing here is "inclusion," the final element in

\*At AGC Inc.



# Message from the CEO

- Our corporate culture places importance on open communication, taking on challenges, and encouraging initiative. We will unlock the unique strengths and abilities of each individual and encourage continuous learning and professional development.
- A highly engaged organization with constantly improving individuals will enhance corporate value by utilizing external and internal collaboration to promote chemical reaction of knowledge and stronger on-site capabilities.



diversity, equity, and inclusion (DE&I). Respecting and leveraging each other will act as a source of new value creation. As mentioned, the power of “people” is what supports a company to allow it to continue to grow and evolve over 50 or 100 years. People are who create technologies, and people also manufacture things. We will continue to focus on human capital management at the AGC Group in the form of talent development to achieve this vision.

## Pursuing more advanced corporate governance

At the AGC Group, we have long focused on strengthening corporate governance. We have implemented multiple reforms. For example, in 2002, we introduced an executive officer system, and appointed Outside Directors as independent officers. We were also a pioneer among companies with an Audit & Supervisory Board governance system in establishing a voluntary Nominating Committee and Compensation Committee. On the other hand, we are always considering options for organizational design besides being a company with an Audit & Supervisory Board governance system, taking into consideration factors such as the ease of understanding for overseas investors and others.

At present, our Outside Directors and Outside Audit & Supervisory Board Members include experienced managers of global companies, attorneys, and other professionals who have played active roles in a wide range of fields. In 2025, we also added an extra Outside Director, meaning there are equal numbers of internal and Outside Directors. We have appointed people who are able to speak candidly as Outside Directors

and Outside Audit & Supervisory Board Members, resulting in lively discussions at meetings of the Board of Directors. We will continue endeavoring to augment our corporate governance, while positively considering the types of corporate governance that stakeholders expect.

## AGC Group Philosophy **“Look Beyond”**

Our Purpose	<p><b>“AGC, an Everyday Essential Part of Our World”</b></p> <p>We <b>“Look Beyond”</b> to make people’s lives better around the world by delivering our unique materials and solutions.</p>
Our Shared Values	<ul style="list-style-type: none"> <li>• Innovation &amp; Operational Excellence</li> <li>• Sustainability for a Blue planet</li> <li>• One Team with Diversity</li> <li>• Integrity &amp; Trust</li> </ul>
Our Spirit	<p><b>“Never take the easy way out, but confront difficulties.”</b></p>

## Building stronger trust with stakeholders to enhance corporate value

At the beginning of 2025, we redefined our existing Group vision **“Look Beyond”** as our new Group Philosophy, and we also revised the content of this philosophy. Our Shared Values, which we updated to match the times, are Innovation &

Operational Excellence, Sustainability for a Blue planet, One Team with Diversity, and Integrity & Trust. The final element, Integrity & Trust, was previously just Integrity, but we have added Trust. The safety, environment, quality, and compliance are all preconditions for operating a business, and Integrity, such as never allowing corporate misconduct, etc., is something that should always be expected. The important thing for us is to gain Trust from society and customers, based on that Integrity. It is all thanks to the enduring trust of our stakeholders that we have been able to remain a top supplier of architectural and automotive glass and serve customers in diverse industries around the globe. To re-express our commitment in this regard, we made Integrity & Trust one of our shared values.

2024 gave us some major factors to reflect on, including substantial impairment losses in the CDMO for biopharmaceuticals business. We will overcome these issues, enhance the resilience of Strategic Businesses, and ensure that our Core Businesses act as the foundations for long-term, stable earnings. This ambidextrous strategy will put us back on a growth trajectory and lead to improvement in our ROE and PBR. That is our mission that we must perform as management team to fulfill the trust of stakeholders, and it is a pressing issue for me personally. Another important role for us is to identify seeds of growth that anticipate future trends. We will endeavor to build trust through communication with shareholders, investors, and other members of society, as part of the AGC Group’s aim to continuously grow and evolve to enable us to be “an everyday essential part of our world.” I hope we can count of the continued understanding and support of our stakeholders in these endeavors.

May 2025

Yoshinori Hirai

Representative Director, President & CEO



# AGC Group Philosophy ***“Look Beyond”***

## ***“Look Beyond”***

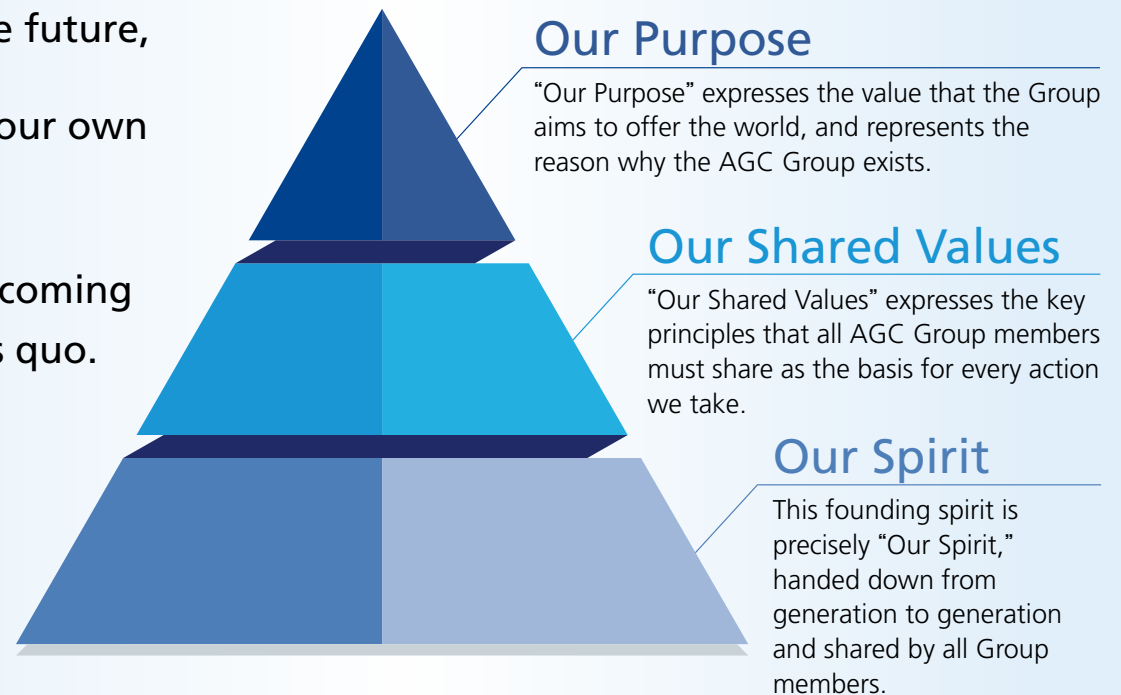
***“Look Beyond”*** is the AGC Group Philosophy on which all the activities of the Group are founded. This word calls for the following mindset.

***“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.

Through our philosophy of ***“Look Beyond”***, we will continue to create value worldwide, demonstrating the vast potential of the Group’s entire organization.



# AGC Group Philosophy **“Look Beyond”**

## Our Purpose

## “AGC, an everyday essential part of our world”

We **“Look Beyond”** to make people’s lives better around the world by delivering our unique materials and solutions.

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

- We always **“Look Beyond”** and tirelessly pursue innovations in technology, products, and services.
- We aim for excellence in quality and efficiency through continuous improvement.
- We continually challenge ourselves to deliver value through innovation and operational excellence.

### Sustainability for a Blue planet

- We contribute to creating a sustainable society and constantly grow and evolve.
- We achieve economic value through fostering social value.
- We strive to create safe and secure workplaces.

### One Team with Diversity

- We value different perspectives.
- We seek diverse capabilities and personalities of individuals of all backgrounds and beliefs, and by leveraging each other’s strengths we create value as One Team.

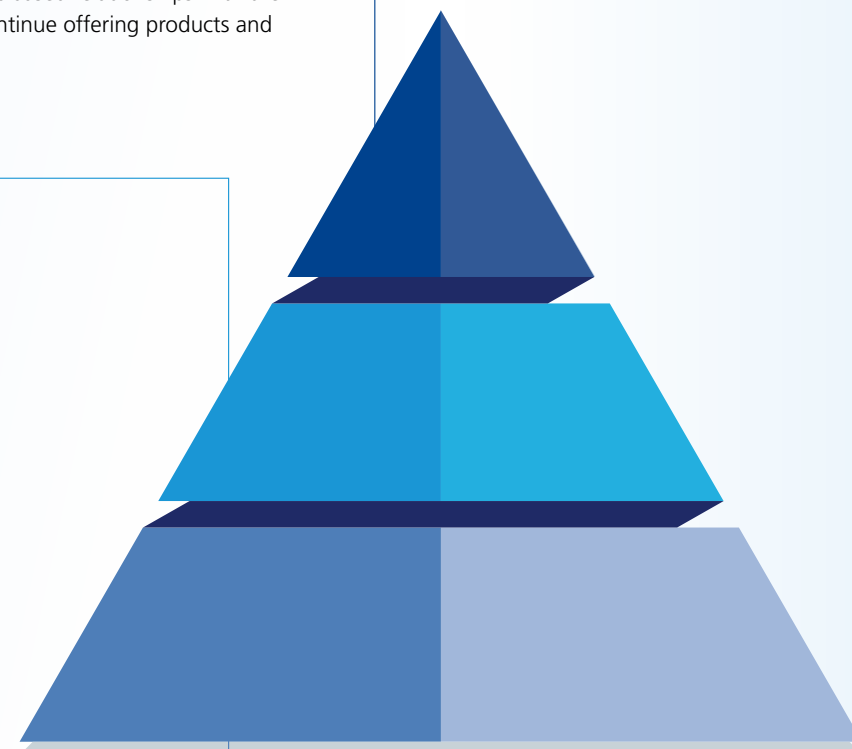
### Integrity & Trust

- We comply with all applicable laws and regulations, building open and fair relationships with all our stakeholders based on the highest ethical standards.
- We aim to achieve customer satisfaction and trust for all our products and services.
- We create trust with all stakeholders, internally and externally, by acting with integrity.

## Our Spirit

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

These are the words of Toshiya Iwasaki who founded Asahi Glass Co., Ltd. in September, 1907.

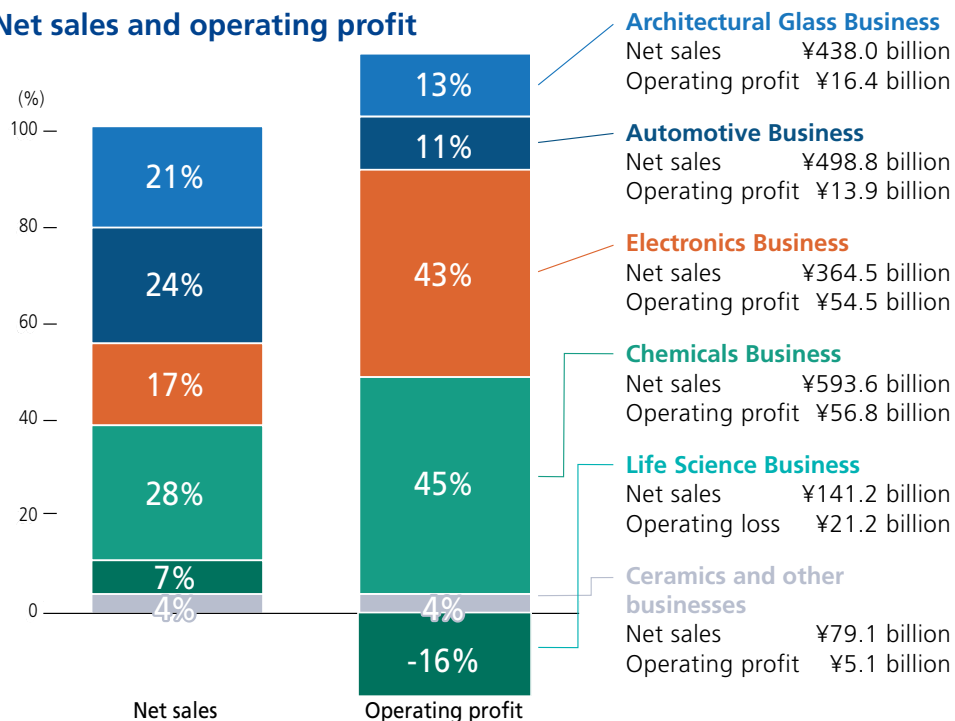




# At a Glance

The AGC 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 and operating profit



## AGC Group in numbers (as of December 31, 2024)

### Net sales

Japan / Asia **¥1,318.1 billion**  
Europe **¥492.6 billion**  
US **¥256.9 billion**

### Operating profit

Japan / Asia **¥181.7 billion**  
Europe **¥8.9 billion**  
US **-¥13.8 billion**  
Cross-regional common expenses **-¥51.0 billion**

### Consolidated Group employees

Japan / Asia **Employees Approx. 34,100**  
Europe **Employees Approx. 14,900**  
US **Employees Approx. 4,700**  
**Employees Approx. 53,700**

### consolidated subsidiaries

Japan / Asia **85**  
Europe **90**  
US **11**  
**Total 186 consolidated subsidiaries**

### Net sales

**¥2,067.6 billion**

### Total assets

**¥2,889.7 billion**

### Operating profit

**¥125.8 billion**

### Market value

**¥980.3 billion**

## Ratings

Rating and  
Investment  
Information (R&I)

**AA**

Standard & Poor's  
(S&P)

**A-**

Moody's

**A2**

# Products with Top Market Shares

AGC Group capitalizes on its extensive technological expertise, cultivated over years of innovation, to generate social value through a diverse portfolio of products, including glass and chemicals, while maintaining a leading position in the global market.

Architectural Glass  
Automotive  
Electronics

Chemicals  
Life Science  
Ceramics

Market Share (Company estimate as of January 2025)



\*Based on fiscal 2025 estimates by AGC



# Our Story

While delivering differentiated materials and solutions to the world, the AGC Group has reflected the changing demand in each era and region by constantly evolving our business portfolio.



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

Founder of AGC  
Toshiya Iwasaki



Demand for glass increased rapidly due to a construction boom as Japan modernized.

1907



We began domestic production of flat glass.



As Japan's economy grew rapidly, televisions quickly became household items.

1955



We began production of glass bulbs for television cathode ray tubes.



With the development of the road network, demand for automobiles rose dramatically.

1956



We began the Automotive Glass Business in earnest.



Pollution control measures were implemented in earnest due to pollution problems in various regions of Japan.

1975



We developed the FLEMION™ fluoropolymer ion-exchange membrane electrolysis method.



Global environmental issues such as the emergence of global warming received greater attention.

1991



We began production of alternative fluorocarbon Asahiklin AK-225.



Smartphones became popular worldwide, and the evolution and development of their functions accelerated.

2011



We launched a business engaged in the production of chemically tempered glass for smartphones.



The life science market expanded due to technological advances in the pharmaceutical field.

2016



We acquired a global biopharmaceutical CDMO.



The fifth-generation mobile communication system (5G) was launched as a communication system to support the development of the Internet of Things (IoT) society.

2020



We developed "glass antennas" to make windows into base stations

# 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, ceramics, fluorine, etc.)

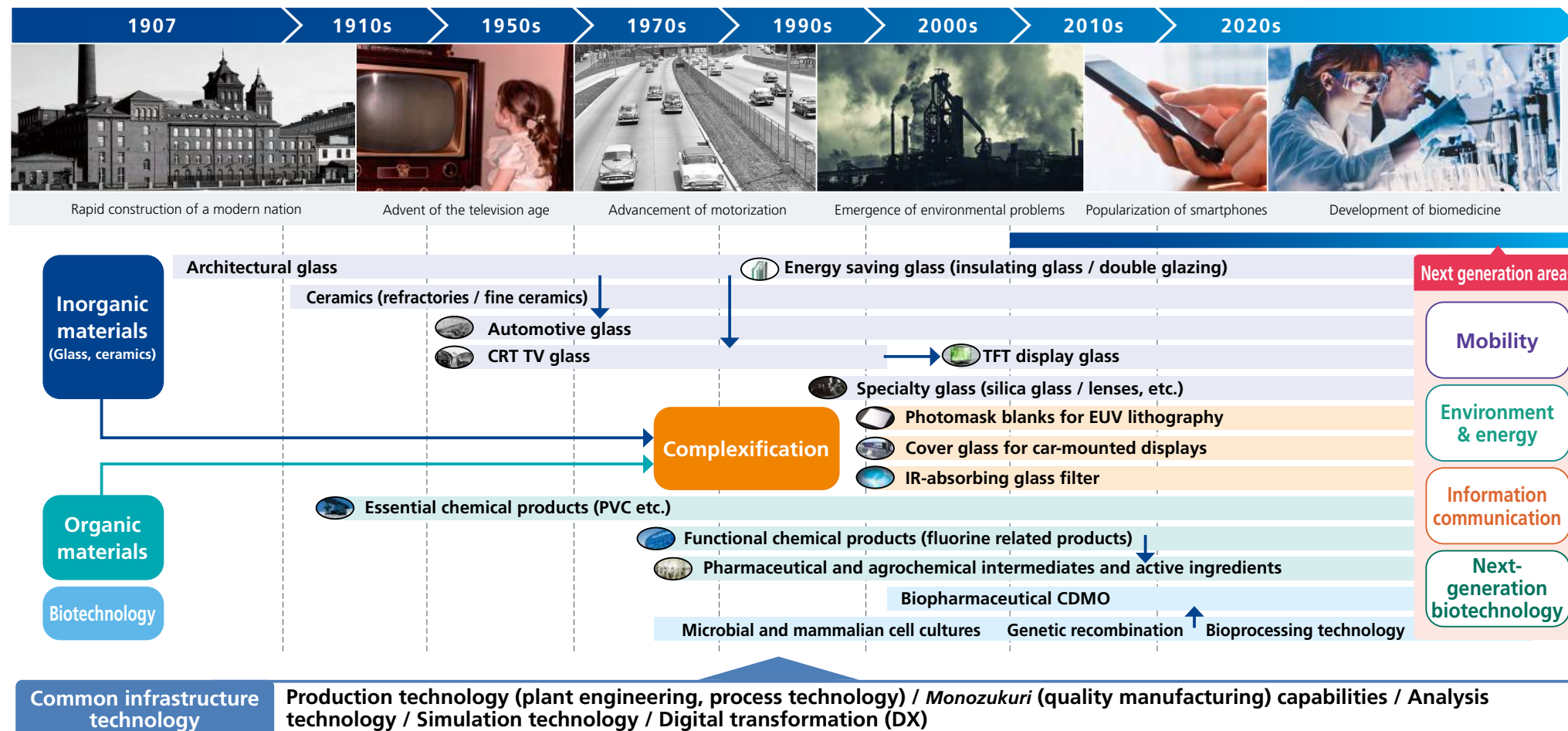
**Processing Technology to Realize High Functionality**

**Black-Boxed 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





# AGC, an Everyday Essential Part of Our World

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 aims 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 aims to Create



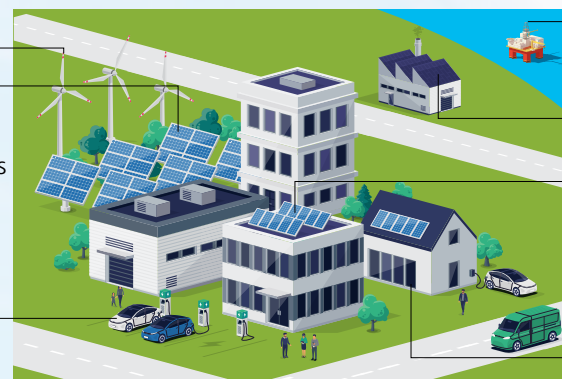
For information on the AGC Group's products, please visit the website below.

● 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.

- Fluoropolymer resins for coatings
- Transparent conductive oxides substrates for photovoltaic devices
- Glass ceramic substrates for high-power LED lighting
- Fuel cell-related materials
- Refrigerants for automobile

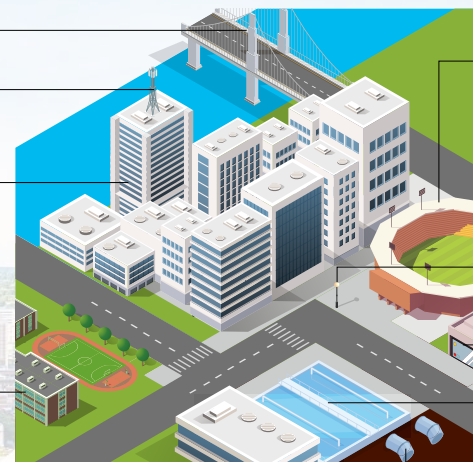


- Fluor elastomer rubber for oil-drilling equipment
- Refractories for waste-to-energy plants
- Protective fluoropolymer resin films for photovoltaic devices
- Eco-glass for homes

### 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.

- Fluoropolymer resins for coatings
- Copper-clad laminates for base stations
- Photovoltaic glass for buildings
- Glass for office buildings
- Glass antennas for base stations
- Anti-reflective architectural glass
- Laminated safety glass for public facilities



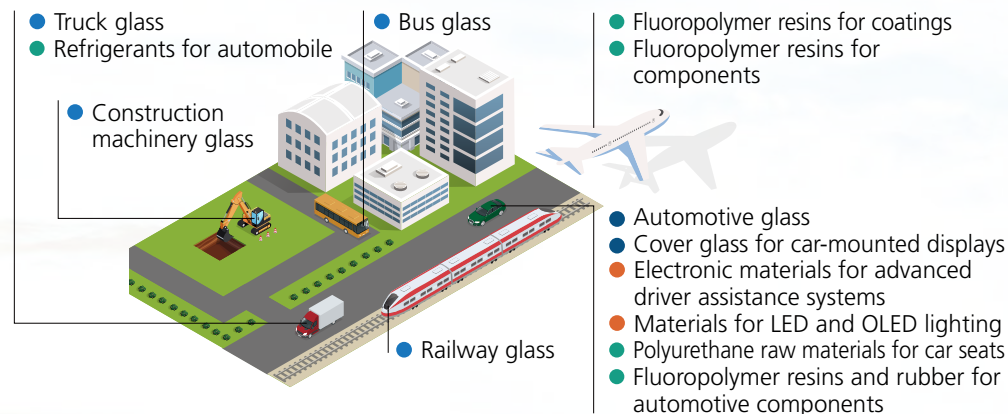
- Fluoropolymer films for membrane structures
- Materials for LED and OLED lighting
- Display-integrated mirrors
- Sodium hypochlorite disinfectant for drinking water
- Polyvinyl chloride for water pipes



# AGC, an everyday essential part of our world

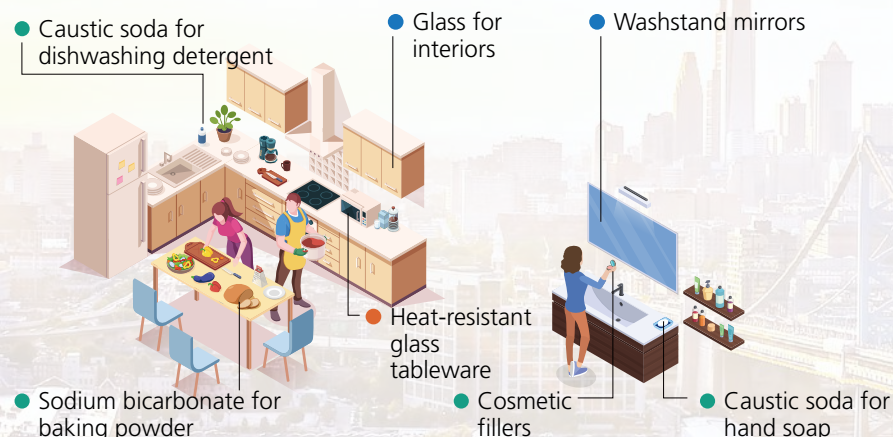
## The Mobility Field

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 Consumer Products Field

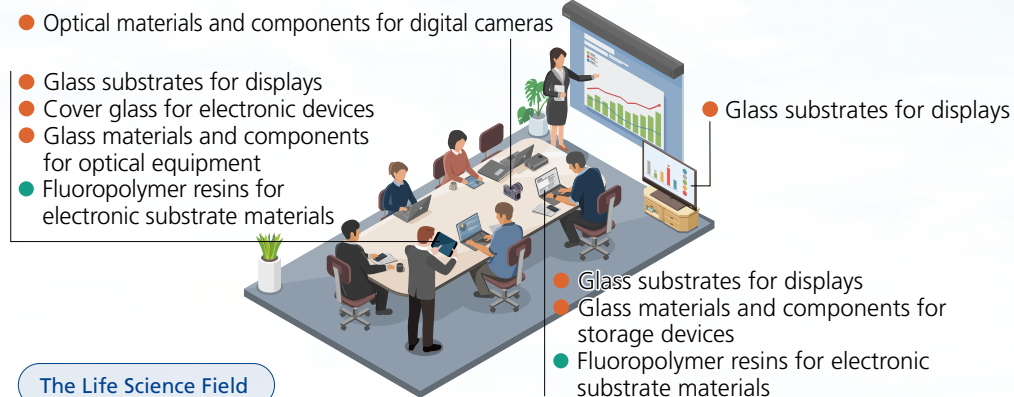
We market products that bring comfort and convenience to daily life as well as many of the materials vital to their creation.



Architectural Glass Automotive Electronics Chemicals Life Science Ceramics and other businesses

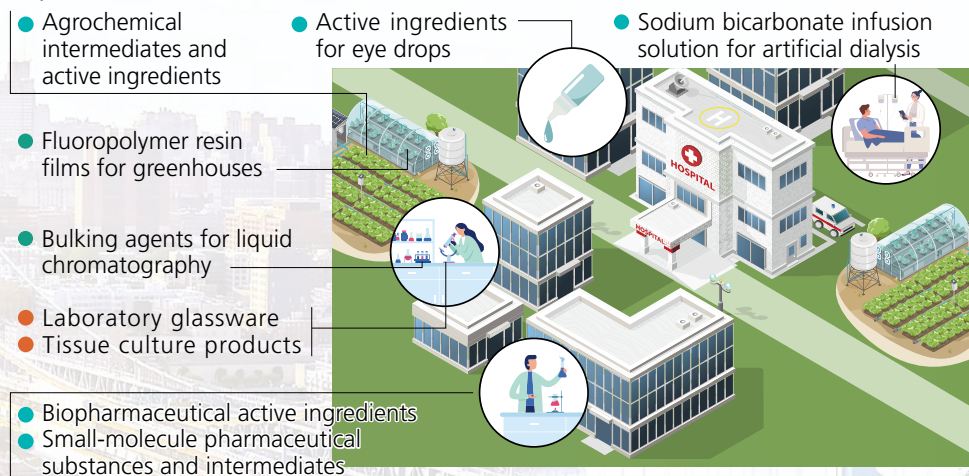
## The Electronics Field

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.



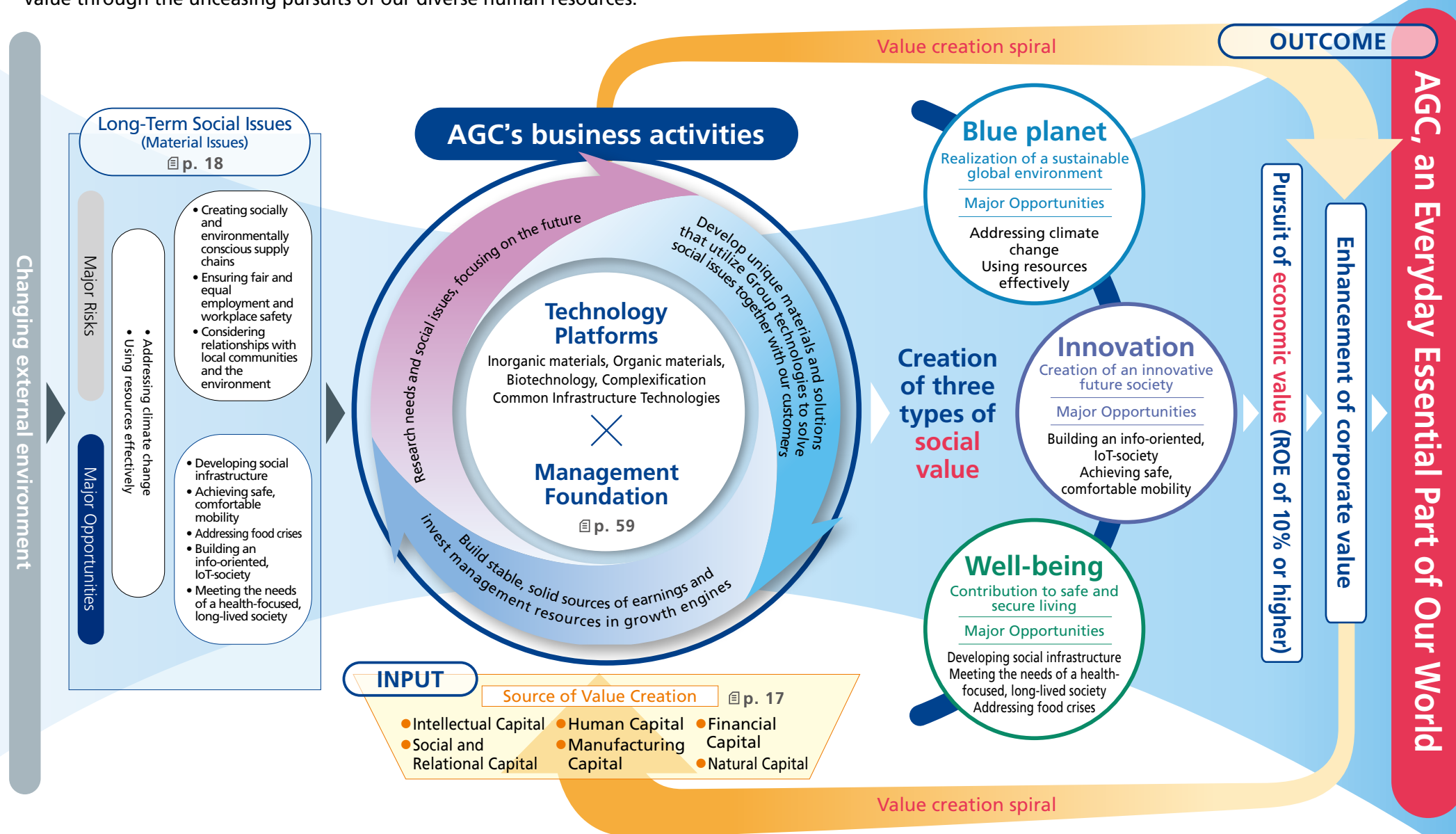
## The Life Science Field

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.



# The AGC's Value Creation Model

In accordance with the AGC Group Philosophy **“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.





# AGC's Value Creation Model—Sources of Value Creation



## Financial Capital

pp. 21-28

FY2024

- Total assets: **¥2,889.7 billion**
- Net sales: **¥2,067.6 billion**
- Operating profit: **¥125.8 billion**

## Explanation of each type of capital

Towards achievement of profitability that exceeds cost of shareholders' equity, we have been steadily implementing initiatives based on strategies in our medium-term management plan, **AGC plus-2026**, and we aim to quickly achieve ROE of at least 8% from 2027 onward. In our long-term management strategy, "Vision 2030", our financial targets are: "operating profit of 300 billion yen or more, Strategic Business operating profit of 60% or more, ROE stable at 10% or higher, and D/E ratio of 0.5 or less."

## Examples of initiatives to strengthen capital

- Improving profitability through portfolio transformation
- Promoting dialogue with the market (CEO, CFO, CTO, Independent Directors' dialogue with institutional investors, etc.)

For details, please refer to Stakeholder Engagement on p. 77.



## Human Capital

pp. 59-64

- Consolidated employees: **Approx. 53,700 (FY2024)**
- Employee Engagement Score (Employee Enablement + Employee Engagement)  
128 in FY2016 → 137 in FY2019 → 140 in FY2022

At the AGC Group, we are promoting human capital management represented by "AGC People: Driving our Growth!" to achieve Vision 2030 and realize continuous corporate growth. Based on the "AGC People: Driving our Growth!" concept, we plan and implement human resources policies, set quantitative targets to measure their effectiveness, and monitor them to ensure steady progress.

- AGC Group Management Personnel Development Program System
- Establishment of competitive compensation and recruitment initiatives
- Measures to improve employee engagement
- Initiatives to develop technological and DX human resources



## Manufactured Capital

pp. 29-39

FY2024

- Capital expenditure: **¥257.5 billion**
- Manufacturing sites in Japan, Asia, Europe, Americas, etc.

In all our businesses, the AGC Group prioritizes production technologies and facilities development in cooperation with product development. We will leverage the production technologies and engineering capabilities that we have refined over the years as our base, while using the acceleration of digital transformation (DX) to further enhance our capabilities.

- Deepen and expand basic technologies and production systems
- DX promotion in plants
- Introduction of equipment that contributes to reducing GHG emissions



## Intellectual Capital

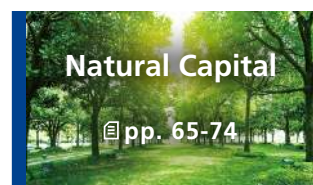
pp. 40-41

FY2024

- R&D expenses: **¥61.8 billion**
- Patents and utility models: 8,693
- DX human resources (data scientists)  
2020 → end of 2024  
Advanced: 39 persons → **95 persons**  
Basic/intermediate level, introductory level: 1,735 persons → **5,900 persons**

In the AGC Group, we constantly anticipate customer needs in our material and technology development, as we look toward long-term changes in society, markets, and technology. This has enabled us to meet the expectations of customers for solutions to challenges related to their products, and contributed to the creation of new value. We will create more new value by leveraging this stance and the spread of the Group's materials and technologies to continue generating expectations among our customers. In addition, we appropriately protect the outcomes of our technological development as intellectual property.

- Collaborate with external partners through open innovation
- Building a strategic intellectual property portfolio
- Invention reward system for creating patents that contribute to business
- Formulation and execution of standardization strategies and rule-making
- RX (Research Transformation): Transformation of R&D utilizing DX



## Natural Capital

pp. 65-74

FY2024

- ISO 14001 certified Group companies  
Global **106 companies**
- Greenhouse gas emissions\*  
• Scope 1 + 2 emissions 9,913 thousand t-CO<sub>2</sub>  
Intensity per Unit of Sales 0.48 t-CO<sub>2</sub>/¥100 million
- Scope 3 emissions 9,646 thousand t-CO<sub>2</sub>

\*Actual results are preliminary values

The AGC Group positions natural capital, including natural resources, energy, and biodiversity, to be the foundation of its business, and regards the maintenance of its soundness as a source of long-term corporate value. We will strive to reduce environmental impact throughout the entire product, technology, and service lifecycle, create social value called "Blue planet," and achieve both a sustainable society and our own growth by addressing social issues such as decarbonization.

- Risk analysis and information disclosure based on the TCFD recommendations
- Reduction of GHG emissions and landfill disposal rate
- Development and provision of materials that contribute to the creation of renewable energy
- Provision of energy-saving and energy-generating products



## Social and Relationship Capital

p. 77

- Number of company visits to AGC Yokohama Technical Center: 250 to 300 per year
- Survey of business partner satisfaction: Conducted annually since 2008 for **about 200 companies**

Since our founding, we have expanded into various industries, where we have leveraged our contact points to continuously create new, market-driven applications. Through these efforts, we have built unshakeable relationships of trust with customers. The trust that we have built with customers will continue to be our strength, as we provide new value through collaboration with leaders in each industry.

- Development of innovative technologies with academia and other organizations, and new product development with client companies at the AO co-creation space at the AGC Yokohama Technical Center
- Dialogue through business partner meetings
- Regular exchange of opinions with NPOs and NGOs

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

Following the process below, the AGC Group identifies long-term social issues as major risks and major opportunities 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.

1. Focused on existing mainstay products in each business field
2. Calculated the "business impact score" for each product based on its sales and growth potential
3. Linked each product to the SDG targets to which it can contribute
4. 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
5. Added up the total business impact score of all products linked to each type of social value
6. Corrected the business impact score for each type of social value based on the degree of contribution to addressing social issues
7. 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

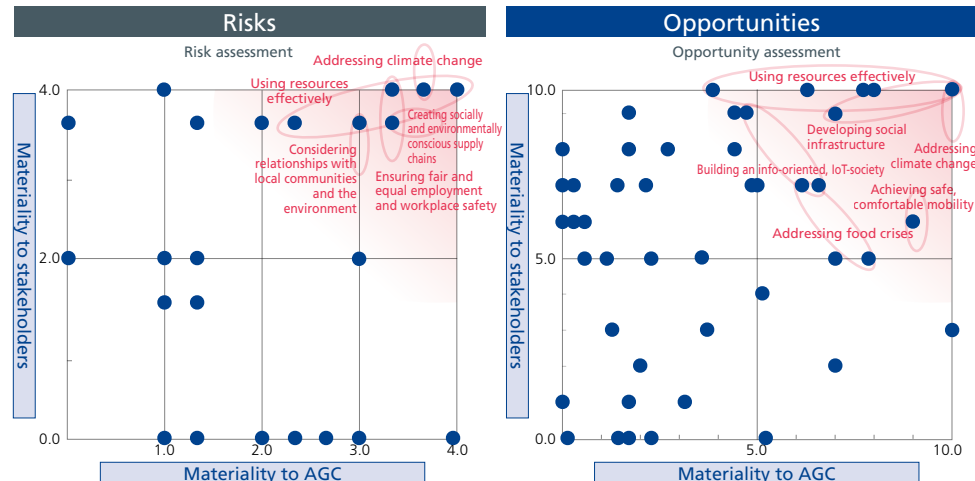
In light of its current contributions to the resolution of social issues, major risks and opportunities for the Group going forward were identified through analysis of future trends in social issues. (The analysis results were also used as basic information in preparing Vision 2030.)

### 1. 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 risks and opportunities for the AGC Group (79 items in total)

## 2. Assessment of major risks and major opportunities

We evaluated "major risks" and "major opportunities" for stakeholders and the AGC Group from the perspective of social issues.



## 03 Identifying major risks and major opportunities

Based on the results of analyzing trends in social issues and in light of expert opinions, we identified major risks and major opportunities associated with simultaneously achieving sustainable development of society, and sustainable growth as a corporate group.

### Major Risks

Social issues to be solved through sound corporate activities

- Addressing climate change

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

### Major Opportunities

Social issues to be solved through products and technologies

- Using resources effectively

- Developing social infrastructure
- Achieving safe, comfortable mobility
- Addressing food crises
- Building an info-oriented, IoT-society
- Meeting the needs of a health-focused, long-lived society

## 04 Decision made through discussions by the Board of Directors

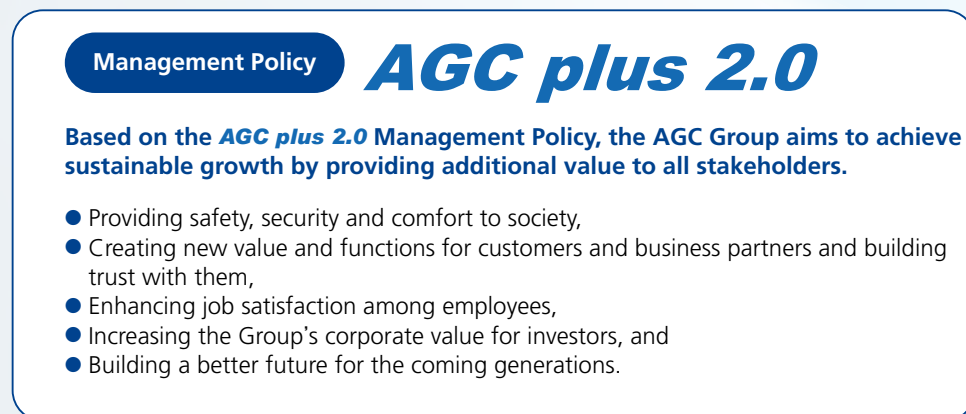
These risks and opportunities are discussed and determined by the Sustainability Committee and the Board of Directors and were then used as the foundation for setting sustainability targets.

## 05 Reflecting in management strategies

Please refer to the Sustainability Data Book for specific details on each of the major risks and opportunities and examples of our initiatives.

# 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.

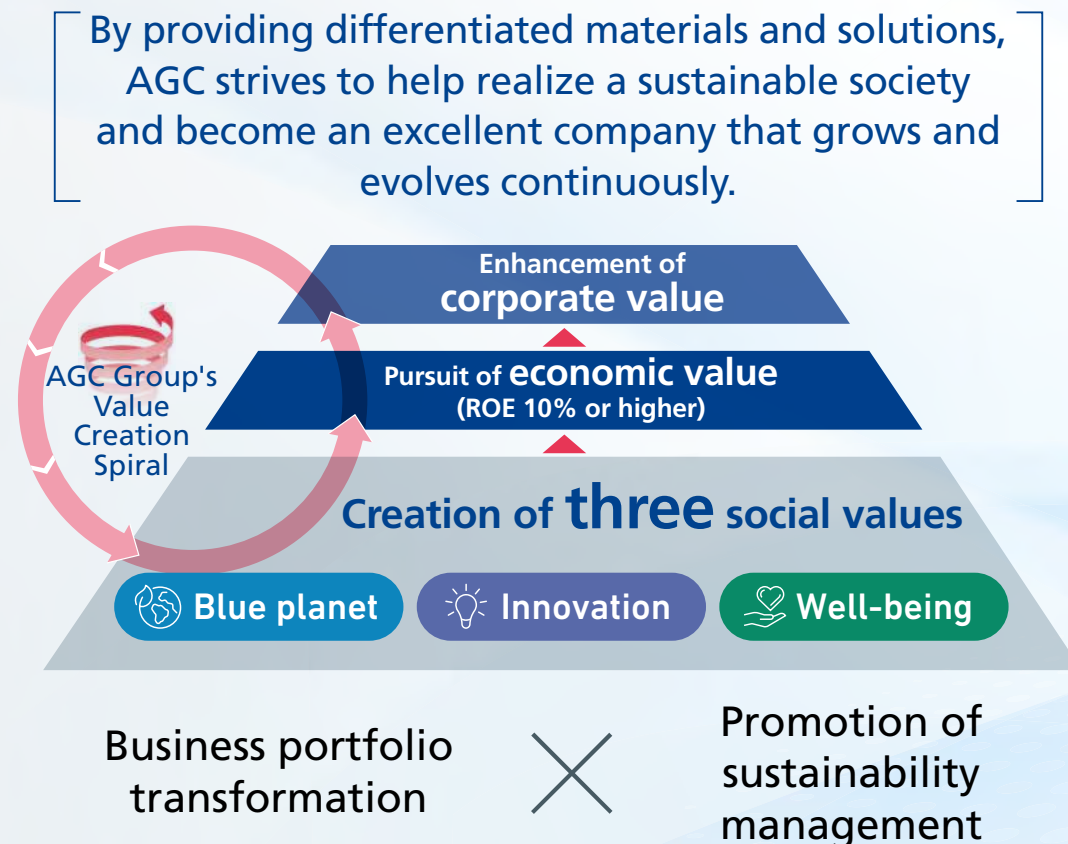




# Long-Term Management Strategy

## 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 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 aim to realize a stable ROE of 10% or higher.



## Social Value the AGC Group aims to Create

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.



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

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



**Innovation**  
Creation of an innovative future society

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



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

# Managing with a Focus on Cost of Capital and Stock Price

## Message from the CFO

**I will take responsibility for restoring the trust of capital markets through improvements to our earnings structure.**

Representative Director  
Senior Executive Vice President, CFO, CCO

**Shinji Miyaji**

### Review of 2024

**Difficult circumstances, cutting earnings forecasts during the fiscal year for the third consecutive year**

Our financial performance in 2024 was extremely challenging. We achieved our highest ever year-on-year increase in net sales, but our operating profit was just 125.8 billion yen, short of our forecast of 130 billion yen, even though this was lowered from our initial forecast of 150 billion yen in the middle of the year. “We have revised our forecasts downward during the fiscal year for three consecutive years, which I regard as a matter requiring serious reflection. We also reported our largest ever loss for the year attributable to owners of the parent, at 94 billion yen, partly due to substantial impairment losses in the first half.

The CDMO for biopharmaceuticals business was a key

factor behind major losses. Although we faced multiple circumstances that were difficult to foresee in this business, our supervision of the business as a whole was insufficient, including ramping up production capacity too quickly. The external environment is always changing, and we stumbled when we should have been overcoming the impact of those changes and growing earnings. This is a cause for deep and sincere reflection. Losses on the sale of shares associated with the transfer of our business in Russia were also a key factor behind the losses. We took the best option in a difficult situation and were able to minimize the impact, in my view.

# Managing with a Focus on Cost of Capital and Stock Prices

## Full-year business performance for the fiscal year ended December 2024

		YoY
Net sales	2,067.6 billion yen	+48.3 billion yen
Operating profit	125.8 billion yen	-2.9 billion yen
Profit (loss) for the year attributable to owners of the parent	-94.0 billion yen	-159.8 billion yen

■ Sales up YoY because of foreign exchange rates and an increase in electronics sales, despite factors such as lower sales due to falling sales prices for architectural glass and the transfer of the Russian business, lower shipments of automotive glass, and falling sales prices of caustic soda and polyvinyl chloride in chemicals

■ Despite lower raw material and fuel prices, operating profit was down YoY owing to the factors above that resulted in lower sales, as well as worsening costs in the Automotive, Life Science, and other businesses

■ Profit for the year was down YoY, owing partly to impairment losses in the Life Science Business (CDMO for biopharmaceuticals), incurred in 1H as other expenses, as well as a loss on the sale of shares of subsidiaries and associates in line with the transfer of the Russian business

■ Expecting higher sales and profits, based on a recovery in Life Science and Automotive, and other factors

## Full-year forecasts for the fiscal year ending December 2025

		YoY
Net sales	2,150.0 billion yen	+82.4 billion yen
Operating profit	150.0 billion yen	+24.2 billion yen
Profit (loss) for the year attributable to owners of the parent	80.0 billion yen	+174.0 billion yen

## Initiatives targeting businesses with issues and current status

Two particularly important businesses with issues that we have been focusing on since the previous medium-term management plan are the Display Business and the CDMO for biopharmaceuticals business.

In the Display Business, we have taken a three-pronged approach to improving earnings: restructuring our business, revising pricing policy, and strengthening competitiveness through technological innovation. First, in 2024, business performance recovered substantially in one year, thanks to business restructuring. In these efforts, we aim to enhance production efficiency by concentrating our resources on glass substrates for large displays. We achieved our target of cutting production capacity by 20% compared with 2022 by the end of 2024, ahead of schedule. Second, we achieved some success in 2024 from revisions to pricing policy. Third, in our efforts to strengthen competitiveness through technological innovation, we made steady progress on rolling out our new product, AN Rezosta™, which is competitive and highly productive, to customers. I believe we have ample potential to achieve our target of ROCE of 10% by 2026 in the Display Business if we can complete all three of these measures. When business performance bottomed in the Display Business in 2020, there were some that thought a recovery would be impossible. The significant improvement in business performance, however, is a

testament to the true strength of AGC, in my view.

The CDMO for biopharmaceuticals business faced issues at three sites in the US and one site in Europe, but we have implemented measures to improve earnings at each of these sites. For example, we stopped operations at our US gene/cell therapy site in Longmont, Colorado, in the third quarter of 2024, as part of efforts to optimize production capacity. We expect this to cut fixed costs by 2.5 billion yen per year. At our Copenhagen site, which focuses on mammalian cells, we faced delays in bringing additional facilities online, but they began operating in September 2024, and orders have been steadily increasing. The situation has shown improvement as a result of the measures implemented at each site. The improvements may not be apparent immediately, owing to the characteristics of this business, but we expect to cut our losses in half in 2025 compared with 2024, and achieve profitability in 2026.

## Medium-Term Management Plan **AGC plus-2026** progress and challenges

**Our challenge: creating a business structure that is resilient to market fluctuations**

First, I must say that we have revised our financial targets downward for 2026, the financial fiscal year of our medium-term management plan, **AGC plus-2026** (the "current MTP"). We were initially targeting operating profit of 230 billion yen,

but we have cut this target to 180 billion yen. We announced the current MTP in February 2024. A year later, we had to lower our target by 50 billion yen, so we take very seriously the fact that we were too optimistic in our original plan. The primary factor behind this revision was the CDMO for biopharmaceuticals business, but we were also significantly impacted by conditions in the chemicals market and economic conditions in Europe. Although these circumstances would have been difficult to predict in advance, we must accept that we were too optimistic in our view. As a result of these circumstances, our ROE has been low, and our PBR has fallen below 1x.

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

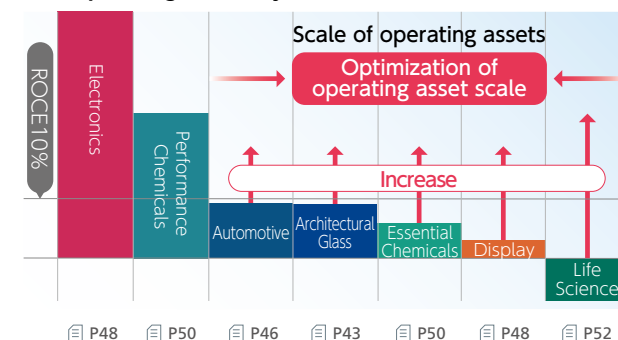
### Financial KPIs (outlook)

		2025	2026		2030
		Estimate	Announced in February 2024	Revised in February 2025	Targets
Financial KPIs	Operating profit	150.0 billion yen	230.0 billion yen	180.0 billion yen	300.0 billion yen or more
	Strategic Business OP	80.0 billion yen	130.0 billion yen	100.0 billion yen	190.0 billion yen or more
	EBITDA	337.0 billion yen	440.0 billion yen	380.0 billion yen	
	ROE	5.6%	8% or higher	7% or higher	10% or higher
	D/E Ratio		0.5 or less		

To achieve our ROE target under the current MTP, we have set an internal company-wide ROCE target of 10%, a level exceeding the current 8% or so shareholders' equity cost, and we are working to further enhance capital efficiency.

\*EBITDA = Operating profit + depreciation

## Image of 2024 ROCE (Before Allocation of Common Expenses) and Operating Assets by Business





# Managing with a Focus on Cost of Capital and Stock Prices

In the current MTP, in accordance with our **AGC plus-2.0** management policy, we aim to continue building a business portfolio that is resilient to changes in market conditions, with high asset efficiency, growth potential, and carbon efficiency, through the promotion of our ambidextrous strategy. Our aim to create a business portfolio that matches these conditions is not itself mistaken, but it is clear that our efforts to ensure it is resilient to changes in market conditions were particularly insufficient, and this is our biggest challenge.

In terms of asset efficiency, another factor behind our low ROE was the downward pressure on company-wide ROCE caused by insufficient profitability in Core Businesses, which have large asset bases. Increasing the profitability of these businesses and improving their asset efficiency is a pressing issue for AGC.

## Expanding Strategic Businesses

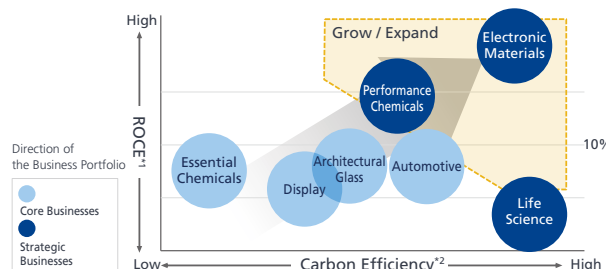
In order to build a business structure that is resilient to changes in market conditions while also able to maintain high profitability, it will be important that we continue to grow our Strategic Businesses, while also improving the profitability of our Core Businesses. Strategic Businesses are consistent with our ideals of high resilience to changes in market conditions, high asset efficiency, high growth potential, and high carbon efficiency.

Regarding the current status and outlook of our Strategic Businesses, operating profit for Strategic Businesses as a whole fell by over 30 billion yen year-on-year as the Life Science Business became unprofitable in 2023. In 2024, however, although the losses in the Life Science Business continued to grow, overall operating profit for strategic



businesses increased by more than 10 billion yen year-on-year, partly thanks to a substantial contribution from Electronics. Going forward, in addition to the recovery in business performance in Life Science, continued growth in semiconductor-related products, such as EUV mask blanks, can also be expected in Electronics. We also expect to introduce products with better performance in the smartphone optical filter business. Through these measures, we are aiming for 100 billion yen in operating profit from Strategic Businesses by 2026. In 2026, we expect to achieve 180 billion yen in operating profit for the company as a whole, meaning that Strategic Businesses will generate the majority of our operating profit. At this point, it should be clear that Strategic Businesses will drive the growth of the AGC Group as a whole.

## Direction of Business Portfolio Transformation (carbon efficiency and asset efficiency)

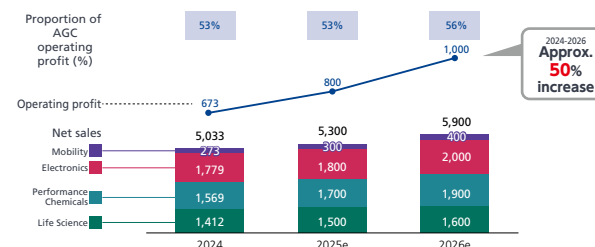


ROCE: (OP of the year) ÷ (Operating asset at the year-end), OP for each business is before allocation of common expenses

\*1 Created based on FY2024 results

\*2 Based on 2023 emissions per 2024 sales

## Strategic business net sales and operating profit (Billion yen)



## Moving to Value-based Pricing as a company

As part of our efforts to enhance ROCE across the entire company, we have adopted a company-wide Value-based Pricing policy aimed at improving the overall earnings structure of AGC, including our Core Businesses. Value-based pricing is a given for functional products, such as those in Strategic Businesses, but we also intend to introduce such pricing in Core Businesses. It goes without saying that we provide our customers with substantial value in the form of quality and level of service, but in many cases, we have been unable to turn this value into profits. Although some of the products we supply in our Core Businesses have become somewhat commoditized, the stability of our quality and supply should be a major differentiator for us. I think we have not always been able to properly reflect this value in our pricing. We have already seen success with our pricing policies in the Automotive, Display, and other businesses where we have been implementing them. Across AGC as a whole, we intend to continue to increase the value of our products, while ensuring that prices are commensurate with the value offered, including product quality, supply stability, and the level of accompanying service.

We are also focused on reducing costs as part of improvements to our earnings structure. We have launched a cross-divisional, company-wide cost reduction project, which I am leading as CFO. As a manufacturer, we have consistently pursued productivity on the frontlines of manufacturing, but now we plan to increase our focus on increasing the productivity of back-office divisions.

In 2024, our ROE was -6.5%. While we have revised downward our initial targets for 2026, we aim to achieve ROE of at least 8% as soon as possible from 2027 onward, as we work toward profitability that exceeds the cost of shareholders' equity. Operating profit of 200-210 billion yen will be necessary to achieve this target. Even if we achieve operating profit of 180 billion yen in 2026, in line with our forecast, we will still need to achieve another 20-30 billion yen. We are committed to making every effort to improve our earnings structure at the company level to achieve this goal.

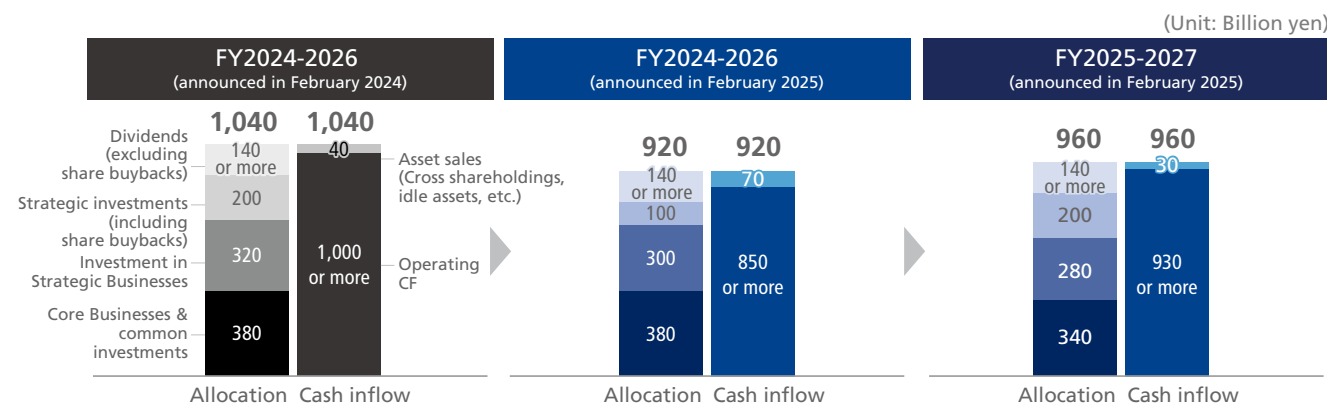
# Managing with a Focus on Cost of Capital and Stock Prices

## Capital allocation and shareholder returns

**We will reduce investment from its peak in 2024, while ensuring we have room to act strategically**

We expect total cash inflows over the three years from 2024 through 2026 to be around 920 billion yen, down by 120 billion yen from our initial outlook of 1,040 billion yen, in line

with cuts to targets for business performance. Accordingly, we expect the amount we set aside for strategic investments, where we can act with a high degree of freedom, to shrink from 200 billion yen to 100 billion yen. Still, our cash outflows will trend downward from their peak in 2024, as we will complete investments in the expansion of the Essential Chemicals Business in Southeast Asia in mid-2025 and other



## Dividend per share (JPY)

- Special dividend
- Year-end dividend
- Interim dividend

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024e	FY2025e
Share buyback (100 million JPY)	—	100	150	200	—	—	—	—	500	—	TBD
Consolidated total return ratio	48%	65%	56%	51%	60%	81%	38%	—	144%	—	56%
Consolidated dividend payout ratio	48%	44%	35%	29%	60%	81%	38%	—	69%	—	56%
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%	3.1%

Shareholder  
return policy

Total return ratio of **50%** or higher,  
flexibly conduct share buyback

Maintain stable dividends with a  
consolidated dividend payout ratio  
of **40%**, flexibly conduct share  
buyback

Maintain stable  
dividends with a target  
of approx. **3%** dividend  
on equity ratio (DOE),  
share buyback will be  
judged comprehensively

large investments will also decrease. Based on these factors, we expect to be able to once again secure 200 billion yen for strategic investments over the three years from 2025 through 2027. We have not yet decided what to use this amount for, but there are various options that come to mind for our next stage of growth. Accordingly, we will allocate capital in the most optimal way, including share buybacks, while comprehensively taking into consideration a range of factors, such as strategic investments and the status of cashflows.

We have been selling cross-shareholdings in line with our basic policy of not holding such shares.

By the end of FY2024, we had reduced our holdings to 69.9 billion yen, from 280.4 billion as the end of FY2017.

In 2024, we also adopted the dividend on equity ratio (DOE), which is less affected by single-year performance fluctuations, as our shareholder return metric, in place of the previous consolidated payout ratio. There is no change to our policy of maintaining a stable dividend, with a target DOE of around 3%, and we plan to pay a dividend per share for 2025 on par with that of 2024.

## Role and responsibility of the CFO

### Working with the CEO to enhance corporate value

As the executive responsible for finance, as described, I will optimally allocate capital while maintaining long-term and stable returns to shareholders who understand and support AGC's activities. We will also maintain a high level of dialog with shareholders and other stakeholders, as part of our aim to increase the share price.

As the CFO of AGC, I also have wide-ranging executive responsibility, and I consider it my duty as CFO to lead various measures aimed at increasing ROCE. At present, we must prioritize recovering the trust of shareholders that we have lost as a result of weak business performance over the past few years. Trust cannot be recovered overnight. As the first step, however, I recognize the importance of ensuring we achieve the targets we have set under the current MTP. Going forward, we will continue working as One Team, with the CEO at our helm, to achieve Vision 2030.

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

# Managing with a Focus on Cost of Capital and Stock Price

## 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. From 2024, the current medium-term management plan, **AGC plus-2026**, was launched with the initiatives “evolution of ambidextrous strategy,” “deepening of sustainability management,” “promoting of value creation DX,” and “strengthening of the management foundation.”

### Corporate transformation Chapter 2

Clarified the direction of business portfolio transformation and declared further acceleration of the reform

until 2030

### 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.

2024 2025 2026

### AGC plus-2026

Please refer to p. 26 for details of the current medium-term management plan.

2021 2022 2023

### AGC plus-2023

Average from 2021 to 2023

Operating profit ¥173.0 billion

EBITDA\* ¥348.9 billion

ROE  
2021 10.2%  
2022 -0.2%  
2023 4.6%

2018 2019 2020

### AGC plus-2020

Average from 2018 to 2020

Operating profit ¥99.3 billion

EBITDA\* ¥235.6 billion

2015 2016 2017

### AGC plus-2017

Average from 2015 to 2017

Operating profit ¥95.7 billion

EBITDA\* ¥224.8 billion

Profit growth was maintained throughout the mid-term period. Due to improvements in profitability and other factors, the operating profit structure has improved significantly.

Strategic businesses grew. Part of Core Businesses affected by Covid-19, left major issues to be solved.

#### Outcomes

- Progress in business portfolio transformation has led to higher levels of operating profit and EBITDA
- Profitability of Core Businesses improved due to growth investments and structural reforms
- Profit levels in Strategic Businesses improved despite the impact of the weak performance of the biopharmaceutical CDMO business in the United States in 2023.

#### Issues

- ROE target not achieved due to factors such as impairment losses and other factors (Initial target: 8%)
- Issues remain in the Display Business and biopharmaceutical CDMO business

\* EBITDA is calculated simply by summing operating profit and depreciation



# Managing with a Focus on Cost of Capital and Stock Price

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

### Strategies of **AGC plus-2026**

To achieve Vision 2030, we will accelerate our corporate transformation and work to maximize corporate value.

<b>Evolution of "ambidextrous strategy"</b>	<ul style="list-style-type: none"> <li>Accelerate business portfolio transformation by pursuing the use and development of differentiated materials and solutions</li> <li>Continue to strengthen the earnings base and cash generation capabilities of core businesses</li> <li>Revise the scope of strategic businesses, accelerate business growth, and explore next generation areas</li> </ul>
<b>Deepening of sustainability management</b>	<ul style="list-style-type: none"> <li>Accelerate integrated management, including financial KPIs, by redefining the social value that we provide and setting sustainability KPIs</li> </ul>
<b>Promoting of value creation DX</b>	<ul style="list-style-type: none"> <li>Strengthen competitiveness through digital × <i>monozukuri</i> capabilities</li> <li>Streamline and strengthen the entire supply chain</li> </ul>
<b>Strengthening of the management foundation</b>	<ul style="list-style-type: none"> <li>Strengthen group governance</li> <li>Promote human capital management</li> <li>Further strengthen the alignment between business strategy and technology platform</li> </ul>

### **AGC plus-2026** financial KPIs and status of progress

When we announced our medium-term management plan, **AGC plus-2026**, in February 2024, our financial KPIs for the final fiscal year of the plan, 2026, were as follows. The economic environment surrounding the AGC Group, however, is generally expected to remain difficult, including economic stagnation in Europe and China. Additionally, we expect to fall short of our initial target for sales volume in the Life Science Business by a substantial margin. Accordingly, we lowered our financial KPIs for 2026 as follows in February 2025.

Although we have lowered our financial KPIs for 2026, we are firmly maintaining our financial KPIs for achieving our long-term management strategy, Vision 2030.

	2024	2025	2026		2030
	Results	Estimate	Announced in February 2024	Revised in February 2025	Targets
<b>Financial KPIs</b>					
Operating profit	125.8 billion yen	150.0 billion yen	230.0 billion yen	<b>180.0 billion yen</b>	300.0 billion yen
Strategic Business OP	67.3 billion yen	80.0 billion yen	130.0 billion yen	<b>100.0 billion yen</b>	190.0 billion yen
EBITDA	147.8 billion yen	337.0 billion yen	440.0 billion yen	<b>380.0 billion yen</b>	
ROE	-6.5%	5.6%	8% or higher	<b>7% or higher</b>	<b>10% or higher</b>
D/E Ratio	0.39		0.5 or less		

## Our understanding of the current situation

### The current situation in each business

Under Vision 2030, in Core Businesses, we aim to increase the competitiveness of each business and ensure they provide solid foundations for long-term, stable earnings, and in Strategic Businesses, we aim to leverage AGC's strengths to create and expand highly profitable businesses that will act as future pillars of the AGC Group. We still have issues that require improvement in some businesses, however, and we have cut our financial KPIs for 2026 accordingly. We have also recorded impairment losses in the Display Business and others in 2022, and the CDMO for biopharmaceuticals business in 2024, as well as losses on the sale of shares associated with the transfer of the Russian business in 2024. ROE has been low for this reason, resulting in our PBR trending below 1x.

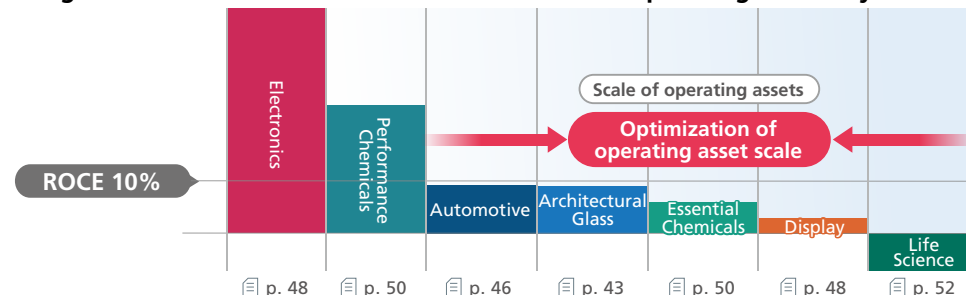
	Core Business		Strategic Business	
Vision	Long-term, stable sources of earnings		Creation and expansion of highly profitable businesses	
Current Situation	Display	Smooth profitability improvement through structural reforms	Life Science	Biopharmaceuticals CDMO profitability improving
	Essential Chemicals	Continued negative effects of the sluggish market	Performance Chemicals	Sales improvements by growth measures
	Automotive	Smooth profitability improvement despite production issues in the US	Electronics	Growing as planned due to growth in the semiconductor market
	Architectural Glass	Transfer of the Russian business and continued negative effects of economic slowdown in Europe and Southeast Asia	Mobility	Small business scale, but growing steadily
Issue	ROE remains low, and as a result, PBR is consistently below 1			

### Current status of ROCE

As part of our efforts to improve ROE, the AGC Group uses ROCE\* as the basis for business management. Insufficient profitability in businesses with large asset bases has put downward pressure on ROCE across the company as a whole. Accordingly, we consider it a pressing issue that we improve the profitability and asset efficiency of these businesses. For initiatives to improve ROCE in each business, please refer to the business strategy section starting on page 42.

\*ROCE (return on capital employed) = (OP of the year) ÷ (Operating asset at the year-end)

### Image of 2024 ROCE (Before Allocation of Common Expenses) and Operating Assets by Business



# Managing with a Focus on Cost of Capital and Stock Price

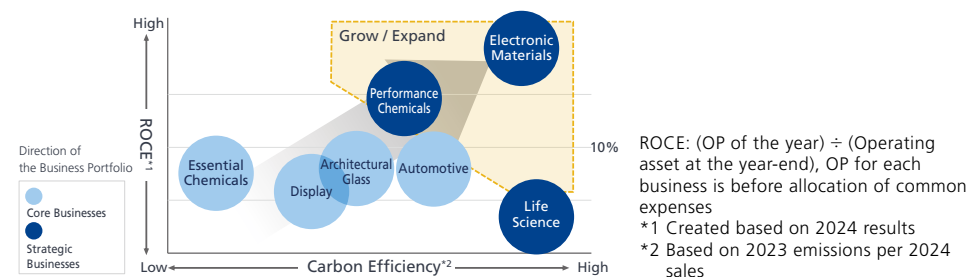
## Medium-Term Management Plan **AGC plus-2026**

### Evolution of ambidextrous strategy

Across AGC, we are working to improve our earnings structure through pricing policies, cost reduction, and timely structural improvements. By continuing to promote our ambidextrous strategy, we will aim to build a business portfolio that is resilient to changes in market conditions and has high asset efficiency, growth potential, and carbon efficiency.

<b>1</b>  <b>Improvements to earnings structure</b>	<b>① Pricing policies</b> Moving to value-based pricing group-wide  <b>② Cost reduction</b> <ul style="list-style-type: none"> <li>Cost reduction by lowering investments and increasing productivity</li> <li>Launch of cross-divisional, Group-wide cost reduction project, led by the CFO</li> </ul> <b>③ Timely structural improvements</b>
<b>2</b>  <b>Transformation of business portfolio</b>	<ul style="list-style-type: none"> <li>By promoting our ambidextrous strategy, we will continue aiming to build a business portfolio that is resilient to changes in market conditions and has high asset efficiency, growth potential, and carbon efficiency.</li> </ul>

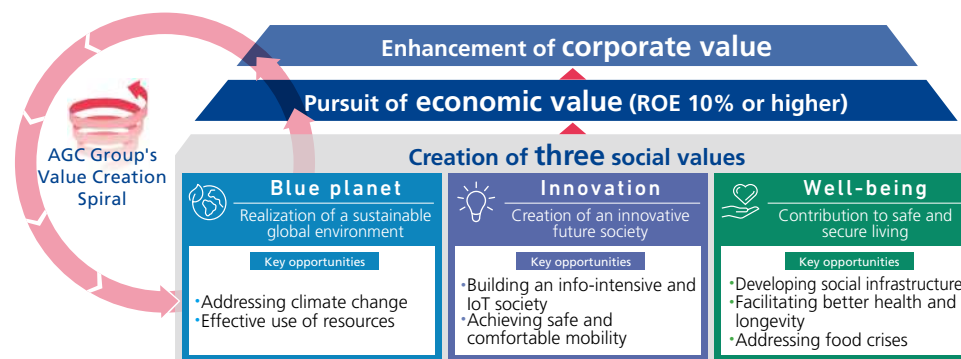
### Direction of Business Portfolio Transformation (carbon efficiency and asset efficiency)



Information about the current situation and strategies in each business: Refer to Business Strategy on p. 42.

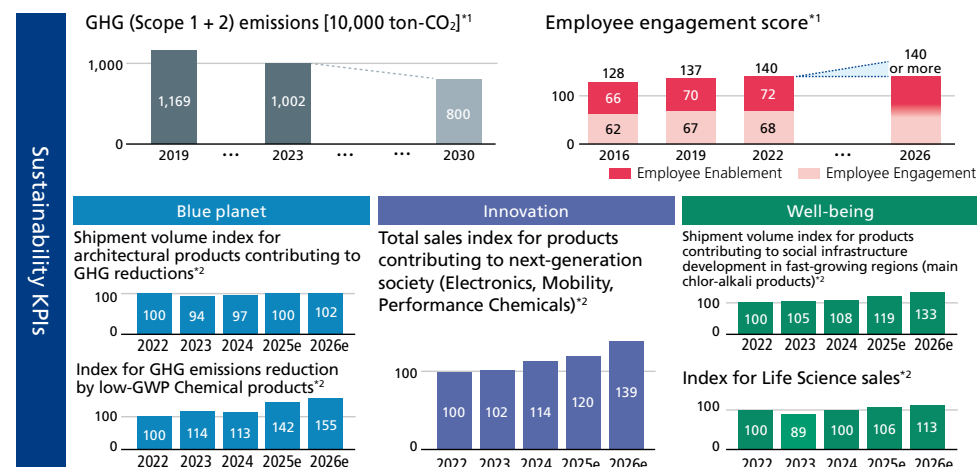
## Deepening of sustainability management

The AGC Group has defined the three types of social value we aim to create, and we strive to contribute to the realization of a sustainable society. To steadily create economic value through the creation of the three types of social value, we have set sustainability KPIs, and we monitor their implementation, and make improvements as needed.



## 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 per unit of GHG emissions sales are used in the calculation of executive remuneration.

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

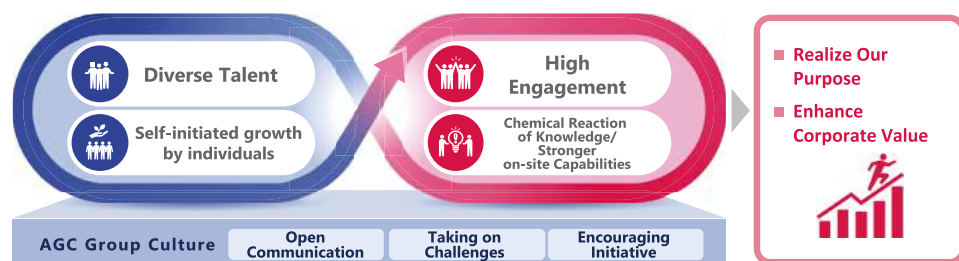
# Managing with a Focus on Cost of Capital and Stock Price

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

### Strengthening of the management foundation

#### AGC People: Driving our Growth!

“AGC People: Driving our Growth!” represents the AGC Group’s human capital management. We aim to implement a cycle based on balancing two factors: “Our corporate culture places importance on open communication, taking on challenges, and encouraging initiative. We will unlock the unique strengths and abilities of each individual and encourage continuous learning and professional development” and “A highly engaged organization with constantly improving individuals will enhance corporate value by utilizing external and internal collaboration to promote chemical reaction of knowledge and stronger on-site capabilities.”



Refer to Human Resources on p. 59.

#### Strengthening our corporate governance system

We have clearly separated management oversight and business execution functions, and will take steps to strengthen management oversight functions. In terms of business execution, we will clearly separate Group corporate functions and business operations functions, and work to increase the speed of business operation decision-making and efficiency of management.

In the officer compensation system, we have adopted variable compensation for all directors. Variable compensation includes bonuses linked to the organizational performance for a single fiscal year, as well as stock-based compensation linked to the performance and stock price during the period of a medium-term management plan.

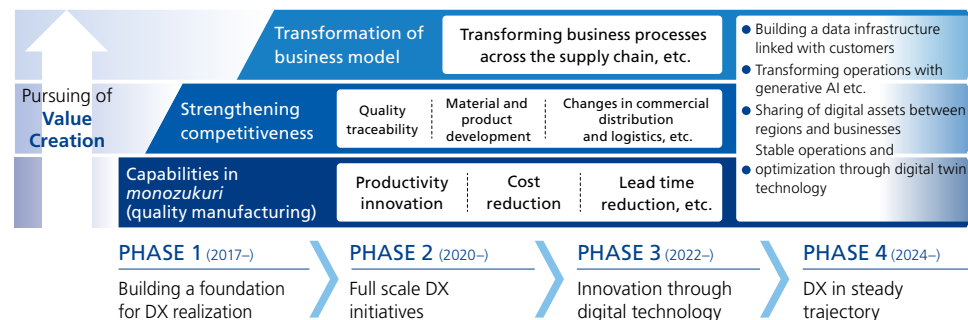
Refer to Corporate Governance on p. 78.

## Promotion of value creation DX

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 our corporate transformation, aiming to leverage digital technology for ongoing transformation and put DX on a steady trajectory. We will also pursue economic value through the creation of the three types of social value, and realize value creation DX that accelerates the spiral of corporate value enhancement with digital technology.

Based on this policy, we have been promoting initiatives such as operational reform and increased efficiency through the creation and utilization of an in-house conversational AI digital transportation (DX) in logistics, including joint transportation with multiple companies, and operational support services for glass bottle furnaces, utilizing digital technology and AGC’s manufacturing expertise. We are also making steady progress on the development of digital human resources to support these efforts.

Refer to “Developing human resources who promote value creation DX” in the Human Resources chapter on p. 64.



#### Business Reform / Efficiency (In-house conversational AI)

Add RAG (search expansion generation) function for global use

Reduction in work hours:  
approx. 110,000 hours (2024 estimate)

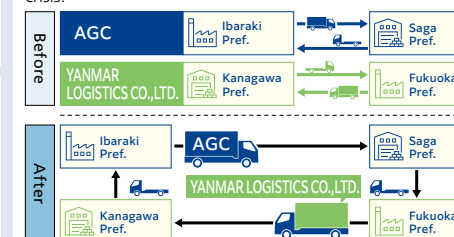
#### Value Creation to Customers

AGC has started a support service for bottle glass manufacturing furnaces based on its digital technology and manufacturing knowhow.



#### Value Creation to Society (Case in Logistics DX)

In collaboration with various companies, we have started joint transportation initiatives to respond to logistics crisis.





# Technology and Innovation

## Message from the CTO

**We will continue to improve and innovate with a sense of urgency to create social value through Innovation & Operational Excellence.**

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

**Hideyuki Kurata**

### AGC's strengths and vision for technology development **Our strength is Innovation & Operational Excellence**

AGC's strength is Innovation & Operational Excellence, which is also stated in Our Shared Values of our corporate philosophy, **"Look Beyond."** Throughout our long history dating to 1907, we have continued our business by responding to changes in the times. Operational Excellence means delivering reliable, dependable products that meet customer expectations. However, sustainable growth cannot be expected from practicing this alone. The reason we have been able to continue in business for nearly 120 years is because we have anticipated the times and continued to spark innovation.

For example, AGC's business began with the manufacture of architectural glass. Applying this technology, it expanded into the manufacture of automotive glass and then television

glass. Later, although the Company contended with market changes following the loss of demand for cathode ray tubes, it boldly took on the challenge of launching its business in time with the advent of liquid crystal displays. Other examples of AGC's evolution are its entry into the fine ceramics and electronic materials businesses from the manufacture of refractory bricks, and its development from self-sufficiency in soda ash, the raw material for flat glass, into the chemicals business, which produces fluorochemicals and other high-performance products. We are able to achieve Innovation & Operational Excellence by steadily and reliably manufacturing and improving our products while simultaneously creating new ones. That is what makes AGC unique.

# Technology and Innovation

## Continuing to take actions looking out over the next 50 or 100 years

Our vision in terms of technological development is to build a structure and culture to provide functional materials and components with a view to the 50 and 100 years from now. As an example, we are amid a rapidly progressing evolution and transformation in the automotive world from the perspective of mobility. We are looking out on and conceptualizing the future of next-generation mobility and continuing to develop new strategies. If we continue to come up with such ideas and concepts and propose them, we will be relied upon by leading companies driving mobility and be the first to be approached. Our vision is to continue our business by proposing and providing materials that the world needs in each era.

As part of our initiatives to create this momentum, we are promoting activities called “Business Outlook” and “Technology Outlook.” The Business Outlook is to anticipate trends, such as how the world will change and what industries will develop in the future, whereas the Technology Outlook explores what technologies will be needed to support such industries. Internally these outlooks are used to ensure strategic alignment among divisions and prioritize development themes and the like. We share our roadmap with external partners (potential customers, academia, etc.) and discuss future directions while reviewing the roadmap itself, which is used for setting priority areas for medium- to long-term R&D activities.

## AGC plus-2026

<b>Evolution of “ambidextrous strategy”</b>	<ul style="list-style-type: none"> <li>Accelerate business portfolio transformation by pursuing the use and development of differentiated materials and solutions</li> <li>Continue to strengthen the earnings base and cash generation capabilities of core businesses</li> <li>Revise the scope of strategic businesses, accelerate business growth, and explore next generation areas</li> </ul>
<b>Deepening of sustainability management</b>	<ul style="list-style-type: none"> <li>Accelerate integrated management, including financial KPIs, by redefining the social value that we provide and setting sustainability KPIs</li> </ul>
<b>Promotion of Value Creation DX</b>	<ul style="list-style-type: none"> <li>Strengthen competitiveness through digital × <i>monozukuri</i> capabilities</li> <li>Streamline and strengthen the entire supply chain</li> </ul>
<b>Strengthening of the management foundation</b>	<ul style="list-style-type: none"> <li>Strengthen group governance</li> <li>Promoting human capital management</li> <li>Further strengthen the alignment between business strategy and technology platform</li> </ul>

## Progress and issues related to technology development in **AGC plus-2026** Strengthening our footing through productivity improvement and innovation

In 2024, the first year of the **AGC plus-2026** medium-term management plan (hereafter referred to as “the medium-term plan”), we recorded operating profit but a net loss.

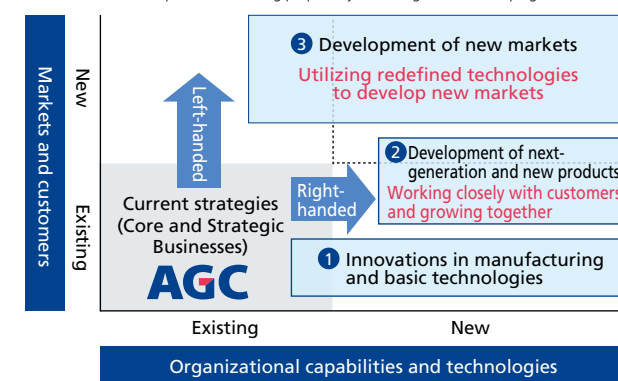
One of the factors behind this was issues in terms of Operational Excellence. One example of this was the occurrence of production problems. The fact that it took time to get this back on track is a point that we need to reflect upon. With our business domains and supply chains expanding globally, we will focus on overcoming challenges at an early stage by leveraging AGC’s strengths in organizational capabilities and production technologies more than ever before. Continuous innovation in productivity is also a priority for the future. As a manufacturer, improving productivity and innovation greatly contributes to improving our business performance. Under the banner of Operational Excellence, one of “Our Shared Values” in our Group Philosophy, we will further deepen collaboration between the manufacturing and R&D divisions and promote productivity improvement and innovation by making maximum use of digital technology. We will build a robust production process and strengthen the foundations of our business.

## Technology Development Strategy



## 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



☞ Please refer to pp. 34-36 for examples of ambidextrous development.

# Technology and Innovation

## Contribution to ROE improvement in the Technology General Division

A major priority in the medium-term plan is to improve ROE. We aim to raise ROE from its present low level to 7% during the period of the medium-term plan. To achieve this goal, the Technology General Division is developing high value-added products that will lead to higher ROE, and is also working on the selection of themes that have the potential to become Strategic Businesses in the future. In addition, we determine the prerequisites for the success of these themes as businesses, the time frame for their achievement and so forth, and formulate a roadmap (hypothesis) to reach the goal. Two years ago, we introduced "Discovery-Driven Planning (DDP)," a hypothesis-oriented planning method, and have been steadily advancing it by setting KPIs. In addition, we will utilize the experimental database system and data analysis tools developed by the Company to efficiently promote R&D while making full use of materials informatics (MI), which will lead to higher ROE.

## Developing new technologies to reduce greenhouse gas emissions

AGC is committed to sustainability management that creates social value while generating economic value, and ensures the long-term continuity of its business activities. Among the several items listed as sustainability KPIs, the most urgent and significant issue that we can contribute to from a technological perspective is reducing greenhouse gas emissions. The manufacture of flat glass requires a large amount of energy in the combustion process of melting glass, resulting in high greenhouse gas emissions. Therefore, we are continuously working to develop technologies to reduce greenhouse gas emissions. This is a major challenge for the glass industry as well. We are currently conducting demonstration experiments in collaboration with Saint-Gobain, a leading French glass manufacturer, to develop technology that will significantly reduce CO<sub>2</sub> emissions during flat glass manufacturing, thereby advancing decarbonization in the glass industry. Furthermore, we are working toward decarbonization by combining our technologies and assets with those of other

companies in areas such as carbon recycling, which involves not only reducing emissions but also recovering CO<sub>2</sub> as a raw material and upscaling it as a valuable material through chemical synthesis. Conversely, reducing environmental impact and complying with environmental regulations also present business opportunities, and we are developing products that contribute to reducing greenhouse gas emissions with that in mind.

For details, please refer to Promotion of sustainability management on p. 39.

## Innovation & Operational Excellence through value creation DX

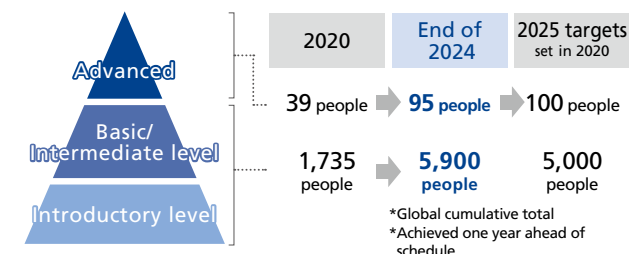
We have been focusing on the fostering of DX-savvy talent since 2017, aiming to develop dual-skilled personnel. These are individuals with strong skills in both manufacturing and administrative operations, who proactively exploit DX to drive improvement and innovation. Currently, we have exceeded our goal of 5,000 people who have completed basic and intermediate level training in DX. Also, we are close to achieving our target of raising 100 Top Data Scientists who can develop and deploy the latest digital technologies. These professionals use DX to promote innovation at each workplace and accelerate the attainment of Innovation & Operational Excellence. Value creation DX is producing many positive outcomes in a wide range of fields, including manufacturing, R&D, sales, and corporate functions as well as from being rolled out across the supply chain including customers and suppliers. The Digital & Innovation Promotion Division, newly established in 2023, is proving highly effective as a hub for leading productivity innovation and the internal deployment of the latest digital technologies.

Value creation DX: Please refer to p. 28, Promotion of value creation DX.

Examples of value creation DX: Please refer to p. 39, Enhancing competitiveness by accelerating DX.

## Investment in human capital and placing the right people in the right roles

We are also focusing on human capital investment in our R&D division. We are systematically optimizing our human asset portfolio to place talented individuals with a variety of skills in the right roles. In addition, we are investing in the development of middle management



to drive teams forward. We must break down organizational silos to harness the collective strength of the AGC Group to compete as a unified force. Toward that end, we also strive to increase the mobility of our talent and to increase opportunities for dialogue. The AGC Yokohama Technical Center, which serves as the hub for technological development, includes core technologies, materials technologies, process technologies, and production technologies in the same site. Furthermore, by bringing together a portion of the development divisions of all in-house companies, barriers between organizations and business divisions have been lowered to accelerate innovation through cross-functional collaboration.

For details, please refer to Human Resources on p. 59.

## Promotion of open innovation

The Center is also our hub for open innovation. The co-creation space "AO (AGC OPEN SQUARE)," which opened in 2020, hosted about 500 organizations and 3,000 visitors from client companies and academia in 2024. By building





# Technology and Innovation

human networks outside the Group, we can expect not only immediate results in R&D and business, but also the emergence of innovative themes and ideas that will lead to social change and innovation 50 or 100 years from now.

For details, please refer to Promotion of open innovation on p. 38.

## Value creation strategies for technology development Improving R&D efficiency and increasing the probability of successful commercialization

The most important step in technology development is setting the issues and themes. Based on the analysis using the “Business Outlook” and “Technology Outlook,” AGC will determine the areas of focus for technology development and formulate a roadmap in line with the direction of AGC’s “Business Portfolio Transformation” and “Vision.” In the search and selection of specific development themes, AGC will select themes that contribute to the social value of “Blue planet,” “Innovation,” and “Well-being” that AGC aims to create. Building on that foundation, one of the key missions of our research laboratories is to help shape the future by creating new business domains that will serve as pillars of the Company and by exploring the direction of portfolio transformation.

Proceeding with technological development of selected themes will be done using Discovery-Driven Planning (DDP) to constantly consider and decide on “what to discontinue, what to continue and strengthen, and what to start anew.” We incubate themes that are valuable from the perspectives of market potential, social issues, and AGC’s strengths, thereby increasing the probability of successful commercialization and improving profitability. Making timely and accurate decisions on “what to discontinue or to continue” are essential for reducing unnecessary costs and effectively utilizing R&D personnel.

For details, please refer to System and strengths in technology development on p. 37.

## Aggressive approach to intellectual property initiatives

Traditionally, intellectual property has defended a company’s own business and technologies. However, patents on materials

have a high potential to be applied to various business fields as well as to be widely used in the world due to their properties. As such, we are pivoting in our approach and actively linking our patents to profits. Therefore, we have changed the award system for inventors obtaining patents. The evaluation is no longer based on profits after commercialization but instead on an evaluation of the innovation and originality of the invention and its impact on competitors at the time the patent is registered. This allows R&D personnel to receive rewards at an early juncture, boosting their motivation. In fact, the number of people receiving awards is increasing.

Amid intensifying global competition, the more superior a product’s performance is, the more challenging the competitive environment becomes. To build an environment supporting competitive advantage under these circumstances, we are formulating our intellectual property strategy with a strong awareness of our standardization strategy.

For details, please refer to Intellectual property strategy, pp. 40-41.

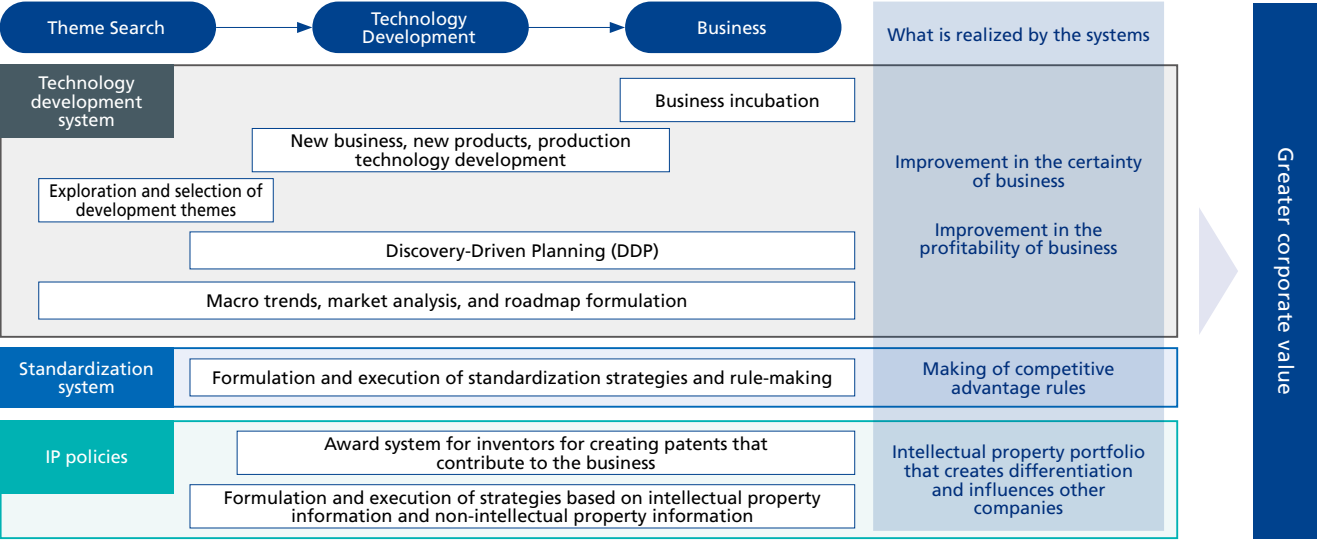
## Continue to provide new value to the world based on the founding spirit of “Never take the easy way out, but confront difficulties.”

Since its founding, AGC has always been committed to providing new value to society, valuing the spirit of “Never take the easy way out, but confront difficulties.” The Company was founded in 1907 in response to growing demand for architectural glass during Japan’s modernization. At the time, Japan did not possess the technology to mass-produce flat glass, making domestic production a challenge. Nevertheless, with a firm sense of mission and resolve, the Company introduced overseas technologies and succeeded in achieving both domestic production and the widespread use of flat glass.

What is important in business is to always maintain a sense of urgency and a commitment to transformation and improvement, and to continuously promote innovative initiatives. Toward this end, we endeavor to create an environment where each employee can feel a sense of personal growth and to lay the foundation for innovation.

AGC will continue to pursue innovation and strive to meet the expectations of all stakeholders. I myself share this sense of mission and will take action to achieve further growth.

### Value Creation Strategy



# Technology and Innovation

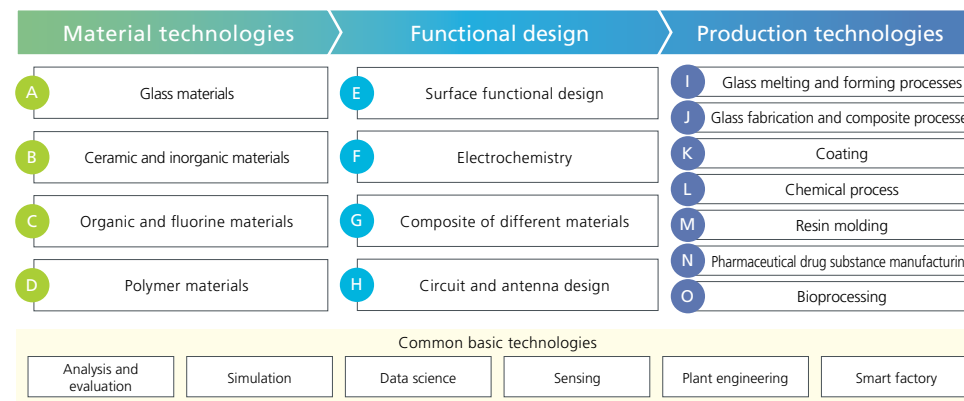
Continuously generate innovations that will shape the next 50 to 100 years and realize a sustainable society

## AGC's core technologies

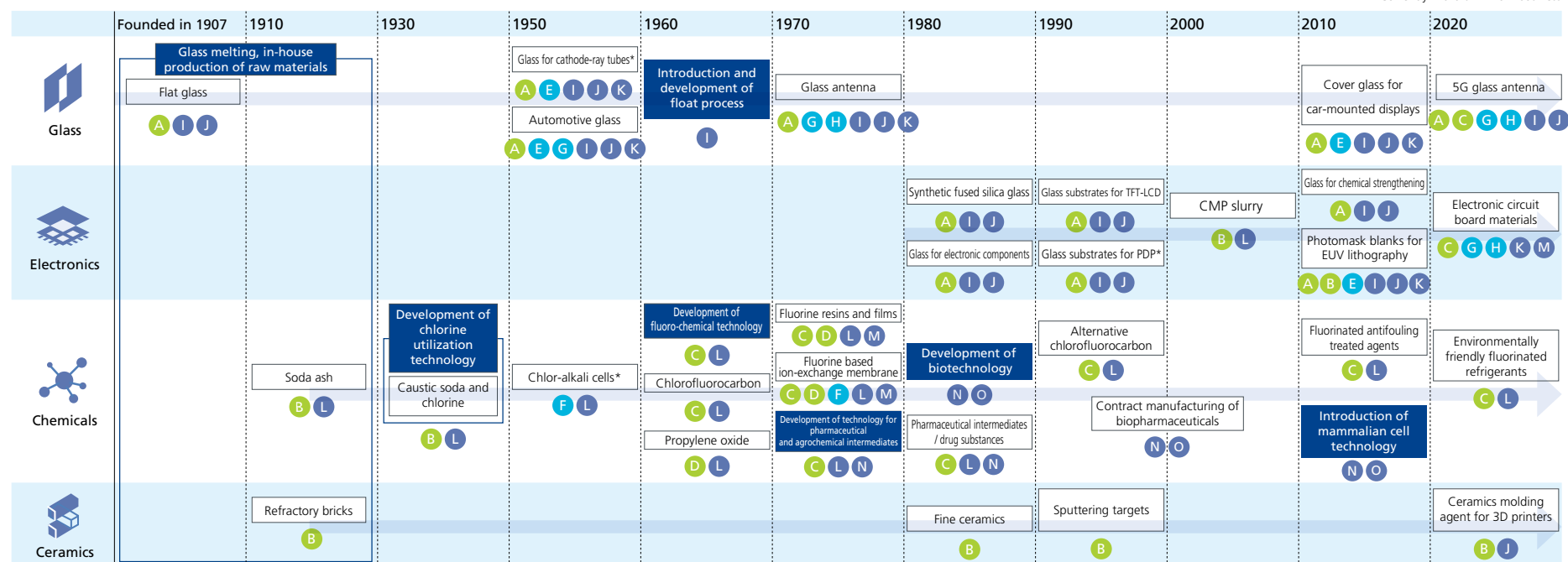
Shortly after the success of its founding business of domestic production of flat glass, World War I made it impossible to import soda ash, a raw material for glass, and refractory bricks for glass melting furnaces. In order to fulfill our mission of domestically producing glass, we started our own production, 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 various materials and solutions for motorization, the advancement of information technology, environmental issues, and other areas. Through these businesses, we have fostered, as core technologies, technologies related to a wide range of materials—from inorganic and organic materials through to biomaterials, 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, data science, sensing, plant engineering, and smart factory.

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 Core Technology



# Technology and Innovation

## Examples of new product development through the integration of core technologies

### Next-generation mobility-related technologies of the AGC Group

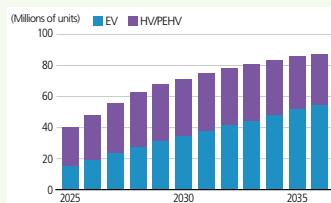
The automotive industry is undergoing a once-in-a-century transformation, driven by technological innovations based on four key trends known collectively as CASE (Connected, Autonomous, Shared & Service, Electric). Each of these technologies is closely interrelated, and the industry is working to integrate them to solve societal issues. AGC envisions the future of CASE and the scenarios that will lead to its realization. Leveraging its unique and diverse core technologies, AGC will provide products that anticipate customer needs and lead the creation of next-generation mobility markets.

### Mobility-related trends

#### Widespread of xEV (electrified vehicle)

By 2035, global vehicle production of xEVs (electrified vehicles) is expected to nearly double compared to 2025.

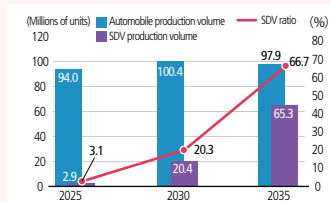
Source: S&P Global Mobility (Dec. 2024), analyzed by AGC.



#### Widespread of Software Defined Vehicles (SDVs)

By 2035, SDVs (next-generation vehicles that continuously update their functions through communication with the cloud) are projected to account for 66.7% of the world's vehicle fleet.

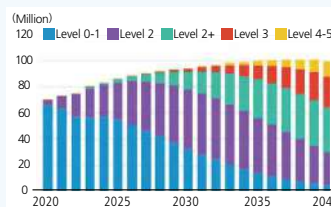
Source: Survey on Trends in Key Focus Areas (conducted in 2024 by the Japan Electronics and Information Technology Industries Association)



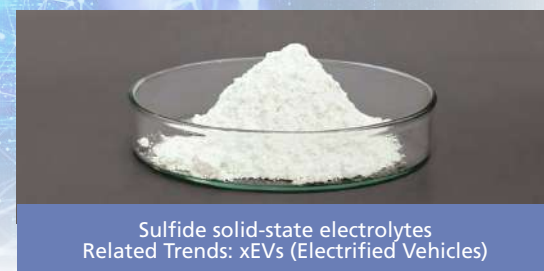
#### Widespread use of autonomous driving

By 2035, 85% of the world's passenger car sales are expected to be capable of Level 2 (partially autonomous driving) or higher autonomous driving.

Source: Bloomberg NEF




### AGC's technologies and products related the trend




### Column AGC Exhibited at CES 2025: Showcasing Cutting-edge Materials and Solutions, Including World Premieres



AGC exhibited at CES 2025, one of the world's largest technology trade shows, held in Las Vegas, USA, from January 7 to January 10, 2025. The AGC Group showcased cutting-edge materials and solutions in three areas: "Next-Gen Mobility," "Next-Gen Semiconductor," and "Next-Gen Energy."

 Please refer to our website for details.

The M100/200 Series glass substrates for AR/MR glasses developed by AGC won the CES Innovation Awards.

 Please refer to our website for details.

\*The CES Innovation Awards 2025 Honoree Information Guide states that "The CES Innovation Awards are based upon descriptive materials submitted to the judges. CTA did not verify the accuracy of any submission or of any claims made and did not test the item to which the award was given."



# Technology and Innovation

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

Enhancing competitiveness  
by accelerating DX

Promotion of sustainability  
management

Promotion of open innovation

## Examples of new product development through the integration of core technologies

AGC is continuing to propose new products and technologies in business areas with promising growth potential, leveraging its core technologies cultivated over many years under its ambidextrous development strategy. As the automotive industry evolves into the mobility industry, we are working closely with customers and business partners who are seeking to build new business models to propose next-generation cockpits, antenna architectures, and glass solutions for sensors (right-handed development). In addition, we are leveraging our existing technologies and organizational capabilities to develop new all-solid-state batteries and enter this market (left-handed development).

### Cockpit / Display

#### The future cockpit envisioned by AGC

AGC will propose a new cockpit UI and UX to deliver safer and more comfortable mobility. Drivers can experience the cockpit of the future, where the texture and beauty of glass are fused with functionality, through technologies such as the next-generation HUD, which contributes to improved safety while achieving an advanced and stylish cockpit, and the thin, deeply curved large-format display, which creates a seamless integration between the display and cockpit for an exceptional design.



### Safety / Sensors

#### Glass solutions for sensors that enable a safe mobility society

To improve autonomous driving and safety, AGC offers various Wideye\*<sup>1</sup> LiDAR\*<sup>2</sup> integration solutions, including LiDAR cover glass that incorporates LiDAR units into roof glass to achieve seamless body lines as well as a type that integrates LiDAR and multiple cameras inside the vehicle. In addition, we have developed an FIR sensor-enabled windshield that enables the integrated mounting of a visible camera and FIR camera as a complementary function to the visible light camera.



\*1 Glass for LiDAR \*2 Light Detection and Ranging

### Core technologies supporting products (Cover glass for in-vehicle displays)

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

### Cover glass for car-mounted displays

Technical element **A, C, E, G, I, J, K, L**

Lightweight, flexible, and scratch-resistant chemically tempered glass enables deeply curved display cover glass (**A, I, J**). Surface treatment reduces reflection and glare to improve visibility while also making the surface fingerprint-resistant and smooth for easy operation (**C, E, G, K, L**). AGC has pioneered product development through the fusion of glass and chemistry, earning a leading market share as its innovations are increasingly adopted in a wide range of vehicles.

### Core technologies supporting products (Wideye LiDAR integration)

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
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### Wideye panoramic glass roof LiDAR integration

Technical element **A, D, E, G, I, J, M**

Space is secured for integrating LiDAR units by forming and processing roof glass, which has been increasing in size in recent years. At the same time, it integrates seamlessly with the windshield to create a sleek, unified body line (**A, I, J**). The section housing the LiDAR unit is integrally molded with resin and window material that transmits near-infrared light (**D, E, G, M**). Based on our long-standing relationships with our customers, we are able to quickly understand their needs and provide solutions that combine the required functionality and design, something only a materials company AGC can offer.

# Technology and Innovation

## Examples of new product development through the integration of core technologies

### Connectivity / Antenna

#### Next-generation antenna architecture for mobility

To ensure constant connectivity and reliable data exchange, vehicles require high-performance, highly reliable wireless communication technology.

AGC is proposing an antenna system that seamlessly integrates antennas into the roof glass as a next-generation antenna architecture, as well as a retrofit 5G antenna that can be retrofitted without modifying the vehicle. Through these solutions, we will lead the creation of new markets such as remote monitoring and remote autonomous driving.

AGC's antenna system ensures seamless communication across all networks, including 5G and SATCOM and beyond, expanding the possibilities for connected vehicles.



#### Core technologies supporting products (Next-generation antenna architecture)

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
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		<b>O</b> Bioprocessing

#### Next-generation antenna architecture

##### Technical element **A, B, E, G, H, J**

AGC combines the materials, design, and evaluation technologies for automotive antennas that it has developed through longstanding product development with customers, and proposes next-generation high-performance antenna systems (**A, B, E, G, H, J**).

### Next-Gen Energy

#### Contributing to the widespread adoption of xEVs (electrified vehicles) with sulfide solid-state electrolytes

AGC aims to contribute to the widespread adoption of xEVs (electrified vehicles) equipped with all-solid-state batteries by ensuring a stable supply of sulfide solid-state electrolytes. The widespread use of all-solid-state batteries (ASSBs), which have high energy density, short recharge times, and are flame-retardant, will make xEVs (electrified vehicles) safer and more accessible by allowing them to extend their driving range.



#### Core technologies supporting products (Sulfide solid-state electrolytes)

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
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		<b>O</b> Bioprocessing

#### Sulfide solid-state electrolytes used in all-solid-state automotive batteries

##### Technical element **A, B, F, I, L**

Sulfide solid-state electrolytes are considered promising materials for all-solid-state batteries for automotive applications, but their mass production has been highly challenging because they are chemically unstable and are difficult to handle. AGC has established a unique melting method that no other company can imitate, combining glass and chemical technologies to enable the mass production of high-quality electrolytes of various compositions (**A, B, F, I, L**). It will greatly contribute to the practical application and widespread of xEVs (electrified vehicles) equipped with all-solid-state batteries.

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

Enhancing competitiveness by accelerating DX

Promotion of sustainability management

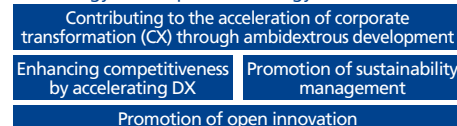
Promotion of open innovation

# Technology and Innovation

## System and strengths in technology development

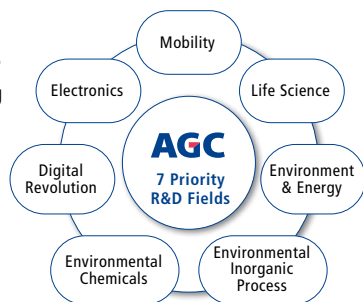
The AGC Group Technology General Division will steadily implement its technology development strategy of contributing to the acceleration of CX through ambidextrous development, enhancing competitiveness by accelerating DX, promotion of sustainability management, and promotion of open innovation. Through these endeavors, we will achieve our Vision 2030 while continuously generate innovations that will shape the next 50 or 100 years to realize a sustainable society.

### Technology Development Strategy



### Point① Business and Technology Outlook to create the next 50 or 100 years

With regard to long-term development themes, we conduct our own analysis based on market and macro trends and have determined the seven key areas for AGC's R&D by backcasting from the future. Internally these outlooks are used to ensure strategic alignment among divisions and prioritize development themes. We also discuss future directions with external partners (potential customers, academia, etc.) based on the roadmap, which leads to adjustments in the direction of medium- to long-term R&D activities.



### Point② Working closely with customers and growing together

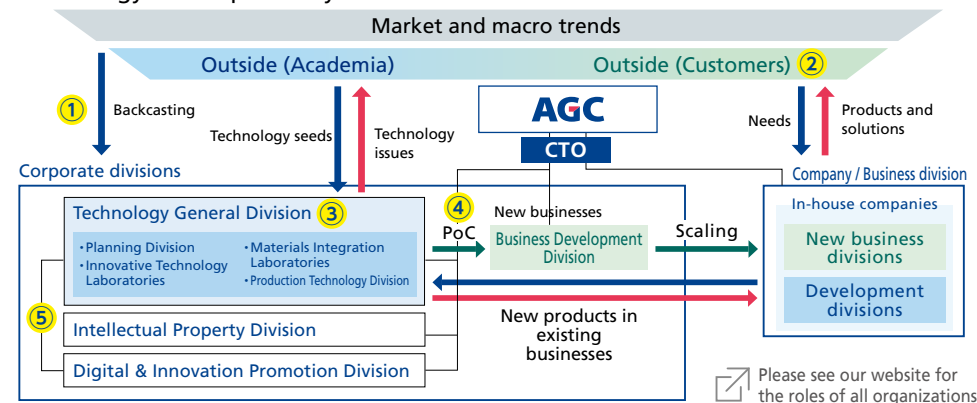
In our existing businesses, we collaborate with the development divisions in each in-house company to develop products tailored to customer needs based on the long-standing relationships we have built with our customers, and provide new materials and solutions. We will continue to create value that contributes to society together with our customers.

AGC Yokohama Technical Center receives 250 to 300 visits from outside companies per year, including existing customers, and members of the business divisions and Technology General Division identify new needs and reflect them in development and product development.

### Point③ Pursuit of maximum results from limited development resources

In advancing the technology development of selected development themes, we always consider "what to discontinue, what to continue and strengthen, and what to start anew" and incubate valuable themes from the perspective of marketability, social issues, and AGC's strengths to improve the probability of success in commercialization and profitability. We have replaced the traditional stage-gate method with the discovery-driven planning (DDP) method to strengthen the management of the development theme portfolio.

## Technology Development Systems



### Role of Each Organization

#### Business Development Division

This division constructs and validates hypotheses for commercialization through the process of creating an environment conducive to the growth of new businesses, proposes and promotes new businesses through incubation, and contributes 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.

#### 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.

### Point④ Creating new businesses for the future

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

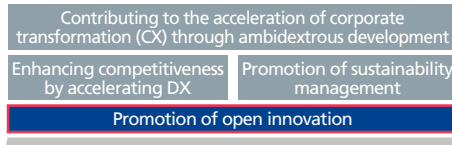
### Point⑤ Powerful internal partners promoting DX in technology development

The activities of the Technology General Division would not be possible without the backing of strong internal partners. The Technology General Division is working with the Digital & Innovation Promotion Division to promote the use of DX in development and is engaged in RX (Research Transformation). In addition, the division partners with the Intellectual Property Division to accumulate development results as intangible assets such as intellectual property, contributing to AGC's business activities.

Please refer to Enhancing competitiveness by accelerating DX on p. 39.



# Technology and Innovation



## Promotion of open innovation

As one of the key measures of our technology development strategy, the promotion of open innovation aims to seamlessly connect diverse thinking and technologies from both inside and outside the AGC Group. By creating idea and materializing together, we aim for the development of materials and solutions that will contribute to a sustainable society of the future.

In recent years, as social changes have accelerated and customer needs are also becoming more complicated and diverse, it has become difficult for the AGC Group to solve certain issues alone, and this has made collaborative activities through open innovation with external partners increasingly important. We are promoting open innovation on two axes. One is to develop innovative technologies and technologies outside of the AGC Group'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.



## Measures to promote open innovation

As shown below, we have established various platforms to promote open innovation. We are working to strengthen existing businesses and create new ones by solving complex challenges that cannot be addressed alone and by acquiring cutting-edge technologies.

Initiatives	Overview
Collaboration space "AO"	AGC has established a space for collaboration called "AO (AGC Open Square)" at AGC Yokohama Technical Center, and is using it to promote collaboration based on the concepts of "connect," "create," and "materialize." We are engaged in the development of innovative technologies in collaboration with academia and other organizations, as well as new product development with our customer companies. <a href="#">Click here for a virtual video tour of AO.</a>
Industry-government-academia collaboration	We are promoting industry-academia collaborations with domestic and international academic institutions and related parties, including major collaborations with leading universities in Japan (The University of Tokyo, Nagoya University, and Institute of Science Tokyo).
Overseas networking activities	We have established bases in four locations—the United States, Europe, China, and Singapore—where human resources are dispatched from our Technology General Division. We obtain innovative technologies and market information from overseas, and propose new business creation, strengthening of existing businesses, and technological development.
Utilization of venture capital	We have invested in two domestic venture capital firms specializing in materials and chemicals to obtain information on innovative startups and markets, which we utilize to create new businesses, strengthen existing businesses, and develop technologies.

## Example 1 Open innovation using the collaboration space AO

Through collaboration activities, AGC's "smart electro-thermal defogging glass" has been adopted for the front windshields of Green Slow Mobility<sup>\*1</sup> manufactured by Thinktogether Co., Ltd., a venture that develops low-speed electric buses, low-speed two-seater EVs, etc. This collaboration was selected for a grant under the Japanese government's "Vision for a Digital Garden City Nation"<sup>\*2</sup>.



A scene from idea generation in the collaboration space AO

A low-speed electric bus from ThinkTogether was brought to the collaboration space AO for a workshop, which led to the adoption of our products.

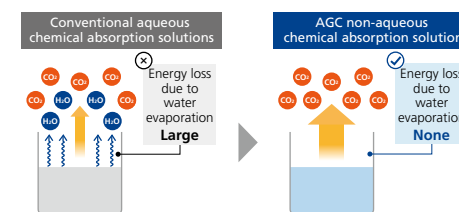
We will use this initiative as a starting point to develop further collaboration in various next-generation fields.

<sup>\*1</sup> Green Slow Mobility: A collective term for small mobility services that using low-speed electric vehicles that drive on public roads at under 20 km per hour and includes the vehicles themselves.

<sup>\*2</sup> Vision for a Digital Garden City Nation: A basic policy toward a sustainable society pursued by "Solving challenges in rural areas through digital implementation and realizing an enriched life where no one is left behind and, everyone can enjoy the benefits of digital technologies."

## Example 2 Open innovation through industry-government-academia collaboration

AGC has developed a chemical absorption solution (hereafter referred to as "the absorption solution") for Direct Air Capture (DAC) technology, which directly captures CO<sub>2</sub> from the air. DAC is considered an essential technology for achieving carbon neutrality by 2050, and research towards its practical application is progressing worldwide.



The absorption solution developed by AGC for DAC uses polypropylene glycol (PPG) as a non-aqueous chemical absorption solution, which significantly reduces energy consumption during CO<sub>2</sub> capture compared to conventional aqueous chemical absorption solutions.

Additionally, the absorption solution is expected to be utilized in the "Cryo-DAC" method, which recycles the -160°C waste cold energy generated during the vaporization of liquefied natural gas to capture CO<sub>2</sub>.

Since 2023, we have been conducting joint research with Nagoya University on the application of this absorption solution in Cryo-DAC. Moving forward, we will also participate as a subcontractor in the "Moonshot Research and Development Program" by the New Energy and Industrial Technology Development Organization (NEDO), in which Nagoya University is involved, to further advance research toward the practical application of our absorption solution.

## Example 3 Open innovation with startup companies

Please refer to Joint research with startups on p. 39 for details.

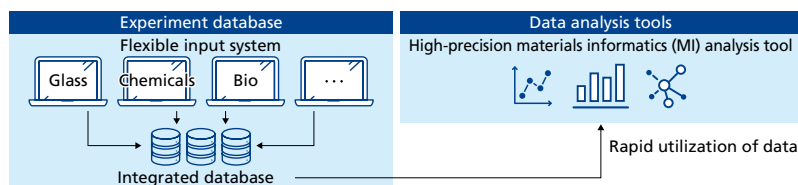
# Technology and Innovation

## Enhancing competitiveness by accelerating DX

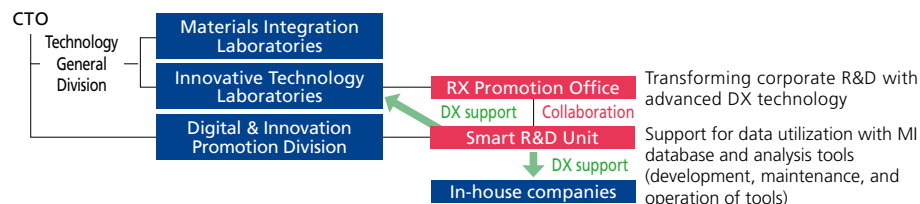
One of the key measures of our technology development strategy is enhancing competitiveness by accelerating DX. We will promote dramatic improvements in development efficiency and the creation of new value through the use of digital technology.

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.

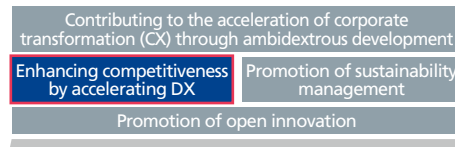
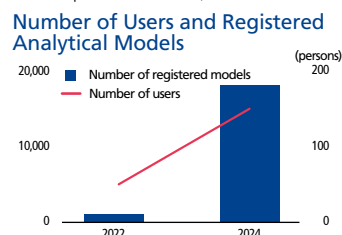
The AGC Group has developed an experimental database system with electronic laboratory notebook functions for use in development activities, along with a data analysis tool for MI. AGC is creating the basis for an integrated development environment encompassing all stages from data entry to data analysis. 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.



To widely deploy and accelerate development of such tools within AGC, the Technology General Division has established the RX Promotion Office within the Innovative Technology Laboratories and is collaborating with the Digital & Innovation Promotion Division, which is promoting DX to advance RX (Research Transformation), a transformation of R&D utilizing DX.



With the cooperation of the RX promotion organization and researchers, the MI tools' functions have been further enhanced, and its use is steadily advancing, contributing significantly to development efforts. Since implementation began in 2022, the number of users has approximately doubled in two years, and the number of registered data analysis models has increased 18-fold. There are numerous success stories regarding the use of tools to accelerate material development and improve processes, which are shared within the Company.

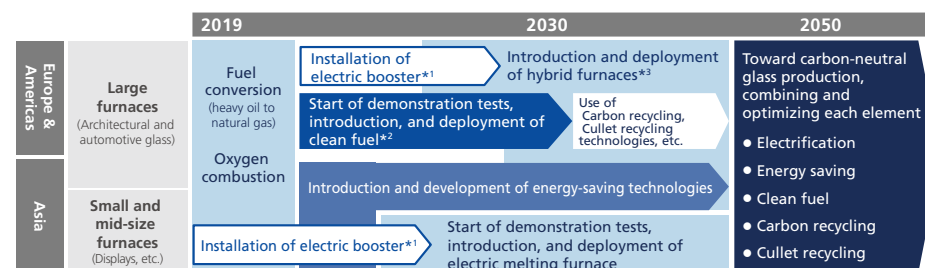


## Promotion of sustainability management

One of the key measures of our technology development strategy is the promotion of sustainability management, which involves promoting DE&I and smart work to revitalize the organization and develop technologies that contribute to the environment.

We have established a technology roadmap to address the critical environmental issue of reducing GHG emissions, focusing on glass melting furnaces, which are significant sources of emissions. We have been working on fuel conversion from heavy oil to natural gas, the introduction of electric boosters, demonstration experiments for the introduction of clean fuels, and the expansion of cullet recycling.

### Technology roadmap for reducing GHG emissions from float glass furnaces



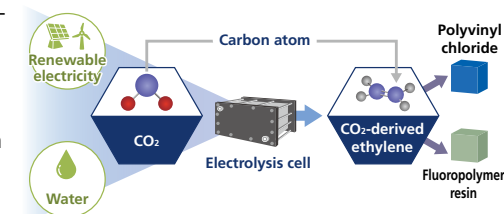
\*1 Electrical auxiliary heating \*2 Ammonia, hydrogen, etc. \*3 Energy sources are provided by a combination of electricity and fuel

### Joint research with startups

AGC agreed to a joint research contract with Canada-based climate tech startup company, CERT Systems Inc. for the production of ethylene using CO<sub>2</sub> as a raw material through electrolysis technology.

As an innovative technology for achieving carbon neutrality by 2050, carbon capture and utilization (CCU) technology has been attracting attention in recent years.

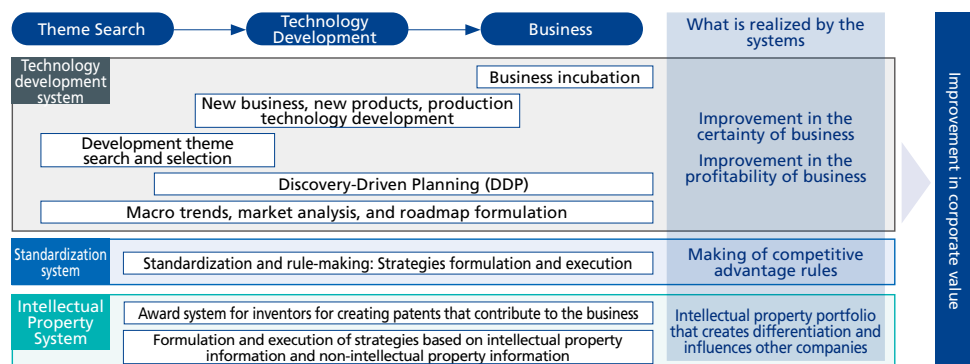
The electrolysis method, which is the subject of this study, is the focus of a great deal of research worldwide due to the high convenience of its raw materials, which are renewable energy-derived electricity and water, in addition to CO<sub>2</sub>. In this joint research, we will introduce CCU technology in order to replace ethylene, which is used as a raw material for products such as polyvinyl chloride and fluoropolymer resin, with ethylene derived from CO<sub>2</sub>. CERT successfully produced ethylene using CO<sub>2</sub> electrolysis technology for the first time in the world in 2020, and will leverage this expertise to advance the practical application of CO<sub>2</sub> electrolysis plants. This is also a good example of open innovation, another key measure of our technology development strategy.



# Technology and Innovation

## Intellectual property strategy

At AGC, there are various systems to create new values. As shown in the figure below, systems related to intellectual property and standardization include “Standardization and rule-making: Strategies formulation and execution,” “Award system for inventors for creating patents that contribute to the business,” “Formulation and execution of strategies based on intellectual property information and non-intellectual property information.”



## Standardization and rule-making: Strategies formulation and execution

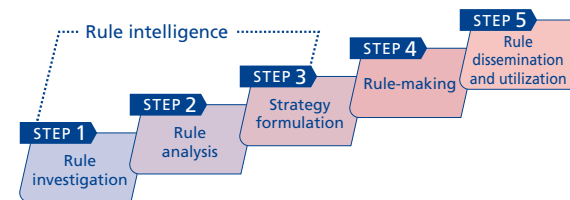
At AGC, we are actively promoting standardization to contribute to rule-making in global markets and society. In particular, the CTO oversees standardization activities not only to adapt to a changing society and address new market sectors, but also to create new societies and markets, driving strategic rule-making activities.

While defining the ideal state and roadmap for standardization activities toward 2035 as part of the AGC Group strategy, a dedicated standardization department within the corporate division is responsible for cross-sectional foundational areas throughout the company and also provides global support for standardization activities in each business division.

The CTO also chairs the company-wide standardization strategy meetings, which consist of representatives from various divisions and overseas bases, promoting the planning and execution of strategic activities that contribute to the creation of next-generation societies and the establishment of competitive advantage. We share a list of standardization activities implemented in each division, organize the strategies and issues of each activity, and strengthen information sharing and internal collaboration among divisions. AGC divides the steps for standardization and rule-making into five stages: (1) rule investigation, (2) rule analysis, (3) strategy formulation, (4) rule-making, and (5) rule dissemination and utilization. In particular, we are strengthening strategy formulation by positioning the processes of up to planning of strategy formulation as rule intelligence. In addition, we are developing global strategic activities with a focus on regions where standardization and rule-making activities are active, such as Europe and China. We are also

promoting initiatives to strengthen public-private partnerships in each country. Furthermore, we are strengthening our activities to integrate open and closed strategies with intellectual property strategies and business strategies.

To develop standardization human resources, we are implementing standardization education, while defining the roles of standardization personnel in AGC's professional system and promoting certification. In the CNA (Cross-divisional Network Activity) of the standardization strategy, we are rolling out self-directed activities for individual and organizational growth and evolution. In 2024, we contributed to the development of external human resources by participating as a lecturer in the Ministry of Economy, Trade and Industry's Standardization Strategy Human Resources Education Pilot Program.



AGC actively participates in standardization activities at international standardization organizations such as ISO (International Organization for Standardization) and IEC (International Electrotechnical Commission), as well as in related activities conducted by consortiums in various regions and industries around the world. In ISO, we have taken the lead in the standardization of ZEB<sup>\*1</sup> and are using its technical specifications to promote ZEB dissemination activities, primarily targeting emerging countries in Asia. Also, in IEC, 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 efforts for circular economy, biodiversity, hydrogen technology, and nanotechnology within ISO, and for avoided emission<sup>\*2</sup> and fuel cells technology within IEC. We are also proactively participating in initiatives to standardize electronic displays. In Building Integrated Photovoltaics (BIPV), we have been leading the creation of JSA (Japanese Standards Association) standards with the aim of achieving both “energy creation” and “consideration for natural capital.” In the field of next-generation mobility, we are participating in industry associations to standardize functional window glass, in-vehicle displays, pedestrian protection, and other technologies.

## Standardization activities and examples

<b>CTO</b> <b>Companywide standardization activities</b> Corporate divisions Business divisions Overseas bases	<b>Standardization of ZEB<sup>*1</sup> in ISO</b>	Issue technical specifications on methodologies for realizing ZEB and contribute to the dissemination of ZEB
	<b>Standardization of the circular economy in ISO</b>	Development of indicators for the recyclability of products, etc., thereby contributing to the effective use of resources
	<b>Standardization of avoided emission<sup>*2</sup> in IEC</b>	Contribution to the reduction of GHG emissions throughout product lifecycles, from raw materials procurement through to disposal and recycling

<sup>\*1</sup> Net-zero energy buildings: Buildings designed to achieve net-zero use of primary energy

<sup>\*2</sup> The quantified GHG emissions reductions resulting from evaluated products that help reduce environmental impact throughout their entire life cycles

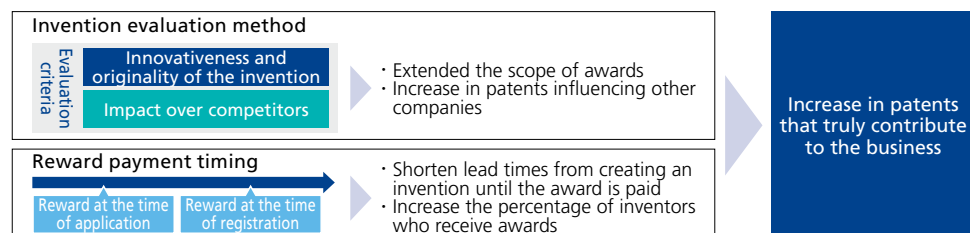


# Technology and Innovation

## Award system for inventors for creating patents that contribute to the business

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 R&D members 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 innovativeness and originality of the invention and its impact in terms of the Company's lead over competitors.

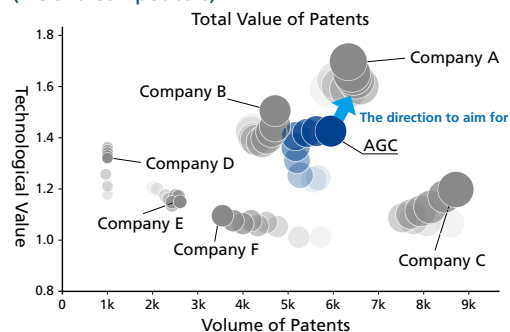
The current system was introduced in 2018. Compared with the previous system—in which most of the awards were paid to a small minority of inventors of technologies relating to highly profitable products—the current system has significantly extended the scope of awards, increased the percentage of inventors who receive awards, and shortened lead times from creating an invention until the award is paid. As a result, it is expected that there will be an increase in patents that truly contribute to the business. The CEO, CFO and CTO will also be present at the invention award ceremony.



The figure on the left below is a graph showing the annual changes in the quantity and quality of AGC's and competitors' patent portfolios over time, drawn using LexisNexis® PatentSight+.

Since introducing the current award system for inventors, AGC has increased the volume of patents while maintaining high technological value. We will continue to aim for high levels in terms of both technological value and volume of patents.

Changes in Patent Technological Value and Volume (AGC vs Competitors)

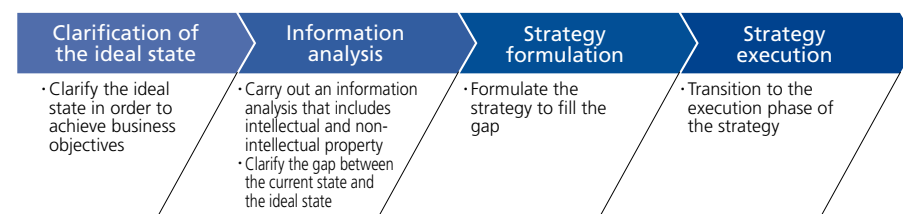


A scene of the invention award ceremony (Also attended by the CEO, CFO and CTO)



## Formulation and execution of strategies based on intellectual property information and non-intellectual property information

The strategy on how to build and utilize our intellectual property portfolio for the maximization of business value is important. At AGC, we are advancing formulation and execution of strategies through the following steps.

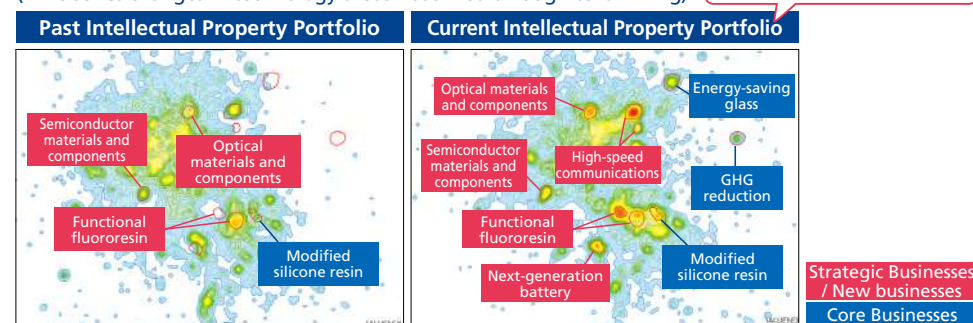


## Building a strategic intellectual property portfolio

Under the supervision of the CTO, the Intellectual Property Division closely coordinates with the Technology General Division to build a strategic intellectual property portfolio that, from a company-wide perspective, facilitates ambidextrous development. While continuing to strengthen the IP portfolio of our Core Businesses, we have also focused in recent years on expanding 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, including semiconductor materials, 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 that are also related to next-generation mobility (see the figure below, "Changes in the AGC Group's Intellectual Property Portfolio over the Past Decade").

The AGC Group is developing products that contribute to a decarbonized society and reduced environmental impact, and is also strengthening its intellectual property portfolio related to these products.

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 from the past 10 years were compiled using "VALUENEX RADAR" (provided by VALUENEX Inc.).

# Architectural Glass

Core  
Businesses Architectural  
Glass Europe &  
Americas Business

Core  
Businesses Architectural  
Glass Asia Pacific  
Business

Glass antenna

Building  
Integrated  
Photovoltaics  
(BIPV)

Float glass

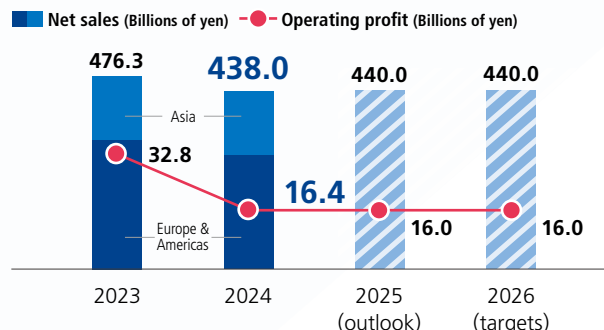
## Business Overview

In 1909, AGC became the first Japanese company to successfully produce flat glass domestically, and today we hold the top class share in regions where we operate. Since the Group's founding, we developed the Architectural Glass Business as a stable earnings source. We grow new businesses with enhanced glass functionality and environmentally friendly glass. 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, vacuum insulating glass, Low-E glass, tempered glass, heat-resistant tempered glass, mirrors, colored glass, figured glass, wired glass

## Business Performance



## Business Environment

### Architectural Glass Europe & Americas Business Opportunities

- Growth in demand for environmentally conscious products with improved energy efficiency
- Strong building renovation trend supported by European legislation
- Growing population and economic development in South America

### Risks

- Recovery of European economy
- Decrease in competitiveness in Europe due to EU policies (decarbonization, energy, foreign policies)

### Strengths

#### Brand power

Powerful brand that customers associate with advanced performance, quality, and reliability

#### Product portfolio

The industry's most extensive product lineup, from commodity products to leading-edge high-value-added products

#### Value chain and technological capability

Integrated value chain and comprehensive glass technology capabilities as a leading global company

## Architectural Glass Asia Pacific Business 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

#### Development capability

Product and process development capabilities for high-performance glass, as represented by world-leading energy-saving glass

#### Manufacturing capability

Diverse manufacturing capabilities, from float glass to various coating and processing technologies

#### Proposal capability

Ability to offer value to customers

#### Supply chain

Robust supply chain underpinned by trust fostered over many years

#### Global network

Diverse human resources, who support the above mentioned strengths, as well as our global network

## Davide Cappellino

President of  
Architectural Glass  
Europe & Americas Company (AGEA)



### Review of Fiscal 2024

### Challenging Market Conditions in Europe

In Europe, we faced a challenging environment. The construction industry has been greatly impacted by the conflict in Ukraine, which caused an energy price shock, record-high inflation, and interest rate hikes. Whilst demand for construction glass remained lower compared to the recent past, our resilience and ability to protect our profitability have been evident. Unfortunately, we had to shut down two production facilities to adjust our capacity. However, by reducing costs and managing the balance between supply and demand, combined with leveraging our regional capabilities — the excellent integration between upstream glass production and downstream customer service operations — we recorded a vastly improved business performance compared with the past. This has given us energy. In contrast, South America represents a burgeoning market where we provided superb service to our customers across all product lines, including energy-efficient coated products specifically designed for the South American market.

### Initiatives Toward Achieving the Medium-Term Management Plan Priorities and Objectives

As a Core Business, our key priority under **AGC plus-2026** is to strengthen products and technologies that solve social challenges such as reducing greenhouse gas emissions while stably generating cash. In Europe, our priority is spearheading the transition toward a lower carbon society, with the glass industry playing a major role. Looking at 2025, our strategic objectives in Europe will focus on capacity management and cost control, while also increasing value in the downstream, where we recently acquired a

major German player, which will help us become more resilient to economic fluctuations. In South America, while keeping pace with market growth, our objective is to continuously evolve our product mix to accommodate demand for more advanced types of glass.

### Issues and Measures

### Enhancing Capabilities, Strengthening Resilience

The main challenges we will face during the medium-term management plan period are enhancing our cash generation capabilities and strengthening our resilience to economic fluctuations. To maximize profit generation, we must undertake aggressive cost, capacity, and pricing management. Strengthening resilience requires a dynamic approach, as we operate in structurally cyclical markets. Improving our product mix is essential, as more advanced products are less cyclical than commodities. Downstream operations, being closer to customers, are also less exposed to such fluctuations. Another important aspect is selective and focused investment in new technologies with lower emissions and products that contribute to society.

### Initiatives Toward the Medium- and Long-Term Growth of AGC Pilot Developer of New Technologies

Adopting an ambidextrous management approach, AGC's Core Businesses under "Vision 2030" aim to establish long-term, stable earnings by increasing business competitiveness. To realize "Vision 2030" and continue sustainable growth, AGEA will enhance carbon and asset efficiency while focusing on long-term investments and business pillars supporting AGC's success.

As a GHG emitter based in Europe, a leading regulatory region, we are ideally placed to develop new technologies and approaches that benefit other AGC regions and businesses. Glass plays an important role in building a sustainable society, allowing us to explore and test innovative avenues, including hybrid technologies involved in the Volta project\* and disassembly of glass from renovated buildings. All at AGEA can feel proud to be part of such game-changing initiatives.

\* A project for developing technology to reduce CO<sub>2</sub> emissions during flat glass manufacturing, in collaboration with Saint-Gobain. For more details, please click here.

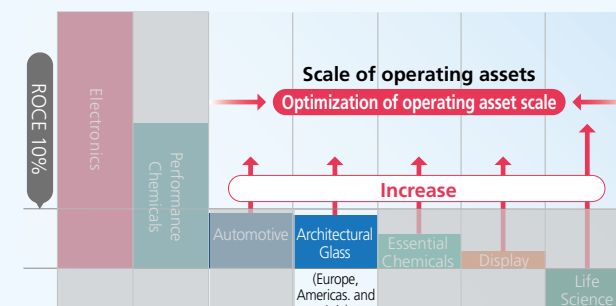
### Company President's Role and Commitment to Business Growth Speed is of the Essence

At AGEA, we take pride in conducting business aligned with the AGC Group philosophy: AGC, an everyday essential part of our world. Our role is to stably increase sales and profits while supporting Group businesses with expected growth. As an in-house company president, I see my roles as twofold. First, to inspire and empower my organization, ensuring members are unified and understand how they contribute to achieving our Vision. This is facilitated through clear, continuous, and consistent communications via modern technologies. Second, to focus resources and efforts effectively to reach our objectives efficiently. This relies on speed in decision-making and practically building a successful future for AGEA and AGC. My team and I are confident in our bright future, ready to address and overcome uncertainties and hurdles.

### Toward Improving ROCE

As a capital-intensive industry, wise utilization of resources provided by shareholders and the Company is crucial for success. AGC manages each business by return on capital employed (ROCE). For Architectural Glass, under **AGC plus-2026**, we target ROCE of 10% or higher in FY2026. Our strategy is to capture more value downstream, where less capital is needed, and ensure growth in emerging markets. While being proactive in asset and capacity management in mature markets, we will ensure full utilization of our assets and, if needed, take bold steps to reduce our footprint by divesting nonproductive assets.

### FY2024 ROCE and Size of Capital Employed by Business (before common expenses allocation)



ROCE = FY2024 operating profit / Capital employed at the year-end; operating profit for each business is before allocation of common expenses



## Shigeki Yoshiba

President of  
Architectural Glass  
Asia Pacific Company (AGAP)



### Review of Fiscal 2024

#### Renovation Demand Growing in Japan

The financial results for 2024 for the AGAP showed a decrease in both sales and profit compared to the previous year. In Japan, in addition to the decrease in the number of new housing starts, we were significantly impacted by the rising costs of building materials and labor. Meanwhile, the Japanese government's initiative to promote energy-saving renovations of homes and buildings has boosted demand for energy-saving glass that can be retrofitted to existing windows. Renovation demand is making up for the decline in new construction. In Asia outside of Japan, economic growth slowed throughout ASEAN in the first half of 2024, partly due to the slump in the Chinese market. The most recent situation varies from country to country, and a similar trend can be seen in Thailand and Indonesia, where we have expanded, and demand for our products has also decreased. Yet in Indonesia, we have witnessed signs of a resurgence in demand since the second half of 2024.

#### Initiatives Toward Achieving the Medium-Term Management Plan Increase the Ratio of High Value-Added Products to Strengthen the Business Foundation

Although we did not meet our plan numbers for fiscal 2024, the direction of our strategy remains unchanged. We will accelerate the measures we are currently implementing. Of course, we will also consider and implement new initiatives to improve our earnings as needed.

First, we will pursue high value-added products. The AGC Group's products, including energy-saving glass, can

achieve both social and economic value, such as reduced GHG emissions. Low-E double-glazing glass is a representative example. We will aim to expand sales in line with the growing demand for high thermal-insulating products. We are also focusing on new businesses, and we will increase the ratio of products such as display-integrated mirrors, glass antennas for 5G that can be attached to the interior sides of windows, and Building Integrated Photovoltaics (BIPV) glass. Additionally, we will work on pricing policies that will allow us to cover cost increases, including those of raw material costs. In Asia, we will continue to develop high-value-added products and pursue a differentiation strategy in line with the maturity of the market.

### Issues and Measures

#### Sustain Competitive Advantage in Asia

Even though 2024 was a plateau, we expect the Asian market to grow steadily over the long term. At the same time, new competitors are likely to emerge, so we must continue to maintain and hone our competitiveness. In Asia, we have established a position as a top player, with advantages in technology, product strength, and a strong sales network. Furthermore, to differentiate ourselves from our competitors, we will shift our focus to a business focused on high-value-added products. This will also help to stabilize business performance if economic growth does not progress as much as expected.

This business is expected to contribute to the AGC Group through cash generation. With regard to investment, rather than aiming for large returns and aggressive expansion, our main focus is on raising resilience, such as maintaining and updating float glass melting furnaces.

#### Initiatives Toward the Medium- and Long-Term Growth of AGC Toward Expansion of Recycling

Reducing GHG emissions in the manufacturing process is a major challenge, and we are promoting R&D and building business models to achieve the company-wide GHG reduction target for 2030. We also focus on glass recycling to contribute to the realization of a circular economy. In addition to increasing the use of glass cullet (waste glass and broken glass), we are also striving to recycle the cover glass

of solar panels.

We also hope to contribute to the growth of the AGC Group by continuing to take on the challenge of creating new businesses and deploying the technologies and knowledge we have cultivated in the process.

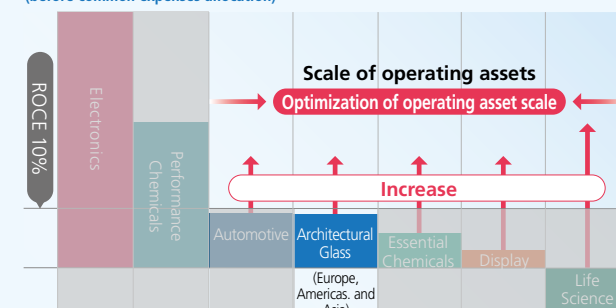
#### Company President's Role and Commitment to Business Growth Creating an Environment Where Everyone Can Demonstrate Their Strengths

Although our earnings for 2024 were not satisfactory, we made progress with structural reforms and have come through a difficult phase, with morale improving throughout the company. My role is to build on this momentum. Our business is rooted in the market. It is most important to have frontline employees who have first-hand information working with vigor and enthusiasm. I intend to continue creating an environment where employees from each country and region can demonstrate their strengths.

### Toward Improving ROCE

In terms of the results of the AGAP we have achieved the company-wide target of 10% ROCE, but this is down compared to 2023. We aim to improve ROCE by strengthening our business base through the expansion of sales of high-value-added products while generating stable cash flows.

#### FY2024 ROCE and Size of Capital Employed by Business (before common expenses allocation)



ROCE = FY2024 operating profit / Capital employed at the year-end; operating profit for each business is before allocation of common expenses

# Automotive

Core  
Businesses

Automotive Glass  
Business

Strategic  
Businesses

Mobility Business

Cover glass  
for car-  
mounted  
displays

Light control  
glass (On)

Light control  
glass (Off)

Laminated  
glass /  
Tempered  
glass

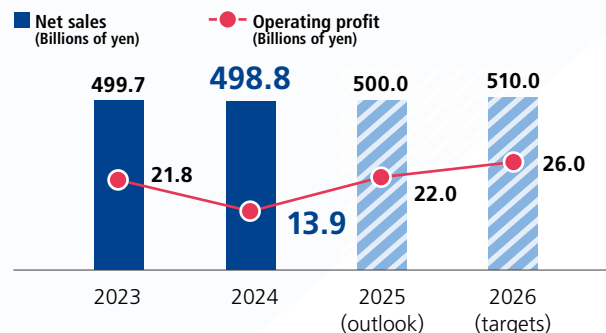
## Business Overview

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, infrared 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

## Business Performance



## 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

### Relationships of trust

Strong relationships of trust built with many industry-leading global OEMs and various collaborative partners across different fields

## Network

A global network that can provide products and services with manufacturing bases in more than 15 countries

## Production technologies

World-class glass production technologies including coating and processing

## Comprehensive technology capabilities

The AGC Group's technology development and comprehensive capabilities, which integrate glass, chemicals and electronics

## Synergies

Synergies from having both the Core Automotive Glass Business and the Strategic Mobility Business

## Column

### Mass production of LiDAR cover glass

In 2024, after establishing the necessary production systems, we began mass production of Wideye, a LiDAR cover glass, as a high-value-added product that will lead the future of our company.

LiDAR sensors measure distances to objects by analyzing reflections of near-infrared lasers. They are used in advanced driver assistance systems (ADAS) and autonomous driving technologies. In order to install LiDAR in a car, durable cover that can maintain its performance for long time in harsh environments exposed to sunlight, wind and rain. Additionally, they must be aesthetically integrated in the car body.

By installing Wideye, which has high near-infrared transmittance and strength, in front of LiDAR sensors, the high level of safety of ADAS and autonomous driving systems can be maintained for longer time. In addition, AGC has the capability to meet diverse needs for cover glass by leveraging our technologies for integrating various components, including coatings, integral molding, the implementation of heating wires, and application to windshields.

AGC will lead mobility society by leveraging our experience and expertise accumulated in the field of automotive glass and the group's comprehensive technology capabilities.



Automotive  
LiDAR sensors



Wideye used  
for LiDAR  
integrated with  
windshield

## Yoshio Takegawa

President of  
Automotive Company

## Review of Fiscal 2024

## Business Performance Varied by Region

Operating profit in 2024 was below that of 2023, which was the highest year on record. The main reason for this was the large variation in business performance by region. In automotive glass, a Core Business, profits in North America deteriorated significantly due to increased costs caused by production and shipping problems. This was due to a lack of local production capacity, which was addressed by shipping glass from other regions. Furthermore, although profits in China improved compared to 2023, they were affected by the low sales of Japanese, European, and U.S. automakers. On the other hand, business in Japan maintained strong performance thanks to pursuing appropriate price levels and improving productivity. Also, cover glass business for car-mounted displays in the Mobility Business contributed to the company's performance with improved profits owing to strong orders and production.

### Initiatives Toward Achieving the Medium-Term Management Plan Steadily Implementing Three Measures to Improve Profits

We will continue to work on the three pillars of profits improvement: review of pricing policy, structural improvement, and high-functional, high-value-added products. In terms of pricing policy, it is essential to ensure that customers understand the value of our products and to continue to pursue appropriate price levels. With respect to structural improvement, we are endeavoring to improve productivity while also rebuilding and optimizing our production systems. I view high-functional, high-value-added

products as the most important measure. We will pursue our business operations that prioritizes enhancing added value rather than relying on sales volume. LiDAR and antennas will be needed if autonomous driving and advanced driver assistance systems (ADAS) become more widespread. In addition, demand for panoramic sunroofs and other products will grow with the diffusion of electric vehicles (EVs). We are developing high-value-added products and building production systems in response to changes in the market, as exemplified by CASE. In the Core Businesses, we have been introducing high-efficiency equipment (such as press-bending furnaces for laminated glass) in each region. And in our Mobility business, we have established a production system for LiDAR cover glass and have begun mass production.

## Issues and Measures

## Leading the Next-Generation Mobility Market

The most difficult challenge we face is how to continue to create high-functional, high-value-added products. We must accurately grasp market trends with an eye on the future of the mobility society and provide products that anticipate customer requirements. To achieve this, we need to change our mindset, which has traditionally been reactive. We intend to proactively gain insights into trends in next-generation mobility and the evolving policies and regulations of key markets. Our aim is to lead the market by leveraging our unique technological strengths by envisioning our own CASE-enabled future and the scenario that will take us there.

### Initiatives Toward the Medium- and Long-Term Growth of AGC Becoming Highly Profitable Business That Will Become a Pillar of the AGC Group

In the Core Business of automotive glass, our role is to continue executing on the three pillars of our initiatives, improve profitability and efficiency, and generate stable cash flow over the long term. The Mobility Business, which is a Strategic Business, will grow into a highly profitable one that will become a pillar of the Group by firmly capturing business opportunities.

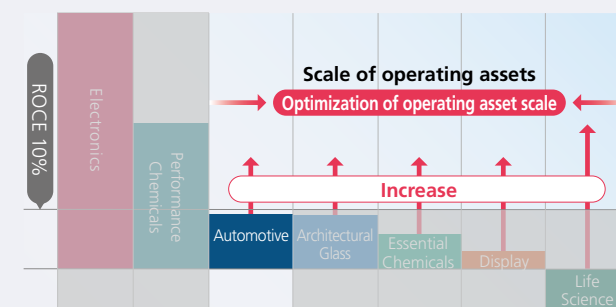
### Company President's Role and Commitment to Business Growth Adhering to the Stance of "Volume to Value"

My mission is to transform the Automotive Company into a company that "leads the way in realizing a sustainable mobility society through differentiated components and solutions, and continues to evolve itself." To accomplish this, a transformation in focus from volume to value is essential. I will continue to inspire our members and lead our business transformation with unwavering dedication.

## Toward Improving ROCE

Between 2020 and 2022, the company's performance was affected by the decline in automobile production due to the COVID-19 pandemic and semiconductor shortages. However, it recovered in 2023 due to a review of pricing policies and structural improvement initiatives, achieving the company-wide target of 10% ROCE. We aim to achieve an average ROCE of over 10% during the current medium-term management plan period from 2024 to 2026 and to achieve 15% as early as possible.

### FY2024 ROCE and Size of Capital Employed by Business (before common expenses allocation)



ROCE = FY2024 operating profit / Capital employed at the year-end; operating profit for each business is before allocation of common expenses



# Electronics

Core  
Businesses Display BusinessStrategic  
Businesses Electronic Materials  
BusinessOptical  
related  
materialsSemiconductor  
related  
materialsGlass  
substrates  
for TFT-LCD  
and OLED

## Business Overview

### Display Business

#### ■ Glass substrates for TFT-LCD and OLED

The Display Business has the second-largest shares\* of the global markets for glass substrates for liquid crystal display (LCD) and glass substrates for organic light-emitting diode (OLED) display. 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.

\*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, DOE / diffusers, optical planar devices, IR cut filters, aspherical glass lenses, and microlens arrays, glass ceramics substrates, and optical thin film

#### ■ 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, CMP slurry, EUV lithography photomask blanks, glass substrate for semiconductor packaging, and glass frit, glass pastes

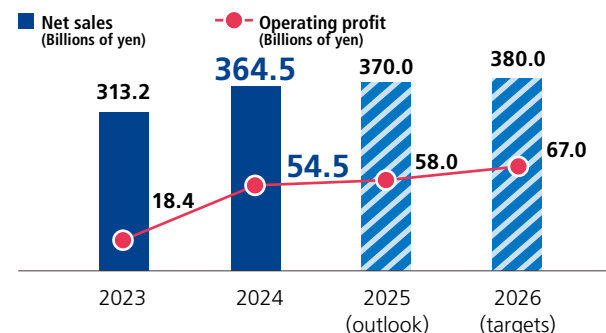
#### ■ Printed circuit board materials

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

CCL(Copper clad laminate) and industrial PTFE composite materials

## Business Performance



## Business Environment

### Opportunities

- Rise in demand for infrastructure-related products indispensable for a data-driven society enabled by generative AI and 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

Marketing capabilities and ability to offer customers solutions that include technical support

#### ■ Technology development

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

Production technology for the efficient manufacturing of differentiated materials

#### ■ Business development

Ability to develop businesses globally

#### ■ Product competitiveness

Competitive products realized through our proprietary glass manufacturing methods and development capabilities

## Nobuyuki Suzuki

President of  
Electronics Company



### Review of Fiscal 2024

#### Achieved Higher Sales and Profit

As a whole, the Electronics Company reported higher sales and profits in FY2024 versus the previous year. In the Display Business, sales increased owing to a rise in shipments of glass substrates for TFT-LCD/OLED and a review of pricing policies. Structural reforms such as the concentration on glass substrates for large displays also proved successful. The Electronic Materials Business also expanded steadily. In addition to an increase in shipments of semiconductor related materials such as EUV lithography photomask blanks and optical related materials, there was also an boost in sales due to the impact of foreign exchange rates.

#### Initiatives Toward Achieving the Medium-Term Management Plan In the Display Business, We Will Focus on Strengthening Our Competitiveness Through Technological Innovation, and in the Electronic Materials Business, We Are Responding to the Increasing Demand for High-End Semiconductors

In the Display Business, we will continue to work on improving profitability by focusing on strengthening our competitiveness through technological innovation. An example of this focus is the newly launched AN Rezosta®. This is a glass substrate that features low flexibility and low shrinkage due to thermal treatment, which thus contributes to improved productivity for our customers. In the Electronic Materials Business, our key issue is responding to the increasing demand for high-end semiconductors. For example, the growth of EUV lithography photomask blanks for high-end semiconductors is far outpacing that of the broader blanks market. It is therefore essential to accurately track market trends, not only to establish a production system capable of responding to volatility in demand, but also to provide confidence in the certainty of new investments. As market trends are conveyed directly to us by our

customers, we will deepen our relationships with leading companies and link this to appropriate investment.

### Issues and Measures

#### Achieve Growth Outpacing the Semiconductor Market

To elevate our status in the semiconductor market, we must have the development capability to handle next-generation high-end semiconductors and a platform that allows us to take an integrated approach in the back-end processes\* of semiconductor manufacturing, which are expected to grow in the future. In 2024, we launched a carrier substrate for packaging used in the back-end processes of semiconductors. In addition, we are also accelerating the development of products that are compliant with the next-generation semiconductors, such as glass core substrates for next-generation semiconductor packages and optoelectronic fusion, which combines optical and electrical circuits. The growth of these high-end semiconductor products is expected to outpace the growth of the semiconductor market as whole, and we expect them to make a significant contribution to our business performance in three to four years.

To enhance our development capabilities, we are strengthening our collaboration with the AGC Group's R&D departments and promoting collaboration across the AGC Group targeting the semiconductor business. Our strength lies in the depth of our technology, including R&D, and we will continue to leverage this to enhance our competitive advantage.

\*In general terms, semiconductor manufacturing is divided into two stages: the front-end processes, which involves circuit formation on the wafer, and the back-end processes, which involves cutting the wafer into individual chips and making them into packages.

#### Initiatives Toward the Medium- and Long-Term Growth of AGC Toward the Creation of Innovation

We will continue to transform our business and product portfolio by keeping abreast of technological trends and delivering on customer needs. Amid this, what we should be focusing on more is product and process innovation. The Electronics Company, which handles a diverse range of products also employs many mid-career professionals and has a culture that embraces diversity and readily fosters innovation. We will create products that will support the future AGC Group while effectively utilizing valued assets that are our talent.

#### Company President's Role and Commitment to Business Growth Cultivating Competitive New Products

My mission is to ensure that the measures I have mentioned are steadily executed and to focus on exploring for new business opportunities. New business exploration, including marketing and development, requires a leader. My role is also to develop talent for this purpose.

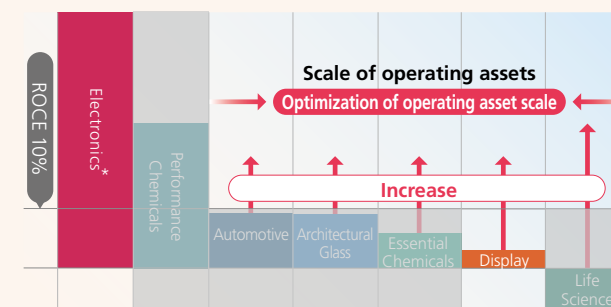
In the Electronic Materials Business, our challenge is to develop innovative new products for high-end semiconductors and optical components. We will rise to this and steadily move forward with the development of next-generation products.

In the Core Business, Display Business, as a we will also work to hone our competitiveness by creating products that leverage our technological advantages.

### Toward Improving ROCE

The Display Business aims to achieve a 10% ROCE by improving the cost side and bolstering competitiveness through enhanced productivity. In the Electronic Materials Business, we will maintain the current high level of profitability while further expanding the business, focusing on semiconductor-related materials. To accomplish this, it is important to keep a close eye on market fluctuations and continue to win in areas where we have an advantage as well as to increase the certainty of our investments.

#### FY2024 ROCE and Size of Capital Employed by Business (before common expenses allocation)



\*Electronics of Strategic Business = Electronic Materials Business  
ROCE = FY2024 operating profit / Capital employed at the year-end; operating profit for each business is before allocation of common expenses

# Chemicals

Core  
Businesses Essential ChemicalsStrategic  
Businesses Performance  
Chemicals

Allianz Arena

Fluoropolymer  
film for football  
stadiumsPolyurethane-related  
products for  
automotive seatsIndustrial  
salt for  
Chlor- Alkali  
products

## 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 help lower environmental burdens by providing products compatible with hydrofluoroolen (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 polypropylene glycol

## Performance Chemicals

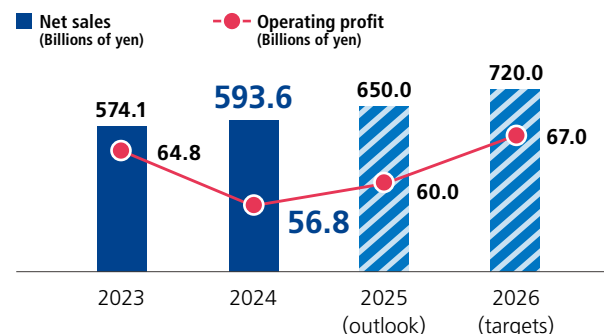
We supply various high-performance products, focusing on fluorine products that make use of the physical and chemical properties of organic fluorine compounds, including excellent heat and chemical resistance. Our products include Fluon® ETFE, the global market leader in the fluoropolymer\* space. These products play a vital role in a wide range of industries, including automobiles, aircraft, semiconductors, and construction materials, as well as their anticipated contribution to the hydrogen society of the future through their use in fuel cells and water electrolysis.

\* 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, ne silica

## Business Performance



## Business Environment

### Opportunities

#### Essential Chemicals

- Growth of the Southeast Asian market

#### Performance Chemicals

- Water electrolysis, fuel cells, and other energy conversion applications
- Ultra-high-frequency substrates and other 5G and 6G communications applications
- Increasingly advanced specifications for materials in line with higher performance of products in each field

### Risks

#### Essential Chemicals

- Trend toward carbon neutrality for electricity consumed in electrolysis

#### Performance Chemicals

- Trend toward stricter regulation of fluorine products

## Strengths

#### Essential Chemicals

##### ■ Sales and logistics networks

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

Collaboration among sites in Indonesia, Thailand, and Vietnam

##### ■ Synthesis technology

Integrated production from chlorine and PO to PPG and synthesis technology utilizing special catalysts

#### Performance Chemicals

##### ■ Mass production technology

Development and mass production technology targeting high-performance materials based on proprietary organic synthesis technology

##### ■ Global

Manufacturing, marketing, and technical service sites on a global scale



## Tatsuo Momii

President of  
Chemicals Company

## Review of Fiscal 2024

**Both Core and Strategic Businesses were Impacted by Market Stagnation**

In Essential Chemicals, as a Core Business, although demand was firm, sales prices remained at low levels due to the slowdown in the Chinese economy, and there were also issues at plants in Japan, so the results fell short of our expectations. Performance Chemicals, positioned as a Strategic Business starting in FY2024, has reached a growth plateau due to a slump in demand in the focused areas of transportation equipment and electronics. As a result, while sales increased by appropriate pricing strategies and the impact of exchange rates, it was a year in which we felt growth had stagnated.

**Initiatives toward Achieving the Medium-Term Management Plan Pursuing Value, Not Emphasizing Volume**

In Essential Chemicals, we will continue our strategy, a focus on the growth market of Southeast Asia. However, given the possibility that markets will continue to be sluggish, we must change our previous approach, that is, the strategy of sales expansion by volume increase in the growing market. We will shift our strategy to more focus on pursuing value, building resilience to market fluctuations, and ensuring returns on investment.

Performance Chemicals aims to capture demand in the growing fields such as semiconductors and energy and environmental-related fields like hydrogen, while further elevating added value and expanding its business domain. We will make investments and technology development in line with market growth, and

steadily achieve results. Regarding fluorinated products, we are closely monitoring trends toward stricter regulation on organic fluorochemicals (PFAS). We believe that our mission is to grow this business as a Strategic Business while fulfilling our supply responsibility as a manufacturer and providing safe, reliable, and essential products to the world.

## Issues and Measures

**Maintain Fair Prices regardless of Market Conditions**

The Chemicals Business accounts for a considerable proportion of the sales of AGC Group, and sways in its performance have a significant impact on the Group as a whole. Under the management policy that emphasizes ROCE, strengthening the earnings base of the asset-heavy Essential Chemicals business and, on that foundation, further developing the Performance Chemicals business into a highly profitable one will significantly contribute to the growth of the entire AGC Group. A short-term tactic is our pricing policy. We will continue to communicate with our customers to ensure that they understand the value of the products and services we provide, such as the stability of supply and quality, so that we can set appropriate prices through dialogue with them or maintain stable prices even if market conditions fluctuate.

**Initiatives Toward the Medium- and Long-Term Growth of AGC Strengthening Our Business around Three Strategies**

Our aspiration is to be “a growing excellent company.” To this end, we have set three long-term strategies: to steadily expand our business in growth areas, to strengthen our resilience, and to strengthen our management foundation. In growth areas, we are further developing our business through investment, marketing, and technology development, with a focus on semiconductors and hydrogen-related fields. To strengthen our resilience, we are working on multiple projects to respond to environmental regulations, incorporate the needs of leading-edge fields, and enhance our new product and technology

development capabilities. We will work to strengthen our management foundation by evolving our organizational culture. We are communicating to our employees the importance of taking on new challenges, without following past convention, while taking full advantage of the Company's strengths.

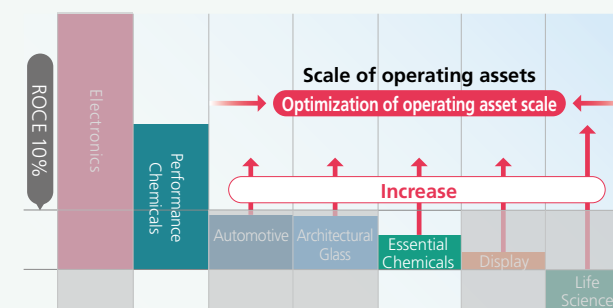
## Company President's Role and Commitment to Business Growth

**Continue to Have a Strong Will toward Change**

I will continue to communicate the message that we should not fear change in taking on challenges to evolve our organizational culture. Rather than focusing on growth by increasing the volume of existing products, we will seek to grow by pursuing value, and we will increase ROCE by raising the volume of high-value-added products as a result.

**Toward Improving ROCE**

In 2024, due to market conditions, the target of 10% ROCE was not achieved for Essential Chemicals, but Performance Chemicals maintained high ROCE. By strengthening the earnings base of Essential Chemicals and reducing market volatility, we aim to achieve ROCE of 10% or more quickly, and to further improve the Chemicals Company ROCE as a whole.

**FY2024 ROCE and Size of Capital Employed by Business (before common expenses allocation)**

ROCE = FY 2024 operating profit / Capital employed at the year-end;  
operating profit for each business is before allocation of common expenses

# Life Science

Strategic  
Businesses

## Business Overview

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

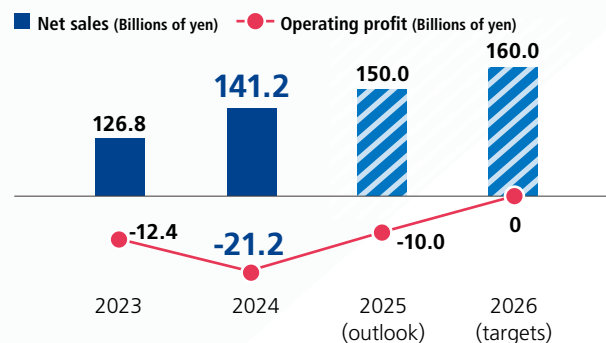
In addition to small molecule pharmaceuticals and agrochemicals that leverage organic synthesis technology fostered in the Performance Chemicals Business, the Life Science Business is focusing on biopharmaceuticals, for which demand is growing worldwide, and the leading-edge gene and cell therapy fields. 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 and Services

Contract small molecule pharmaceutical and agrochemical development and manufacturing, contract biopharmaceutical development and manufacturing

## Business Performance



## Business Environment

### Opportunities

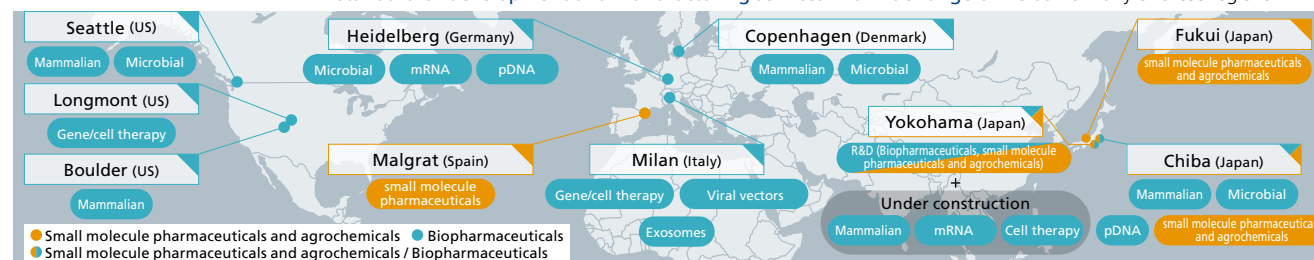
- Meeting the needs of a health-focused, long-lived society
- Contribution to food supply
- Increase the demand for the outsourcing for pharmaceutical and agrochemical development and manufacturing

### Risks

- Personnel shortages due to pharmaceutical and agrochemical market expansion
- New drug development stagnation and cancellation, partly due to drug price cuts, and changes in customer business strategies
- Fiercer competition as more new players enter the market

## Global Service Deployment

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



## Strengths

### Highly integrated global network

Globally integrated network that meets customer needs through sites in Japan, Europe, and the U.S.

### Trust and track record

Extensive track record of authority inspection, and pharmaceutical development and commercial manufacturing based on advanced quality assurance and technological development capabilities

### High-standard, high-quality development and manufacturing services

Ability to use leading-edge technologies to provide the solutions for development and manufacturing

## Topics for 2024

### Bolstering contract production capacity

- AGC Biologics (Copenhagen site): New mammalian cell facilities began operations.
- AGC Biologics (Yokohama site): Construction started. To be completed in 2026.
- AGC Wakasa Chemicals: Augmented manufacturing lines began operations.

### Track record in advanced modalities

- AGC Biologics (Milan): Secured FDA approval for ex vivo gene therapy. The Milan site boasts the leading global track record for contract development and manufacturing deals in this field (based on number of commercial products, as researched by AGC).

### External evaluations

- AGC Pharma Chemicals Europe: The first AGC Group company to obtain Top Employer Certification, in recognition of its excellent use of human resources.
- Acquired Gold (AGC Wakasa Chemicals and AGC Pharma Chemicals Europe) and Silver (Chiba Plant) sustainability ratings from EcoVadis.



## Tadashi Murano

President of  
Life Science Company



### Review of Fiscal 2024

#### Implementing Structural Reform in Biopharmaceutical CDMO

In anticipation of the growth of the CDMO market for pharmaceuticals and agrochemicals, the Life Science Company has invested in doubling and tripling its production capacity over the past few years. However, the biopharmaceutical CDMO business saw a greater-than-expected decline in demand due to the impact of a decrease in the flow of funds to biotech companies from 2023. Compounded by factors such as delays in the construction of new plants in Europe, business performance deteriorated year-on-year in 2024. Conditions remain challenging although the market environment is showing signs of recovery. In response, we are implementing various profitability improvement measures, including fixed cost reductions through structural reforms (such as headcount reductions at the Seattle site and the suspension of operations at the Longmont site), initiatives to increase orders and sales (operational stabilization and the launch of new facilities), and enhancements to our management and sales structures (the establishment of a new executive leadership team). In contrast, the CDMO business for small molecule pharmaceuticals and agrochemicals was firm.

#### Initiatives Toward Achieving the Medium-Term Management Plan Aiming for Swift Earnings Recovery

In 2025, we expect the market environment for biopharmaceutical CDMO to recover moderately despite policy trends in various countries and other uncertainties. We will continue to work to stabilize operations and take measures to increase orders and sales, with accelerating initiatives aimed at returning to profitability as soon as possible. Stabilizing operations is one of our challenges, but improvements are steadily progressing at each site; for example, the Seattle site obtained three approvals in 2024 from the U.S. Food and Drug Administration (FDA). In addition, the Milan site obtained new U.S. FDA approval for gene and cell therapy drugs, and boasts the world's leading track record as a CDMO for gene and cell therapy drugs. Going forward, we will

continue to work on technological innovations for new modalities.

In terms of capital investment, as we already possess sufficient facility capacity, we will first focus on maximizing the utilization rate of our existing assets by securing increased project volumes from both our current clients and new customers. In CDMO for small molecule pharmaceuticals and agrochemicals, we are steadily receiving orders from major pharmaceutical companies, and we expect this momentum to continue.

### Issues and Measures

#### Rolling Out the Diverse Know-How of the AGC Group

Over the past few years, delays in the construction of new plants at our sites in Europe and the U.S. compounded by manufacturing problems and other issues have made it difficult to strengthen operational capabilities in line with rapid capacity expansion. We have analyzed these as the factors contributing to the deterioration in our performance. With these lessons learned, we are currently working to fully leverage the technological assets that the AGC Group has cultivated over its long history as a materials manufacturer. Specifically, the AGC Group is deploying its strengths in areas such as operational management, quality control, and production technology in the development and manufacture of biopharmaceuticals and small molecule pharmaceuticals and agrochemicals where facilities maintenance technology and systems for stable operation are critical.

Biopharmaceuticals continue to represent a growth sector, with horizontal specialization through contract development and manufacturing becoming a growing trend. The market growth rate for biopharmaceutical CDMO is about 13% per year. The number of contracted projects is steadily increasing, and we are confident that profitability is well within reach by 2026. By leveraging market growth and increasing facility utilization rates through new contract acquisitions from customers, we aim to establish a business with higher asset efficiency and profitability, with a milestone of achieving an ROCE exceeding 10%. Of course, if the market does not recover as expected, we will promptly explore additional measures to improve profitability.

#### Initiatives Toward the Medium- and Long-Term Growth of AGC A Major Pillar of the Group

As the global population continues to grow and age, providing high-quality pharmaceuticals and agrochemicals will contribute to the well-being of humanity. We believe that the Life Science Business is one demonstrates the value to society of the AGC Group to its stakeholders.

There is no change in our strategy of making Life Science a major pillar of sustainable growth for the AGC Group going forward. AGC

possesses foundational technologies as a materials manufacturer. When combined with our extensive track record in manufacturing and authority inspection as a CDMO for small molecule pharmaceuticals, agrochemicals, and biopharmaceuticals, we are well positioned for significant growth over the medium to long term.

Furthermore, in terms of contributing to the environment, one of the features of this business is that it has extremely low CO<sub>2</sub> emissions, which aligns with the direction of the AGC Group's business portfolio. There is also a positive impact in that expanding Life Science Business will ultimately reduce the CO<sub>2</sub> emissions per unit of sales of the AGC Group as a whole.

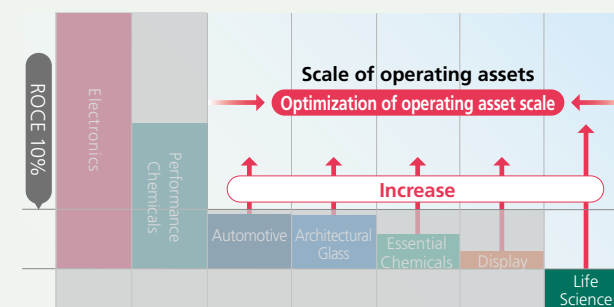
#### Company President's Role and Commitment to Business Growth Receiving the Baton and Setting the Course Ahead

Life Science is a business that the AGC Group has been involved in for over 50 years. We will take over this baton, restore our business performance during the current medium-term management plan period, and make the company a major pillar of the AGC Group during the next medium-term management plan. It is my role to set the course for this.

### Toward Improving ROCE

The Life Science Company has been posting operating losses, and we expect ROCE to remain negative in 2025. We aim to consistently achieve a ROCE of 10% or more in our CDMO business for small molecule pharmaceuticals and agrochemicals. We believe the biopharmaceutical CDMO business will be able to recover and generate over 10% ROCE during the next medium-term management plan.

#### FY2024 ROCE and Size of Capital Employed by Business (before common expenses allocation)



ROCE = FY2024 operating profit / Capital employed at the year-end; operating profit for each business is before allocation of common expenses



# Ceramics

Core Businesses

Fused cast refractories for glass-melting furnace crowns

Fine ceramics

THERMOTECT WALL™

Total solution services for glass-melting furnaces



## Business Overview

The main products of this business are refractories. Playing a crucial role behind the scenes in the infrastructure of daily life, refractories are used in manufacturing equipment for core industries such as iron, cement, and glass as well as in waste incinerators and power plants. In addition, we provide total solution services that encompass everything from the design of glass furnaces to the sale of furnace materials and operational support as well as fine ceramics and other high-performance ceramic products. Through such initiatives, we aim to contribute to energy and resource conservation and high efficiency in the world, while protecting the global environment.

### Main Products

Fused cast refractories, monolithic refractories, bonded refractories, fine ceramics, and total solution services for glass-melting furnaces

## Business Environment

### Opportunities

- Stability of the refractory market and the potential of high-performance ceramics
- Increased demand for refractories for fiber glass
- Decrease in the number of skilled engineers in glass-melting furnace design and operation as well as refractory construction

### Risks

- Decrease in demand for refractories due to changes in equipment and operating methods in high-temperature industries following responses to achieving carbon neutrality

### Strengths

#### Reliability backed by more than 100 years of experience

Extensive lineup of products with reliable quality, wide selection of products, and ability to respond to stable plant operations accumulated since we began manufacturing refractory bricks for glass furnaces in 1916

#### Creating new value through DX

By combining AGC's digital technologies with our manufacturing capabilities and technical services, we aim to create new value through the development of advanced materials, i-Construction initiatives, and support for the digitalization of our customers' facilities.

#### Ability to make proposals to achieve the SDGs

Sustainable proposals such as refractory recycling, labor-saving construction, electrification and energy-saving furnace design, super-insulating and high-electrical-resistance refractory materials, and high-efficiency operation support

## Masaru Ota

President of AGC Ceramics Co., Ltd.



We aim for an "ambidextrous strategy" approach to business management based on refractories and high-performance ceramics. We endeavor 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. However, in customers' markets, the growth fields are changing significantly, furnace operation methods and the characteristics required of refractories are also changing virtually daily. In addition to the agile development of materials and production technologies that respond to these needs, we continue to enhance our presence in the market by supporting customers' facilities during their life cycles through the provision of design solutions, construction engineering, and operational support. We are further promoting DX, and we are strengthening the entire supply chain by proposing solutions services and platform construction, not only to our own development and manufacturing sites, but also to our customers, in cooperation with our sites in China and our global network.

Meanwhile, efforts to explore and create new value in the field of high-performance ceramics promise to generate significant growth. We will leverage the assets of the AGC Group and pursue open innovation to accelerate our business.

In recent years, there are increasing demands for industries that use high-temperature equipment to innovate their processes. Another issue is the decline in the number of skilled engineers and the domestic workforce. As the demand for the realization of a sustainable society increases, 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.

Special  
Feature

## Development and Marketing of Semiconductor Related Products

## At the cutting edge of the semiconductor industry, thanks to more than a century of technical refinements

Semiconductors are a symbol of state-of-the-art technology. With our deep technical expertise and cross-divisional cooperation, the AGC Group supports the evolution of semiconductors by supplying the industry with innovative products.

**Addressing customer needs while refining technology**

Semiconductor manufacturing involves “front-end processes,” where integrated circuits are etched onto wafers, and “back-end processes,” where products are assembled using semiconductor chips cut from wafers. Semiconductor “die shrink,” where the degree of integration is increased by reducing circuit line width, has played a central role in driving technological progress. Die shrink has been mainly focused on front-end processes. At AGC, we have built a track record of providing materials that meet the strict demands of semiconductor manufacturers in front-end processes, as shown by our photomask blanks for EUV lithography and CMP slurries. Today, AGC continues to provide new value in front-end processes. At the same time, we are also unveiling new products and technologies for back-end processes, which are expected to be the key for unlocking better semiconductor performance. Recently, attention has been focused on glass core substrates for next-generation semiconductor packaging, where conventional resin substrates are replaced with glass.

**Our strengths: depth of technical expertise and combinations of technology**

AGC has been able to release a succession of products for the semiconductor industry, thanks to our core technologies in inorganic, organic, processing, deposition, and other fields, acquired over more than a century.

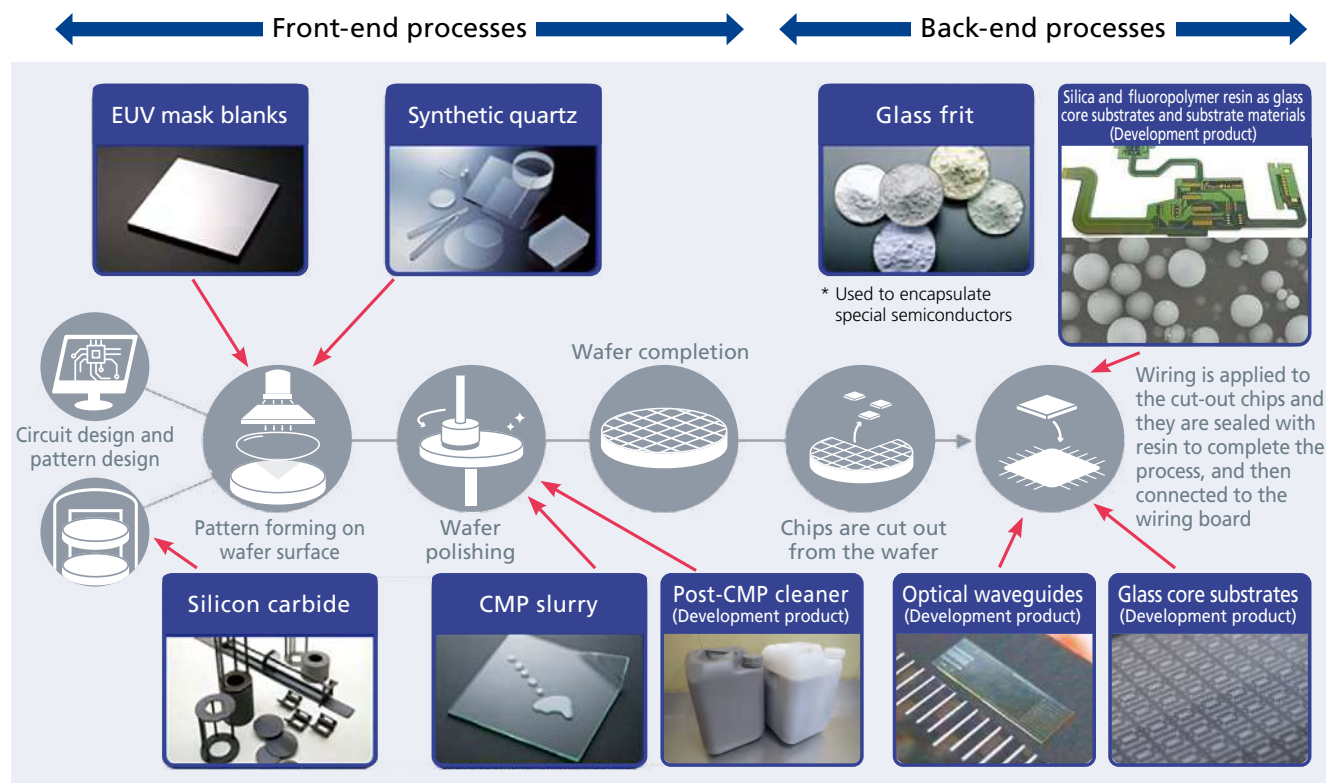
Our ability to combine these technologies is another of AGC’s great strengths. Photomask blanks for EUV lithography are a representative example of high-performance products that combine inorganic material technologies with processing technologies and deposition technologies. CMP slurries are also composite products that combine inorganic material

microparticle processing technologies with polymer technologies and others.

These products were made possible by the AGC Group’s efforts to strengthen collaboration across divisions, and

collaborate throughout the Group targeting semiconductor-related businesses. On the following pages, we introduce examples of initiatives challenging the creation of new value through cooperation between divisions.

## Semiconductor manufacturing processes and AGC products and developments



Special  
FeatureDevelopment and Marketing of Semiconductor Related Products  
Front-end process: post-CMP cleaner

## Offering CMP slurries and cleaner as a one-stop solution



From left

Technology Development Group, Polishing Business Unit,  
Semiconductor Materials Management Department, Advanced Materials Div.,  
Electronic Materials General Div.,  
Electronics Company

**Masaru Suzuki**

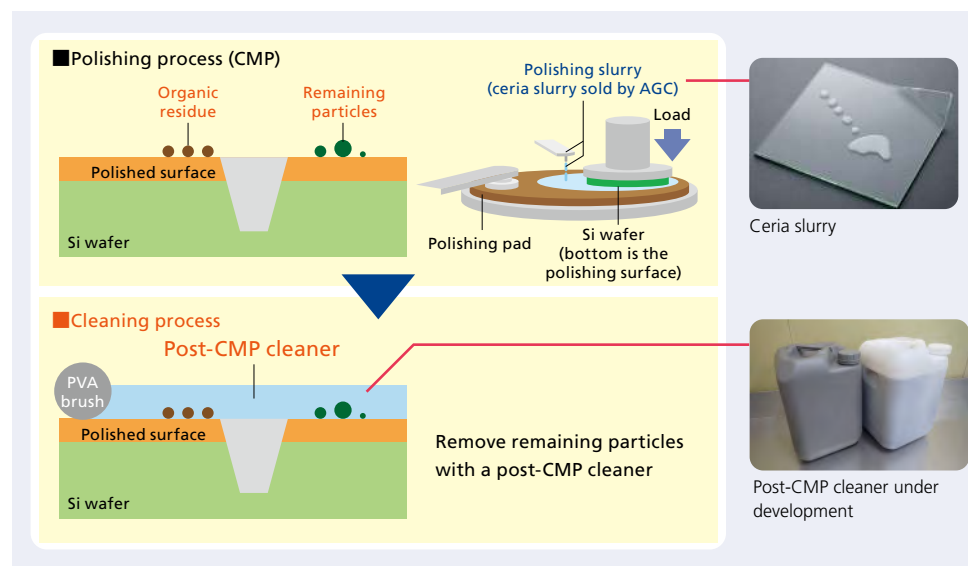
Polishing Business Unit,  
Semiconductor Materials Management Department, Advanced Materials Div.,  
Electronic Materials General Div.,  
Electronics Company

**Shinobu Kobayashi**

Organic Chemistry Team, Organic Materials Department  
Materials Integration Laboratories,  
Technology General Div.

**Hiroaki Iwamoto**

Marketing Group, Product Adaptation Div.,  
Performance Chemicals General Div.,  
Chemicals Company

**Shota Yoshioka****Leveraging our existing base of expertise**

Every year, die shrink progresses as generative AI and other technological advancements result in increased performance demands on semiconductors. This has caused manufacturing processes to become more complex, increasing the potential for defects. For device manufacturers, die shrink means they are fighting to maintain yield rates.

Polishing residue from the wafer polishing process is one of the major factors weighing on yields. To eliminate microparticles and other foreign bodies while minimizing damage to wafers in the chemical mechanical polishing (CMP) process, we must have a deep understanding of customers' differing CMP processes and develop cleaners optimized for those processes. Cleaning is all about "calibration" to create chemical solutions that act with pinpoint accuracy on the targeted foreign bodies. This is no simple matter to achieve in semiconductor manufacturing, where trade secrets abound.

Meanwhile, at AGC, we have a track record of supplying slurry (a polishing agent), an essential component of CMP

processes. By offering slurry and the optimal cleaners in a one-stop solution, we will be able to make a significant contribution to solving the challenges faced by our customers. This idea was the main reason we decided to enter the post-CMP cleaner market.

**System for cooperative development across organizational boundaries**

Thanks to our long history in polishing and cleaning glass, we are not entering this market from zero. Instead, we already possess the necessary assets and expertise. This is the story of how we developed cleaners for CMP process. Internal collaboration between related departments was key to these efforts.

The semiconductor industry moves at a rapid pace, so quickly implementing the PDCA cycle can offer a shortcut to success. Our basic policy was to fine-tune cleaners to match AGC ceria slurry, in order to quickly move from the planning to the implementation stage. The Chemicals Company took the

lead role in our development system, backed by the Technology General Division, which is a team specializing in technology development, and the Electronics Company, which oversees CMP slurry development.

**High-performance post-CMP cleaner for ceria slurry**

Besides AGC, other companies also offer CMP slurry and cleaner in one-stop solutions. The difference with AGC is that we focus on ceria slurry, rather than general silica slurry. Which of these two slurries to use depends on the material on the surface of the wafer being polished, but the difficulty of developing high-performance post-CMP cleaner for ceria slurry means there is sufficient scope for new entrants. If we can quickly bring to market cleaners for AGC ceria slurry, which has a strong presence in the CMP slurry market, we will be able to solidify our position in the post-CMP cleaner market. In order to achieve this, we are rapidly implementing the PDCA cycle based on seamless cooperation between departments, as we prepare to enter the market.



Special  
Feature

# Development and Marketing of Semiconductor Related Products

## Back-end process: glass core substrates for next-generation semiconductor packaging, silica and fluoropolymer resin as substrate materials, and optical waveguides

### Leading technology development for materials and solutions with a market-driven perspective



From left

Organic Materials Department  
Materials Integration Laboratories,  
Technology General Div.

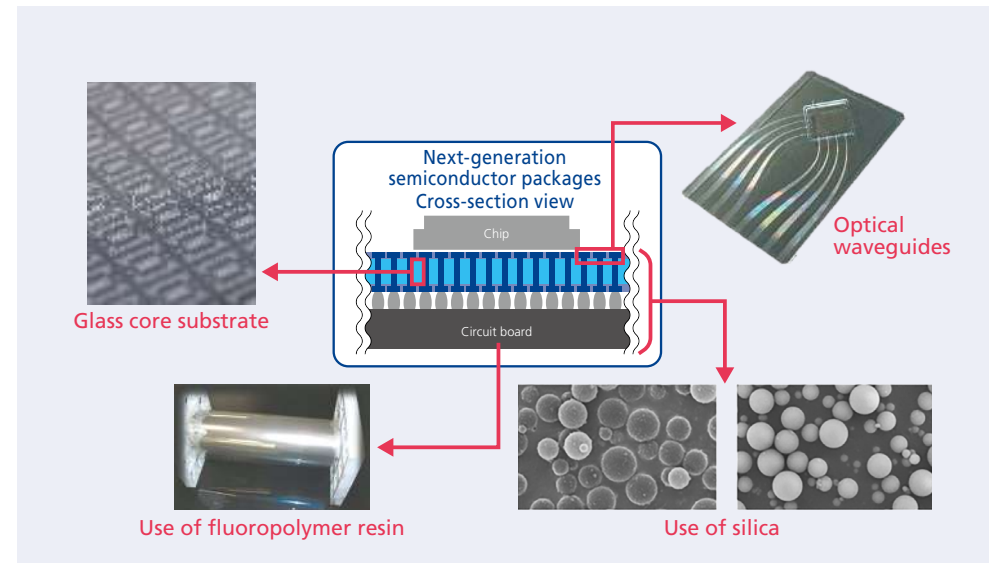
**Tomoya Hosoda**

Business Promotion Group,  
Advanced Semiconductor Packaging  
Project, Electronics Company

**Yoshiki Takahashi**

Technology Planning Group, Developing  
& Planning Division,  
Technology Development General Div.,  
Electronics Company

**Masanobu Maeda**



#### Back-end processes as the key to semiconductor innovation

Semiconductor manufacturing is divided into front-end processes, where circuits are etched into silicon wafers, and back-end processes, where chips are mounted in packages. In the past, many companies' technology development has been focused on front-end processes, as they tackled the important challenge of die shrink, but that trend has been changed. As packages have become larger and their performance has become better, significant potential for growth has arisen in back-end processes. The total advanced packaging market is expected to grow to be worth at least 10.5 trillion yen by 2029, more than 1.6x its size in 2024 (research by Yole Intelligence, 2024).

At AGC, we have accelerated developing glass core substrates for next-generation semiconductors and silica and fluoropolymer resin for glass core substrates and substrate materials in the advanced packaging market, but attention is also focused on co-packaged optics (CPO) as a favorite in the next-generation advanced package technology field.

AGC colleagues who were quick to notice this change collaborated across divisions in 2023 to form a virtual organization to engage in exploration and development in the optoelectronic fusion

field. In response to technological progress and increasing demand for data storage caused by AI and other technologies, AGC has begun full-fledged technology development of CPO solutions, based on our low-loss inorganic and organic materials and the fine processing of those materials, centered on new optical waveguide technology.

#### Glass core substrates for next-generation semiconductor packaging

Packaging substrates are responsible for the input and output of signals to IC chips and their protection. They are conventionally made of resin, but in recent years, there has been growing anticipation that glass materials, which are very rigid, will be able to fill this role. Glass core substrates for data centers, in particular, can not only support more chips than resin substrates, but are also thermally and mechanically stable in shape, with low loss, and excellent insulation, making substantial energy savings possible. Glass core substrate processing also requires precise processing technology, at the micron scale. Our abundant expertise in both glass processing and materials is a major strength for AGC.



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

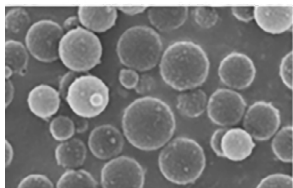
Special  
Feature

# Development and Marketing of Semiconductor Related Products

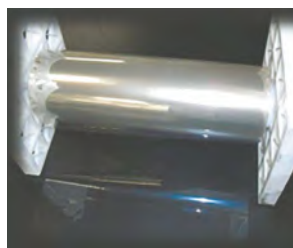
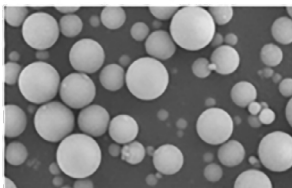
## Back-end process: glass core substrates for next-generation semiconductor packaging, silica and fluoropolymer resin as substrate materials, and optical waveguides

### Silica and fluoropolymer resin as glass core substrates and substrate materials

At AGC, we are leveraging our accumulated R&D in silica and fluoropolymer resin to apply these materials in the semiconductor field. **Silica** has been widely used as a filler for semiconductor chips, but at AGC, we redesign materials at the molecular level to develop silica with a low dielectric constant and other qualities that make it a suitable semiconductor substrate material for high-speed communications needs. We are currently conducting customer evaluations. **Fluoropolymer resin** also has low transmission loss for high-frequency signals, with excellent thermal and chemical resistance, and is capable of stable performance even in harsh environments. AGC has developed proprietary adhesive fluoropolymer resin with strong adhesion to conductors and substrates. It can be expected to be utilized in connecting components for circuit boards with advanced semiconductors for 5G communications and other applications that require low-latency data transfer, as well as advanced driver assistance systems (ADAS), etc.



Fillers

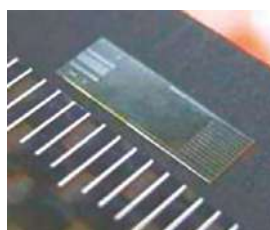


Fluoropolymer resin



### Optical waveguides

Optical waveguides are a media for guiding light in specific directions and have the characteristics of high speed and low loss. It is anticipated that they will be used in various applications, such as high-speed communications for data centers, etc., and sensing applications, to boost the efficiency of data transmission and sensing. At AGC, we have spent many years developing polymer optical waveguide (PWG) technology that uses our own low-loss materials. This technology will be vital to supporting the future use of high-frequency bandwidths, low loss, low latency, and integration, as a key technology in the use of light to transmit data. Besides polymer, we are also researching and developing glass optical waveguides (GWG), which use precision glass processing technology, as part of our pursuit of the low loss and high reliability that are unique to glass.



Optical waveguides



### AGC-wide cooperation and synergies

In electronics, a Strategic Business for AGC, we are paying attention to semiconductor-related materials. We have long been strong in front-end process materials, but now we are also focusing on back-end processes, where future growth is anticipated, i.e., on the development of packaging materials and solutions. Next-generation semiconductor packaging is expected to see a shift from today's electric signals to CPO, which combines electric and light signals. The development of

materials for PWG, GWG, and CPO can be considered an evolution of our existing efforts on glass cores and other packaging materials, but we did not have any internal divisions dedicated to these next-generation technologies. The scope of development is also broad, including material design, material development, complexification, componentization, and evaluation and analysis. This means marketers must quickly develop an understanding of the next-generation needs of semiconductor and package companies. It is also important for us to collaborate beyond the scope of existing organizations, including technology development driven by collaboration with related divisions. For example, in PWG development, the Electronics Company has led efforts to combine its optical design and precision processing technology with organic materials design technology from our corporate research and mass-production technologies from the Chemicals Company, and synergies have arisen as a result. At AGC, we have a corporate culture of autonomous activities beyond the boundaries between divisions, as we look toward the future. We will maintain the rapid pace of development and contribute to the evolution of semiconductors across divisional boundaries.

# New Business Creation—Initiatives of the Business Development Division—

Through the tireless pursuit of ambitious innovation from a long-term 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 selecting ideas for new businesses, formulating commercialization hypotheses and conducting market validations on 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 "intrapreneurs."

## 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 with various organizations in the Group—such as in-house companies and the Technology General Division—and 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 creating new businesses to expand Group's Strategic Businesses of Electronics, Mobility, Life Science, and Performance Chemicals.

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

### Examples of new businesses developed by the Business Development Division

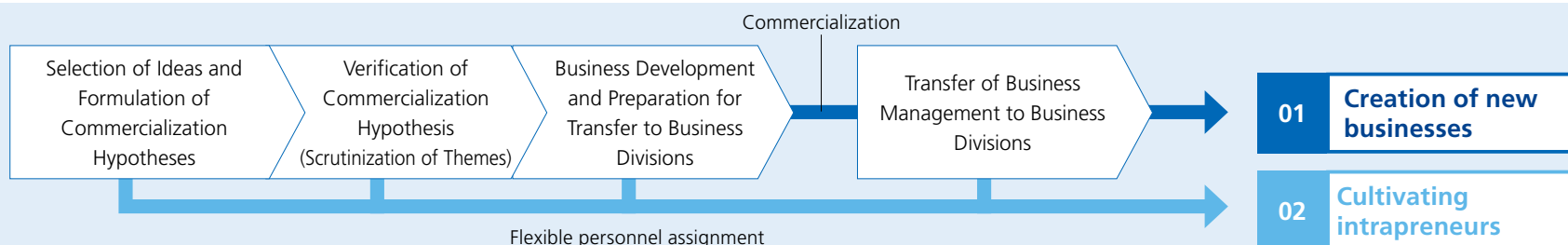


Sulfide electrolytes used in all-solid-state batteries



Glass substrates for AR/MR glasses

### Two missions of the Business Development Division





# Human Resources

## AGC's Human Capital Management, "AGC People: Driving our Growth!"

It has been over a century since Toshiya Iwasaki founded Asahi Glass Company (now AGC) in 1907 and began manufacturing flat glass. Today, AGC Group continues to pursue its Purpose 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.

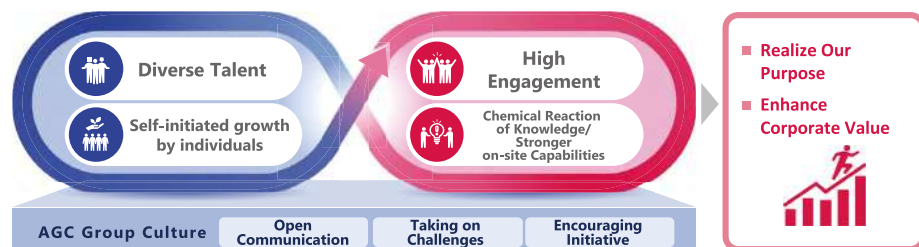
Based on a corporate culture that encourages taking on challenges, which has been passed down since our founding, AGC Group keeps on promoting human capital management represented by "AGC People: Driving our Growth!" to achieve Vision 2030 and realize continuous corporate growth.

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

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

- Our corporate culture places importance on open communication, taking on challenges, and encouraging initiative. We will unlock the unique strengths and abilities of each individual and encourage continuous learning and professional development.
- A highly engaged organization with constantly improving individuals will enhance corporate value by utilizing external and internal collaboration to promote chemical reaction of knowledge and stronger on-site capabilities.

### AGC People: Driving our Growth!



Based on the "AGC People: Driving our Growth!" concept, we plan and implement human resources policies, set quantitative targets to measure their effectiveness, and monitor them to ensure steady progress. The AGC Group enhances corporate value by creating social and economic value through human capital management, encapsulated in the phrase "AGC People: Driving our Growth!"

Elements of AGC's human capital management, "AGC People: Driving our Growth!"		Examples of HR measures
<b>Diverse Talent</b> p. 60	Creating an environment where talent with diverse attributes, experiences, and personalities who share a common purpose can come together and make the most of their abilities	<ul style="list-style-type: none"> <li>•Securing, developing, and retaining management talent</li> <li>•Female / foreign human resources / career recruitment</li> <li>•Meetings and seminars on diversity, Diversity Council</li> </ul>
<b>Self-Initiated Growth by Individuals</b> p. 61	Providing opportunities for human resources to continuously develop and demonstrate their strengths, skills, and personality in a self-initiated manner	<ul style="list-style-type: none"> <li>•Skill Map / CNA (Cross-divisional Network Activity)</li> <li>•HDC (Human resources Development Communication), various training support programs</li> <li>•Challenge Career System, internal and external secondary job system</li> </ul>
<b>Improving Employee Engagement and Fostering Corporate Culture</b> p. 62	Enhance the vitality of each individual and maximize the demonstration of the capabilities of the organization as a whole	<ul style="list-style-type: none"> <li>•Periodic engagement surveys</li> <li>•Measures to improve engagement</li> <li>•AGC Group CEO Awards</li> </ul>
<b>Chemical Reaction of Knowledge / Stronger On-Site Capabilities</b> p. 63	To secure the mobility of human resources and encourage collaboration within and outside the Company to create (explore) new businesses, technologies, etc. and improve (deepen) on-site capabilities such as <i>monozukuri</i>	<ul style="list-style-type: none"> <li>•Innovation: Initiatives to develop technology talent</li> <li>•Strong on-site capabilities: DX talent development and improvement activity initiatives</li> <li>•Initiatives to develop human resources to realize intellectual property strategies</li> </ul>

# Human Resources Diverse Talent

## Developing group management talents

In order to develop group management talents, we select key management positions globally, successor candidates are recognized as a talent pool, and systematic assignment and training are implemented.

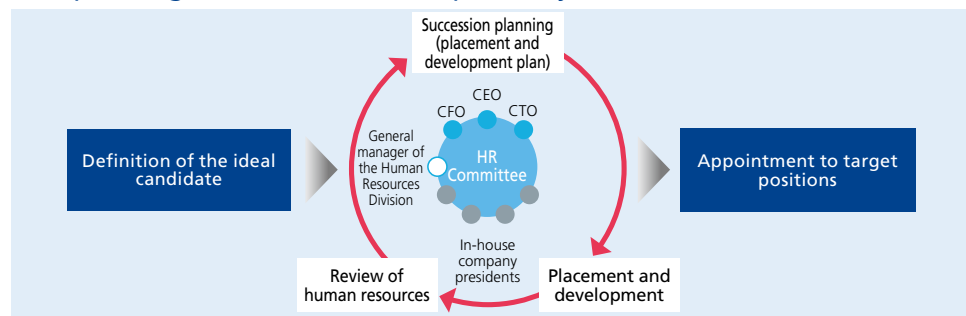
Development of global-level management talents is carried out from the three perspectives of growth through work, mentorship and coaching, and training, by formulating and implementing the necessary plans for each individual. The candidates are strategically assigned to important cross-divisional or cross-regional positions. 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 addition, to enhance the effectiveness of training, we encourage employees to participate in various selective training programs to gain the experience and knowledge necessary for management talents.

### AGC Group Management Talents Development Program System



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 independent directors give lectures at training programs. The management directly participates in identifying and developing the next-generation of leadership talent.

### Group Management Talents Development Cycle



## Ensuring diversity among managers (executive and management levels) and promoting women's empowerment

Diversity is one of the four values of the corporate 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.

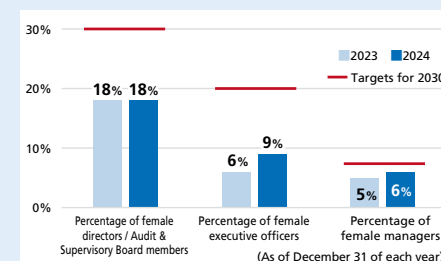
In particular, one of the important themes is to ensure diversity in decision-making. The Group has set the target of having women account for 30% of its directors and Audit & Supervisory Board members, 20% of its executive officers, and 8% of its managers (AGC Inc.), by 2030. The AGC Group is actively recruiting and nurturing female employees and creating a culture that transforms diversity into strength. Furthermore, 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 promoting diversity.

The AGC Group as a whole has a female manager ratio of approximately 13%, with women actively contributing to key positions such as president, CFO, general counsel, quality division manager, strategy division manager, and plant manager at major Group companies in Japan and overseas. Going forward, we will continue to actively promote the appointment of female employees at the Group level from the perspective of ensuring diversity.

### 2030 Targets for the active participation of women



### Achievement rates



\*Initiatives at AGC Inc.

### Examples of initiatives to promote the active participation of women\*

- Targets and achievements for female new graduates recruited for General Career-Track Positions

	Targets	2024 (Graduates in 2025)
Ratio of female new graduates	30%	32%

- Implementation of diversity training, unconscious bias training, etc.
- Holding internal dialogue events and seminars
- Employee Resource Group (ERG) activities
- Implementation of training programs based on individual development plans
  - Mentorship system for female general managers
  - Dialogue with outside female directors
  - Participation in an external female leader development program for high-potential talent

etc.

## Human Resources Diverse Talent

### Establishment of competitive compensation and recruitment initiatives

People are the driving force behind AGC Group's growth, and we will continue to ensure future growth by acquiring and utilizing human resources with diverse strengths.

#### Establishment of competitive compensation

The AGC Group benchmarks the compensation levels of peer companies in the countries and regions where each company is located and provides competitive levels of compensation. In Japan in particular, the competition for talent is intensifying due to the declining birthrate and aging population. AGC Inc. has implemented annual wage increases of approximately 5-6% from 2022 to 2024 to secure and maintain competitive wage levels compared to its industry peers.

#### AGC new graduate career-track positions (technical): recruitment activities by department and job category

AGC Inc. hires around 100 new graduates with technical degrees for career-track positions every year. We recruit according to department and job category to prevent mismatches among new hires and maximize the potential of our human resources. Careful communication through departmental job-specific briefings, open company events, etc., deepens mutual understanding and enhances the fit of human resources. This has helped to keep AGC Inc.'s career-track employees' retention rate at a high level over the first three years of employment.

#### Diversification of recruitment routes (mid-career hiring, referral hiring, rehiring system for resigned employees)

AGC Inc. acquires human resources through a variety of routes. In recent years, career-track employees have accounted for about half of AGC Inc.'s recruitment, contributing to strengthening the diversity of the organization. Within these routes, we began full-scale referral hiring in 2022 to secure human resources that will be a good fit for the Company. In addition, we have expanded the number of employees eligible for the registration system for reemployment of resigned employees (alumni) who have sought opportunities outside the Company, and welcome them to return to work for us, utilizing their newly acquired experience and skills. Through these initiatives, we will promote the acquisition of diverse human resources.

Number of Hires and Ratio of Mid-Career Hires (Career-Track Employees)



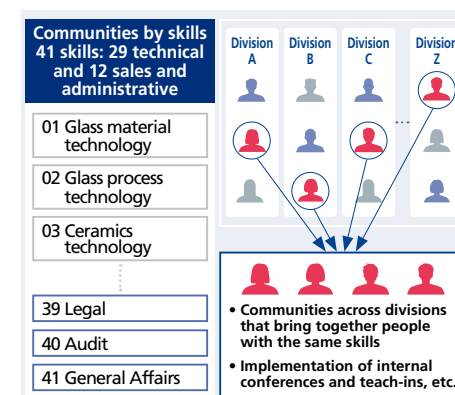
## Self-Initiated Growth by Individuals

### Visualization of skills and CNA (Cross-divisional Network Activity)

#### Visualization of skills

The AGC Group introduced its proprietary human resources database, "Skill Map," in 2010. This system consists of registering employees by specialty, making it possible to visualize which employees with what skills are available in which departments of which companies. This promotes effective utilization of human resources and facilitates communication.

As of the end of January 2024, approximately 6,200 employees are registered in Skill Map, covering 29 technical categories and 12 sales and administrative categories.



This information is also used to create a technical human resources portfolio. For example, we use this information to visualize the gap between current technical human resources and future human resource needs for each division, and to consider human resource management measures to fill that gap.

#### CNA (Cross-divisional Network Activity): Network activity across departments/divisions

In the CNA program, employees engage proactively in cross-divisional activities with other employees who have the same skill. Each community, organized around a skill, holds internal academic conferences and workshops related to specialized technologies (such as marketing subcommittees and technical exchange meetings). It also hosts lectures by external speakers, contributing to the sharing of knowledge both inside and outside the Company as well as to human resource development. Since 2023, the number of activity participants exceeded 10,000 globally each year.

In this way, CNA provides forum where employees can connect with members of other organizations based on their skills and intellectual curiosity, receive stimulation from internal and external networks, and learn on their own initiative. Furthermore, we will strive to develop and evolve AGC's unique organizational culture as a place where the Company supports such activities and fosters creative interaction, leading to diversity and generating new value from a wealth of ideas.

#### Example of CNA activity: Technical exchange meeting

In October 2023, a technological exchange meeting was held covering four skills: Resin design, resin molding, glass composite making, and inorganic materials. Originally, the session was to be held with only three resin-related skills, but skills related to inorganic materials technology were also included. On the day of the event, 70 participants actively exchanged information and engaged in lively discussions through presentations on various skills, deepening exchanges that transcended skill boundaries.





## Human Resources Self-Initiated Growth by Individuals

### Proactive and self-motivated career development

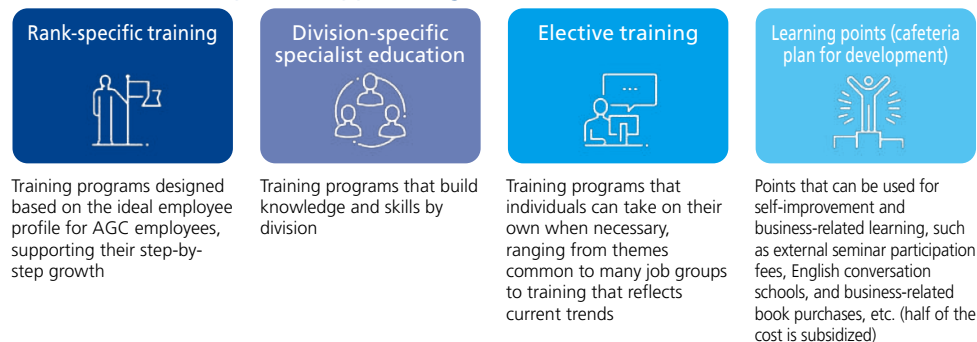
#### HDC program

AGC Inc. 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 a tool called HDC (Human resources Development Communication) for supervisors and their subordinates, employees at AGC Inc. can choose from a wide range of training options in line with their needs.

#### A robust array of training and support systems

We value the attitude of taking initiative in building one's own career and have developed training programs that support the growth aspirations of all employees.

#### Overview of Development Support Programs



#### "Job Challenge" in-house secondary job system

AGC Inc. has established a new in-house program "Job Challenge" in which employees can assume a secondary position in another division internally. 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 officially in 2023, with more than 110 AGC Inc. employees participating to date.

#### Challenge Career System

AGC Inc. has introduced the "Challenge Career System" in 1999, to encourage employees to apply for the jobs of their choice. The system consists of a "talent recruitment system," in which employees can apply for positions advertised by each department once a month, and a "desired job entry system," in which employees can apply for positions in other departments and are selected on an individual basis. This system contributes to the placement of the right people to new businesses and areas that need to be strengthened as well as to the revitalization of the organization.

## Improving Employee Engagement and Fostering Corporate Culture

### Improving employee engagement

#### Engagement Surveys

Since 2005, we have conducted employee engagement surveys every three years to improve employee engagement by better understanding the current situation facing individual employees, the company, and workplaces.

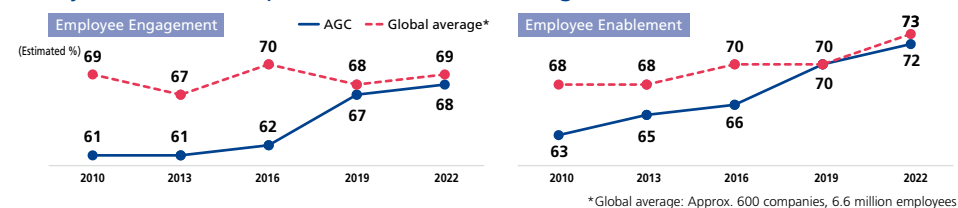
Among the 14 survey question categories, the results of the "employee engagement" and "employee enablement" categories are considered as the result of other categories, and the most important. Key drivers that have a significant impact on both categories are monitored and necessary measures are implemented to continuously improve engagement. 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.

 Results of Previous Surveys: Refer to the AGC Integrated Report 2023.

#### Improvements based on engagement survey results

The scores for "employee engagement" and "employee enablement" each increased nearly 10 points versus 2010 and are in line with the global average score of the surveyed companies. We believe that division-specific measures have contributed to the improvement of the scores in addition to the dialogue meetings between management and employees, which have been ongoing since 2015, and the company-wide promotion of cross-departmental networking activities (CNA).

#### Survey Scores and Comparison with Global Average



#### Initiatives by Group companies to improve engagement

The AGC Group views "engagement" as a relationship in which individuals and the company work as one to grow and contribute to each other. Based on this concept, each company and workplace voluntarily implement initiatives to improve engagement. AGC Micro Glass (Thailand) Co., Ltd. is enhancing team-building activities such as club activities, while promoting the entrenchment of company policies through explanations by management and small-group discussions. AGC Vidros do Brasil Ltda. promotes continuous improvement of the work environment through regular tea parties and dialogues with plant employees. In addition to these activities, measures are being implemented at each location and organization, with individuals and the company working together to enhance engagement and aim for continuous improvement in corporate value.

## Human Resources Improving Employee Engagement and Fostering Corporate Culture

### Strengthening incentives for executives to improve engagement

In **AGC plus-2026**, the employee engagement scores were added as a performance indicator for stock compensation for executive officers (including those also serving as directors). This strengthens the incentive for management to work on improving engagement.

### AGC Group CEO Awards

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 max. 43 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. The award-winning activities are shared on the Company's intranet portal, and award ceremonies are held in Japan/Asia, Europe, and the Americas.



A scene from the AGC Group CEO Awards

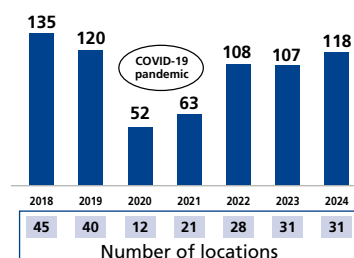
### Dialogue between management and employees

Management actively conducts dialogue sessions with employees at domestic and overseas sites to foster a corporate culture that nurtures innovation through open exchange of ideas and mutual growth among employees with diverse perspectives. In 2024, the group CEO alone conducted 118 dialogue sessions at 31 locations. The dialogue sessions proceed in a relaxed atmosphere where participants are free to discuss any topic without a preset agenda. The AGC Group believes a transparent organizational culture built on psychological safety is the foundation of all corporate activities. We will continue working to foster and embed an even stronger culture across the organization. In addition, we periodically hold "town hall meetings", which connect our global bases, helping to foster a sense of unity within the Group.



A scene from a CEO dialogue session (AGC Inc. Sagami Plant)

### Number of CEO Dialogue Sessions Held



## Chemical Reaction of Knowledge / Stronger On-Site Capabilities

### Developing talents to create technical strengths

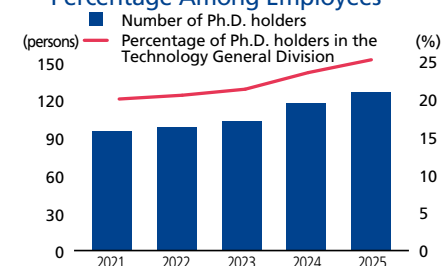
Since its founding, the AGC Group has created materials and products that support society in response to the demands of the times. We have nurtured material technologies with unique advantages, composite technologies that enhance the functionality of materials, black-boxed manufacturing technologies, and common basic technologies such as for analysis and simulation, which are the source of our current technical strengths. We have established a personalized career path and training system that supports the development of technical talent through involvement in the development of such materials and products. This system accommodates individuals who progress from elementary engineers to mid-level engineers, those who move from mid-level engineers to management positions, and those who further enhance their expertise and advance to professional fellows.

In the course of product development, in addition to having personnel with various technical backgrounds working together on projects, talent is also assigned across organizational boundaries. We have a network of renowned universities, companies, and research institutions in Japan and overseas, with which we promote joint research and projects. We also strategically send researchers to study at overseas universities. The aforementioned CNA activities, which transcend organizational boundaries, are also used for networking and human resource development. Through such wide-ranging human resource exchanges combined with mid-career hiring, and open innovation, we are fostering technical human resources who will lead AGC Group in the future.

### Ph.D. holders

Furthermore, AGC Inc.'s Technology General Division is focusing on actively promoting researchers with Ph.D. degrees. Through ongoing recruitment of new Ph.D. graduates and encouragement of employees to obtain Ph.D., approximately 25% of our Technology General Division employees hold Ph.D. and are active in a variety of career paths, including not only basic research but also applied research and commercialization.

### Number of Ph.D. Holders in the Technology General Division and Its Percentage Among Employees



### Ph.D. holders playing active roles at AGC



Yuriko Kaida, Executive Officer, GM of Innovative Technology Laboratories, Technology General Div. (Ph.D. in Science and Engineering)

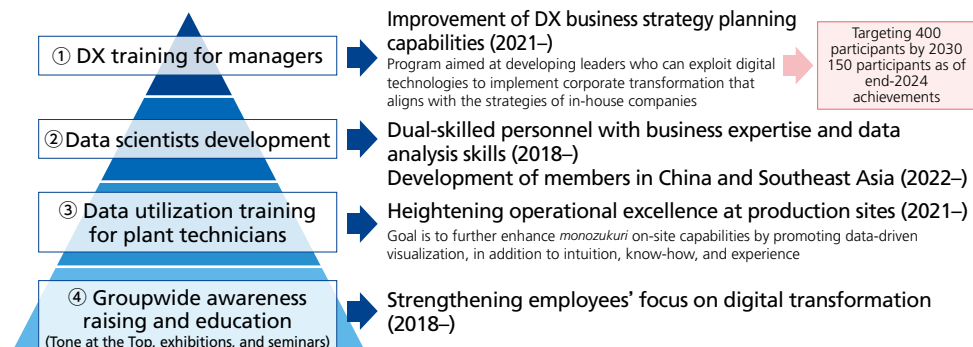
I joined AGC Inc. after completing my doctoral program at graduate school, and since, I have been involved in R&D and new business development. What left a lasting impression on me was overseeing investments in open innovation and startup companies in Europe and the Americas as the president of an U.S. affiliate. Although it was a new field for me, I was able to overcome the challenges by applying the critical thinking and problem-solving skills I had developed during my doctoral studies. At AGC, Ph.D. holders, including the CEO and CTO, are active in a wide range of fields beyond R&D. I will continue to focus on nurturing the next generation so that the AGC Group can continue to create value through innovation.

# Human Resources Chemical Reaction of Knowledge / Stronger On-Site Capabilities

## Developing human resources who 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.

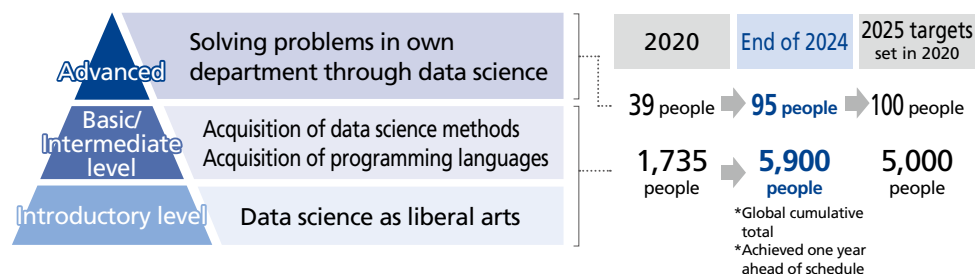
### Establish a multi-layered human resource development system tailored to job duties



### “Data Science Plus” data scientist training program

We are implementing the **Data Science Plus** data scientist training program to cultivate “**dual-skilled personnel**” who combine business knowledge in material development, production, sales, and logistics with advanced data analysis skills.

This program consists of three levels: introductory, basic and Intermediate, and advanced. The advanced level has already trained over 90 people at end-2024 toward the goal of 100 by 2025. This curriculum is also being rolled out to overseas sites. We have also set data science as a skill for the aforementioned CNAs, and we are promoting skill development and networking among data scientists within the AGC Group.



### Examples of promotion of value creation DX

- ▶ Examples of transforming operations and streamlining
- ▶ Examples of value provision to society and customers

Selected as a Digital Transformation (DX) Stock 2024 (4th time in three consecutive years)

Please refer to Promotion of value creation DX on p. 28.

Latest Information: Please refer to the AGC website (Japanese article only)



- ▶ Examples of digital technology application for stronger on-site capabilities

The glass divisions of AGC Inc.'s Aichi and Kashima plants produce flat glass for automotive and architectural customers on a 24-hour basis. To overcome the inefficiency of paper-based equipment inspections and inventory management, on-site operators are taking the initiative to promote improvement activities using digital technology, such as automating records by digitalizing ledgers. In addition, all employees, including on-site operators, are required to take our Introductory **Data Science Plus** training to further improve their digital literacy and to foster organizational culture.



A scene from a study session at the factory

## Developing human resources through the AGC Group's improvement and innovation activities

The AGC Group is systematically developing core talent at all levels to drive business process innovation and enhance its competitiveness through digital x *monozukuri* capabilities. “Basic Education on Improvement Activities” is mainly targeted at new employees to foster their interest in and awareness of participation in improvement. In addition, through the Kaizen (Improvement) Leader Development Program—targeted primarily at younger employees—and the more advanced Kaizen Manager Development Program, participants learn both in lectures and through practical projects how to apply scientific methods for logical and quantitative improvements, formulate improvement strategies based on high-value issues that contribute to management, and lead cross-divisional innovation initiatives. To date, approximately 1,700 Kaizen Leaders and 300 Kaizen Managers have completed the program and are driving improvement and innovation activities at sites around the world.

## Developing human resources to realize intellectual property strategies

The AGC Group emphasizes employee training related to intellectual property rights, such as patent applications and research. In Japan, we conduct intellectual property education at the initial stage of employment, while 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. In addition, AGC Inc. has introduced the award system for inventors to incentivize researchers to work on inventions that result in the obtaining of patents.



# Environment

AGC Group's philosophy, **"Look Beyond,"** includes "Sustainability for a Blue planet" as one of Our Shared Values that guide all actions.

These values reflect our commitment, as expressed in our statements: "We contribute to creating a sustainable society and constantly grow and evolve" and "We achieve economic value through fostering social value."

These aspirations not only guide AGC Group's future direction, but also form the cornerstone of our environmental initiatives.

For example, initiatives to reduce greenhouse gases and promote resource circulation help address global challenges and also drive our technological innovation and business growth.

Guided by this philosophy, AGC Group continues to pursue "Our Purpose": to continue to be an everyday essential part of our world.

## Long-term social issues (AGC's material issues) related to the environment

Social megatrends such as decarbonization, the circular economy, and nature positivity are important external factors that directly impact the corporate value and management strategy of the AGC Group. In promoting environmental activities in our sustainability management, we have identified the following as key environmental material topics, taking into account these megatrends and long-term perspectives: "Addressing climate change," "Using resources effectively," and "Considering relationships with local communities and the environment" as well as "Creating socially and environmentally conscious supply chains."

Recognizing these as both business risks and growth opportunities, we strategically incorporate them into our business operations and technology development. We prioritize cascading our sustainability efforts throughout the value chain by engaging with suppliers, customers, and communities to foster collective ESG impact and long-term value.

To communicate its corporate philosophy, **"Look Beyond,"** and its fundamental approach to materiality as a consistent policy both within and outside the organization, the AGC Group has established its Environment Policy.

 [AGC Group Environment Policy](#)

## Value creation for Blue planet

Under the new medium-term management plan, **AGC plus-2026**, the AGC Group has redefined the social value it provides into three pillars: Blue planet, Innovation, and Well-being. Of these, Blue planet represents our commitment to contributing to the planet's sustainability by reducing environmental impact across the entire value chain. Recognizing the long lead time required to bring materials and solutions from research and development to commercialization, the AGC Group places high importance on maintaining its own sustainability as a company.

Accordingly, we have set the reduction of greenhouse gas (GHG) emissions—including the achievement of carbon net zero by 2050—as a key sustainability KPI, and are working to minimize our negative impact on the global environment. Furthermore, recognizing the broad societal impacts of global environmental changes, the AGC Group is committed to addressing social challenges by creating value through its proprietary technologies and innovations.

On pages 66 and 67, we highlight examples of how our Architectural Glass and Chemicals Businesses, two of the Group's core operations, are putting environmental policies into practice and embodying the concept of Blue planet through value creation. These businesses are working to reduce environmental impact across all phases of the value chain, while also contributing to customers' sustainability efforts through solution proposals, as well as energy-saving, resource-efficient, and energy-generating products and technologies. Furthermore, by integrating these various processes, we provide a concrete illustration of the AGC Group's commitment to creating social value. Each example highlights the outcomes achieved from the perspective of contributing to the three pillars of our Environment Policy: contribution to a decarbonized society, a circular economy, and harmony with nature.

Contribution to  
Decarbonization



Contribution to a  
Circular Economy



Contribution to  
Harmony with Nature



Pages 68 onward detail the AGC Group's approach to climate change—one of our most critical environmental challenges—structured in accordance with the TCFD framework.

For a comprehensive overview of our environmental initiatives, including climate-related actions, please refer to our Sustainability Data Book (English version is published in September each year).



[Click here to view the Sustainability Data Book.](#)

# Environment

## Environmental Initiatives Across the Value Chain (Architectural Glass Business)

The AGC Group is committed to reducing greenhouse gas emissions, resource consumption, and waste throughout the entire life cycle of its architectural glass products, aiming to achieve both environmental sustainability and high product performance. Through these initiatives, we aim to strengthen our ability to adapt to future cost structures and enhance our reputation, thereby maximizing long-term corporate value.

### Dismantling and procurement

Contribution to  
Decarbonization

Contribution to a  
Circular Economy

Contribution to  
Harmony with Nature

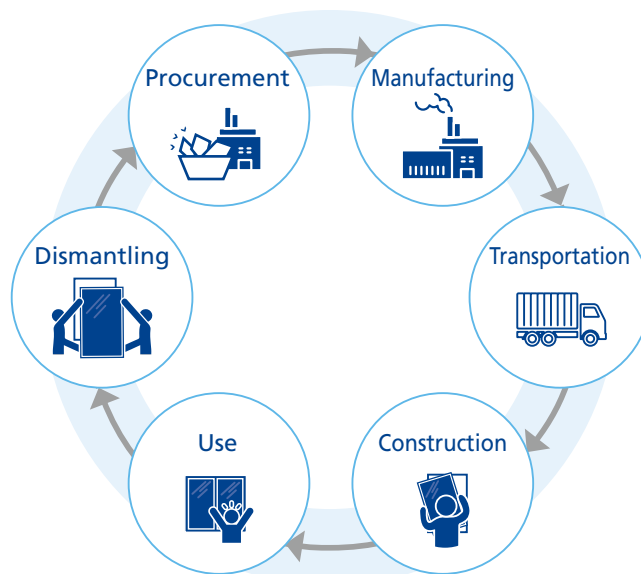
We are beginning to establish systems in both Japan and Europe to collect post-consumer waste glass—previously discarded by customers—and reuse it as a raw material. Recycling 1 ton of waste glass reduces the use of natural resources by 1.2 tons, GHG emissions by 0.6 ton, and industrial waste landfill by 1.0 ton (according to AGC research).

#### Initiatives in Japan

- ORIX Group and AGC Develop Japan's First Window Glass Horizontal Recycling Business Scheme
- Solar panel glass: Started practical application of Japan's first hybrid method for recycling solar panel cover glass (Japanese article only)

#### Initiatives in Europe

- Architectural glass: Recycling initiatives
- AGC Glass Europe and ROSI announce strategic partnership to advance circularity in the glass industry



### Manufacturing

Contribution to  
Decarbonization

Contribution to  
Harmony with Nature

Most CO<sub>2</sub> emissions from glass manufacturing originate from glass melting furnaces. To achieve carbon net zero by 2050 and meet our interim 2030 target, we are implementing measures such as the introduction of innovative melting technologies, fuel switching, and electrification. These initiatives are incorporated into region-specific emission reduction roadmaps, taking into account projected reductions in regional electricity emission factors. In addition, we are actively working to develop new technologies through collaborations and partnerships with other companies and research institutions.

- Technology Roadmap for Reducing GHG Emissions in Float Glass Melting Process (from 2024 ESG Briefing Session)

- Inauguration of Revolutionary Volta Flat Glass Production Line

### Use

Contribution to  
Decarbonization

Contribution to a  
Circular Economy

The thermal insulation performance of windows has a significant impact on the overall energy efficiency of a building. By installing high-insulation double-glazed windows, the need for heating and cooling can be reduced, thereby contributing to lower GHG emissions. The AGC Group offers a wide range of energy-saving glass products to meet diverse needs, both for new construction and renovations of existing buildings. In addition, we provide energy-generating solutions such as building-integrated photovoltaic (BIPV) glass. We also disclose the environmental performance of our products by globally obtaining Environmental Product Declarations (EPDs).

### Construction

Contribution to  
Decarbonization

AGC Group provides comprehensive support for the adoption of energy-saving and energy-generating products, covering everything from the design stage to installation and construction. To ensure that our innovative products can be used safely and effectively, we also work closely with partner companies to establish appropriate installation methods.

- AGC Glass Kenzai received the Minister of Economy, Trade and Industry Award at the Energy Conservation Grand Prize 2023 for "ZEBot service, which supports ZEB conversion and energy/CO<sub>2</sub> saving in existing buildings" (Japanese article only)
- Developed a method for installing solar panels on exterior walls in collaboration with Nozawa (Japanese article only)

### Transportation

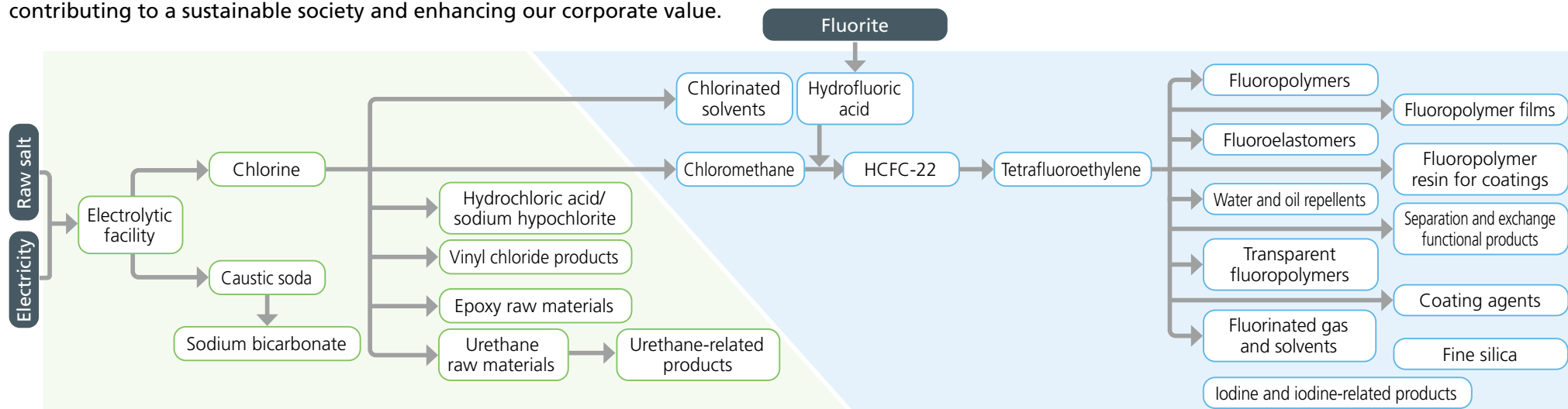
Contribution to  
Decarbonization

Given the nature of glass products, reducing the environmental impact of transportation is a key challenge. AGC Group works closely with logistics partners and customers to promote efficient, low-carbon distribution. We also perform finishing processes such as lamination and coating either on-site or nearby, minimizing the need for product transportation. In Japan, we are working with our distributors to improve logistics efficiency and reduce CO<sub>2</sub> emissions during transportation.

# Environment

## Environmental Initiatives Across the Value Chain (Chemicals Business)

AGC Group's Chemicals Company is distinguished not only by its efforts in energy efficiency and resource circularity, but also by the fact that its products themselves are designed to help address global environmental challenges. By creating environmental value, we are expanding business opportunities while contributing to a sustainable society and enhancing our corporate value.



### Essential Chemicals Chlor-alkali products, urethane products

#### Supporting daily lives as a raw material for chemical products

Contribution to Decarbonization



##### Manufacturing

We reduce electricity consumption in caustic soda production by utilizing our proprietary energy-efficient ion-exchange membranes.

Contribution to Decarbonization



##### Transportation

The Kashima Plant conducts environmentally conscious transportation of baking soda.

Improving transportation efficiency using RFID tags (Japanese article only)

Contribution to Harmony with Nature



##### Use of products (ACLESYA)

ACLESYA, a neutralizing agent for exhaust gas treatment derived from sodium bicarbonate, safely removes air pollutants and contributes to cleaner air.

Contribution to Decarbonization



##### Use of products (Urethane-related products)

Urethane-related products are used as insulation materials for buildings. It is an essential material for green architecture.

Contribution to Decarbonization



##### Development process (Use of captured CO<sub>2</sub>)

We are promoting initiatives for the utilization of captured CO<sub>2</sub>.

AGC Begins Research on Ethylene Production Using CO<sub>2</sub> as Raw Material

Started study on production and sales of circular carbon methanol made from CO<sub>2</sub> generated from glass production

### Performance Chemicals\* Fluorochemicals, specialty chemicals

#### Contributing to the environment through various products and services

Contribution to Decarbonization



##### Use of products (Next-generation refrigerant AMOLEA™)

AMOLEA™ 1234yf and 1224yd are next-generation refrigerants that are ozone layer friendly and have a global warming potential (GWP) of less than 1.

The AMOLEA™ Innovation story

Contribution to a Circular Economy



##### Post-use collection and reuse

We recover and decompose used fluorocarbons from customers for reuse as raw materials, and also recycle calcium fluoride contained in wastewater generated during our manufacturing processes.

Contribution to Decarbonization



##### Use of products

(Separation and exchange functional products)

The FORBLUE™ family of separation solutions is used in fuel cells and other key components that support the transition to a hydrogen society.

About FORBLUE™

\*Includes some products not made from fluorine



# Environment

## Addressing Climate Change (TCFD-Aligned Disclosure)

AGC Group regards climate change as a critical determinant of both corporate value and business strategy, and proactively addresses it from the perspectives of both risk and opportunity. Recognizing the profound impact of global environmental change on society, we believe it is essential to contribute through both technological innovation and our business activities.

Under our medium-term management plan, **AGC plus-2026**, we aim to help realize a sustainable society by advancing three core social values: “Blue planet,” “Innovation,” and “Well-being.” In particular, under “Blue planet,” we are advancing climate action and the efficient use of resources, striving to balance environmental impact reduction with business growth.

## Governance

AGC Group recognizes environmental issues, including climate change, as management priorities and has established a governance structure centered on the Board of Directors. In addition, the Sustainability Committee, chaired by the CEO, regularly reviews and evaluates climate-related risks and opportunities. Furthermore, through the Environmental Response Meeting, which oversees operational execution, we promote both risk management and value creation. This governance framework enables us to achieve sustainable growth while ensuring accountability.

### Governance and oversight centered on the Board of Directors

AGC Group positions climate change as a material issue affecting corporate value and has established an oversight framework centered on the Board of Directors. Climate-related assessments and policies are reported twice a year and reviewed in connection with strategic decision-making. The outcomes of committee and meeting deliberations are reflected in management decisions, helping to translate climate action into a source of competitive advantage.

### Role of senior management and executive bodies

#### Sustainability Committee

The Sustainability Committee is the highest decision-making body responsible for addressing climate-related risks and opportunities. Chaired by the CEO, the committee meets four times a

year and is attended by the CFO, CTO, Audit & Supervisory Board members, and heads of key business divisions. The committee deliberates on policies and targets, monitors progress, and conducts scenario analysis. It reports to the Board of Directors at least twice a year, serving as a bridge between management and environmental strategy.

#### Environmental Response Meeting

The Environmental Response Meeting is an operational body responsible for analyzing environmental issues and implementing initiatives, in line with the direction set by the Sustainability Committee. Led by the responsible executive, the meeting involves participation from both business units and corporate functions. Through eight meetings per year and thematic projects, it advances risk responses and provides recommendations to senior management as needed.

### Indicators for evaluating executive compensation

Under **AGC plus-2026**, which aims to advance sustainability-driven management, Scope 1 and 2 emissions intensity (per unit of sales) has been incorporated as a performance metric for determining stock-based compensation for directors and executive officers, including the CEO. This indicator is incorporated into the compensation system alongside financial KPIs such as ROE, EBITDA, and relative TSR, strengthening incentives for management to work toward improving sustainable corporate value, including climate change response.

## Strategy

To assess the short-, medium-, and long-term impacts of climate change on its business, the AGC Group conducts both quantitative and qualitative analyses of transition risks—such as carbon pricing and regulatory tightening—and physical risks—such as extreme weather events and rising temperatures. These assessments are based on multiple climate scenarios, including the Net Zero Emissions by 2050 Scenario (the NZE Scenario, which aims to limit temperature rise to 1.5°C above pre-industrial levels), the Announced Pledges Scenario (reflecting national climate commitments), and the RCP8.5 Scenario (projecting a temperature increase of around 4°C).

## Risks

### Transition risks

In assessing transition risks, the AGC Group analyzed the potential socioeconomic impacts based on the NZE Scenario. Under this scenario, we estimated the potential impacts of fluctuations in carbon pricing, energy, and raw material costs, and assessed how strengthened decarbonization regulations and the expansion of low-carbon product markets could affect our business.

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We also evaluate how the transition to a decarbonized society—driven by advances in low-carbon technologies and shifting market dynamics—may generate new growth opportunities through the expanding demand for GHG reduction technologies and solutions that help minimize environmental impact.

## Physical risks

The AGC Group assesses a range of physical climate-related risks—including water risks such as floods, storm surges, and droughts; natural disasters such as heavy rainfall, typhoons, and lightning; and the business impacts of rising temperatures. These risks may lead to operational shutdowns or disruption in logistics, potentially resulting in lower sales and an increased cost for implementing countermeasure.

For medium- to long-term risks, we conducted an in-depth assessment using scenario analysis. Based on the RCP8.5 scenario—which projects approximately 4°C of warming above pre-industrial levels—we analyzed the potential impacts of physical disasters on our manufacturing sites.

## Impact on Business, Strategy, and Financial Planning

### Transition risks

#### Policy and Regulatory Risks: Rising business costs and adaptation burdens from strengthened carbon regulations

The AGC Group assesses the impact of carbon pricing policies across different countries and regions. If Scope 1 and 2 GHG emissions remain at current levels, rising carbon prices by 2030 could result in up to 1 billion USD (approximately 150 billion yen) in additional annual costs. This estimate is based on AGC Group's 2023 GHG emissions and incorporates projected policy trends and carbon pricing forecasts in major markets—such as a carbon price exceeding 100 Euro per ton of CO<sub>2</sub> under the EU ETS by 2030.

#### ►Measures to Manage Policy and Regulatory Risks

To mitigate the impact of these transition risks, the AGC Group is advancing the following initiatives.

- Fuel conversion, oxygen combustion, electrification of float glass melting furnaces
- Reduce electricity consumption intensity and introduce renewable energy in chlor-alkali electrolysis facilities
- Reflect internal carbon pricing in investment decisions
- Evaluate business portfolio based on scenario analyses and carbon efficiency

In addition, under **AGC plus-2026**, the company has allocated over 50 billion yen for investments to reduce Scope 1 and 2 GHG emissions, accelerating the transition to a low-carbon society.

#### Technology: Shifts in competitive advantage and rising adaptation costs driven by advances in low-carbon technologies

As markets shift toward decarbonization, companies are under growing pressure to reduce GHG emissions, heightening the risk of increased capital expenditures and rising operational costs. We

have identified the rising costs associated with energy transition and the adoption of low-carbon technologies as factors impacting the entire Group. This includes higher direct costs for fossil fuel alternatives, increased capital expenditures for low-carbon technology development, and rising implementation costs for renewable energy and energy-efficient technologies.

#### ►Measures to Address Technology-Related Risks

The AGC Group is implementing the following measures to minimize the impact of transition risks.

- Expanding low-carbon businesses through strategic business portfolio review
- Investment in the reduction of Scope 1 and 2 GHG emissions
- Enhancing incentives for the development of emission reduction technologies through the implementation of an internal carbon pricing (ICP) system
- Introducing energy-saving technologies and adopting renewable energy

In addition, under **AGC plus-2026**, the Group has allocated over 50 billion yen to accelerate Scope 1 and 2 GHG emissions reduction through the development and deployment of low-carbon technologies.

#### Reputation: Stakeholder Perception and Litigation Risk

Disclosing climate-related information may entail the risk of stakeholder complaints stemming from differences in interpretation, as well as the associated burden of responding to them. We also recognize the potential litigation risk from investors and other stakeholders should the AGC Group's response to climate change be deemed insufficient. In particular, we carefully assess the disclosure of climate-related risks in our securities reports, as there is a risk that statements regarding their impact on financial results and business operations could be misinterpreted.

#### ►Measures to Address Reputational Risk

The AGC Group works to ensure accurate and appropriate disclosure of climate-related information, minimize associated risks, and comply with relevant disclosure requirements in each country.

- Highly transparent disclosure aligned with TCFD recommendations
- Appropriate risk assessment and information review in compliance with each country's laws, regulations, and disclosure standards
- Ensuring consistency in disclosures to prevent misinterpretation
- Enhancing stakeholder trust through strengthened dialogue and engagement

#### Market: Shifts in demand resulting from climate change mitigation and adaptation efforts

As climate change measures progress across society, demand is expected to shift—expanding markets for low-carbon products and renewable energy, while shrinking demand for conventional high-carbon products. In addition, customers' decarbonization strategies and the tightening of environmental regulations may shift product selection criteria, intensifying market competition. Furthermore, there are concerns that rising transaction costs for products and raw materials with

# Environment

high carbon footprints, as well as reduced competitiveness in markets subject to carbon regulations, may negatively affect business performance. Given the potential impact of these factors on the AGC Group's revenue and profit, we are actively assessing market risks and implementing appropriate countermeasures.

## ►Measures to Address Market Risks

The AGC Group is implementing the following initiatives to address market risks related to climate change and to maintain and enhance its business competitiveness.

- Strengthening the development and sales of low-carbon and environmentally conscious products to adapt to shifting demand
- Shifting toward a product portfolio with a lower carbon footprint
- Enhancing solution proposals aligned with customers' decarbonization strategies
- Improving carbon footprint management and ensuring transparent information disclosure

### Acute Physical Risks

The AGC Group recognizes physical risks from floods, storm surges, and droughts as long-term management challenges. These risks are particularly concentrated in the Asian region, where we anticipate the following financial impacts.

**Number of high flood risk sites:** 15 in Asia, 2 in Europe, 1 in the Americas

Maximum envisioned damage as of 2050: 20.0 billion yen

Average envisioned annual damage (assuming a 1-in-100-year probability): 200 million yen

**Number of high storm surge risk sites:** 3 in Asia

Maximum envisioned damage as of 2050: 2.0 billion yen

Average envisioned annual damage: 20 million yen

**Number of high drought risk sites:** 17 in Asia, 3 in Europe, 1 in the Americas

Potential impacts on production processes and raw material procurement are of concern.

We also consider physical risks in the supply chain to be a critical issue. Specifically, some raw materials rely on geographically concentrated resources, and depending on the location of our sites, transportation constraints can result in longer lead times. We also source from suppliers located in regions exposed to water-related risks. In addition, certain procurement items require consideration of geopolitical risks such as conflicts, which we recognize as factors that may increase supply chain vulnerability.

## ►Measures to Address Acute Physical Risks

The AGC Group is implementing the following measures based on the results of its physical risk assessments.

- Countermeasures at Our Own Sites  
Establishing Business Continuity Plans: Development of standardized response measures to prepare for wind and flood damage  
Enhancing Physical Measures: Installation of waterproof barriers and drainage pumps, and implementation of flood prevention measures  
Utilizing Insurance: Procurement of insurance policies to cover losses caused by wind and flood disasters
- Measures for the Supply Chain  
Diversifying the Supply Chain: Decentralization of procurement sources and securing alternative sourcing routes  
Optimizing Inventory Strategy: Mitigating supply risks by increasing inventories of products and raw materials
- Strengthening long-term risk management

The AGC Group is currently developing systems and operational rules to implement a PDCA cycle for long-term physical risk management across the Group, aiming to enhance integrated risk management.

### Chronic Physical Risks

The AGC Group recognizes that chronic physical risks such as rising temperatures, changes in precipitation patterns, and challenges in securing water resources may affect the manufacturing processes and raw material procurement in our glass and chemicals businesses. However, we believe these risks can be effectively managed through appropriate measures, allowing us to maintain stable business operations.

## ►Measures to Address Chronic Physical Risks

We are enhancing our resilience to chronic physical risks by managing its manufacturing sites, improving energy efficiency, and diversifying its raw material supply. In addition, we are securing greater flexibility in risk response through the sustainable use of water resources and the optimization of production systems.

### Opportunities

The AGC Group expects business opportunities to grow even under a NZE scenario. Leveraging market forecasts from trusted third-party institutions, we analyze shifts in product markets and incorporate these insights into our business planning. Under the NZE scenario, the decarbonization market is expected to expand at an accelerated pace. For example, the renovation ratio is projected to



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double, while the cumulative installed capacity of water electrolysis equipment is expected to surge from 5.2 GW to 558 GW. Furthermore, the market size of low-GWP refrigerants is expected to grow to 2.2 times its current size by 2030, and EV sales also expected to increase by 3.2 times. These trends will accelerate the adoption of next-generation low-carbon technologies across the construction, automotive, and chemical sectors, thereby strengthening the AGC Group's product competitiveness.

In addition, in anticipation of stricter regulations, we are accelerating the development of decarbonization-related products to strengthen regulatory alignment and translate emerging market opportunities into business growth.

## ►Measures to Realize Opportunities

Under **AGC plus-2026**, the AGC Group plans to invest over 30 billion yen to expand sales of products that contribute to GHG emissions reduction. We are accelerating the development of low-carbon technologies particularly in the construction, automotive, and chemical sectors, aiming to enhance our product portfolio in support of a decarbonized society.

Furthermore, we are advancing technological development to improve energy efficiency and broaden the application of low-carbon technologies. By strengthening our global supply network, we are building a resilient business foundation capable of ensuring stable product supply and adapting flexibly to market shifts.

## Resilience of Scenario-Based Strategies

The AGC Group is enhancing the resilience of its business strategies to ensure sustainable growth across a range of climate scenarios. To address both transition and physical risks while maintaining business competitiveness and financial stability, we are advancing the following strategic initiatives.

### 1. Strengthening Portfolio Resilience

In the glass and chemical fields, we are developing low-carbon technologies and expanding our product lineup in response to the progress of a decarbonized society. In particular, we will leverage the market growth potential of low-carbon products such as high-insulation glass, components for

zero-emission vehicles (ZEVs), and next generation refrigerants and solvents to address climate change and also strengthen our business portfolio.

### 2. Ensuring Financial Resilience

To address rising carbon prices across various countries and regions, we are advancing the adoption of energy-efficient technologies and implementing measures to reduce energy costs. As part of this effort, **AGC plus-2026** includes planned investments of over 30 billion yen to scale up sales of products that help reduce GHG emissions.

### 3. Enhancing resilience through technological innovation

To prepare for long-term climate change risks, we are advancing the development of hydrogen-related technologies and energy-efficient products to enhance our market competitiveness. This approach ensures our ability to maintain business continuity and pursue growth under any scenario.

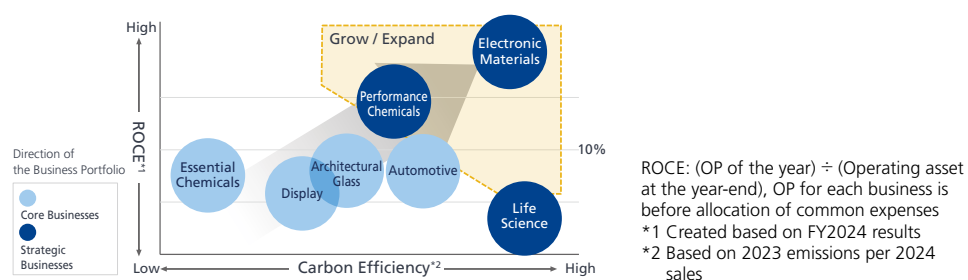
### 4. Rule-Making Initiatives

Alongside developing products that contribute to the realization of a low-carbon society, the AGC Group is actively engaged in shaping international rules and standards. By taking a leading role in standardization efforts and staying ahead of regulatory developments, we aim to drive market expansion and secure a competitive edge.

### 5. Technology Investment

The AGC Group is advancing technological innovation in the glass melting process and transitioning electricity sources in its Chlor-Alkali Business to renewable energy, as part of its efforts to achieve key milestones. We are also driving the implementation of technologies aimed at reducing GHG emissions from float glass melting furnaces. By leveraging simulations of energy prices and carbon costs through 2050, we assess the economic viability of low-carbon technologies. At the same time, we promote global deployment of these technologies and optimize resource allocation to strengthen our long-term competitiveness.

## Direction of Business Portfolio Transformation (carbon efficiency and asset efficiency)



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## Risk Management

The AGC Group considers climate-related risks to be an important management issue and evaluates and responds to them under an integrated management structure. We utilize scenario analysis to supervise and manage at the senior management level, and continuously improve by running a PDCA cycle.

The AGC Group identifies and assesses climate-related risks from short-, medium-, and long-term perspectives based on the AGC Group Risk Management Implementation Rules. Environmental, risk management, and business divisions collaborate to assess the likelihood of occurrence and impact throughout the supply and value chain.

### Risk management process

Climate-related risks are assessed in terms of both transition and physical risk perspectives. Regarding transition risks, we refer to the SBTi's emissions reduction standards and analyze them using scenarios that take into account each country's carbon pricing policies and regulatory trends. We are measuring the magnitude of risk by quantitatively assessing the impact on business costs by assuming changes in carbon prices in 2030 and 2050. We also employ external market data and energy price simulations to examine the impact of the diffusion of low-carbon technologies on each project.

In assessing physical risks, we use the RCP8.5 scenario to analyze risks such as floods, storm surges, and droughts for each of our business sites. We qualitatively assess the level of risk on a five-point scale and, for floods and storm surges in particular, estimate the risk of flooding in 2050 based on facility location information and data from Aqueduct Floods\*. We then quantify the financial impact by taking into account the number of days of business suspension in the event of a disaster.

Based on these risk assessments, we are reviewing our product portfolio and moving ahead with the deployment of renewable energy to address material transition risks. For physical risks, we are considering risk reduction and transfer measures such as reviewing suppliers and production sites, updating business continuity plans (BCP), and utilizing insurance. The evaluation results are reviewed annually, and the evaluation methods and scope are expanded as necessary.

The results of risk identification and analysis are deliberated by the Sustainability Committee, reported to the Management Committee, and reflected in decision-making. Each business division conducts risk assessments at each site and implements continuous monitoring under an integrated risk management framework.

\* Aqueduct Floods: A database of flood and storm surge inundation depths under current and future climate conditions provided by the World Resources Institute (WRI)

### Integration into company-wide risk management

Under its integrated risk management framework, the AGC Group assesses climate change-related risks every three years and identifies major risk factors. Identified risks are supervised and deliberated by the Management Committee and the Board of Directors in accordance with the AGC Group Enterprise Risk Management Basic Policies, and are addressed on a company-wide basis.

In addition, based on the AGC Group Risk Management Implementation Rules, the corporate divisions, in-house companies, and strategic business units (SBUs) formulate and implement management plans for important environmental risks. Each organization conducts a self-assessment of its risk management level at the end of the fiscal year, and senior management monitors the results to establish a PDCA (Plan-Do-Check-Act) cycle and promote continuous improvement.

In addition, the Internal Audit Division conducts independent monitoring and regularly verifies the appropriateness of the risk assessment process and the status of risk management. This ensures transparency and effectiveness in our risk management.

Furthermore, we update our risk assessment tools and review assessment results annually to improve the accuracy of risk assessments.

## Metrics and Targets

With the launch of **AGC plus-2026**, which aims to deepen of sustainability management, the AGC Group has set new sustainability KPIs, including addressing climate change, and is strengthening strategic progress management. As risk and opportunity assessment indicators, we manage GHG emission reduction targets, which we have been working on, and growth indicators for products that contribute to the environment and energy fields, and reflect them in management decision-making.

### Risks and opportunity indicators

#### Risks

The AGC Group manages Scope 1, 2, and 3 GHG emissions as KPIs and is promoting initiatives to realize a decarbonized society. Our 2030 GHG emissions reduction targets have received certification by SBTi as Science Based Targets (SBT) of "Well Below 2°C (WB2°C)."

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## Scope 1 and 2

The AGC Group aims to achieve carbon net-zero\*<sup>1</sup> by 2050, with a milestone of a 30% reduction in GHG emissions by 2030 compared to 2019. \*<sup>2</sup>

In addition, the AGC Group has set a target to reduce Scope 1 and 2 GHG emissions per unit of net sales by 50% by 2030 compared to 2019 levels, as part of our efforts to realize sustainable business operations.

\*1 Scope 1 + 2

\*2 The electricity emission coefficient for 2030 is based on the figures determined using the Sustainable Development Scenario (SDS) published by the International Energy Agency (IEA).

## Scope 3

We target a 30% reduction by 2030 from 2019 levels for Category 1 (purchased goods and services), Category 10 (processing of sold products), Category 11 (use of sold products), and Category 12 (end-of-life treatment of sold products), which account for approximately 70% of Scope 3 GHG emissions. In addition, we have set an engagement target to encourage suppliers that account for 30% of GHG emissions in categories 1 and 3 to obtain SBT certification by 2027, and are promoting emissions reductions throughout the entire value chain.

## Opportunities

The AGC Group sees climate change as a new growth opportunity and is advancing the expansion of products that contribute to environmental and energy solutions. Currently, products that contribute to the environment and energy field account for about 10% of the Group's total sales. We will continue to expand areas where we can contribute to reducing GHG emissions by leveraging our technological capabilities.

We have set the following as part of our sustainability KPIs for **AGC plus-2026** to visualize the value created through addressing climate change. These indices use 2022 as the baseline (100), and by continuously monitoring growth from 2023 onward, we are accelerating the creation of social value through our products.

- Architectural glass products: Accelerate the spread of energy-efficient high-insulation glass by setting "the shipment volume index for architectural products contributing to GHG reductions" as a KPI
- Low-GWP chemical products: Promote market growth of low-GWP refrigerants and solvents by using "Index for GHG emissions reduction by low-GWP products" as a KPI

## Scope 1, 2 and Scope 3 GHG emissions volume and reduction policy

### Scope 1 and 2

Approximately 99% of the AGC Group's Scope 1, 2 GHG emissions originate from its glass segment (Architectural and Automotive), Electronics, and Chemicals businesses. Of these emissions, approximately 50% come from the combined glass and electronics businesses, and approximately 50% come from the chemicals business.



## Glass Business and Electronics Business

In the Glass and Electronics businesses, glass melting furnaces account for approximately 70% of Scope 1 and 2 GHG emissions, making their electrification and shift to clean fuels a top priority. The AGC Group formulates strategies based on forecasts of GHG emission factors for electricity in each country and implements optimal measures for each region.

- Europe & Americas: We are prioritizing the introduction of electric boosters (electric heating assistance) due to the progress of electricity decarbonization
- Asia: Due to the relatively slow progress of electricity decarbonization, we will prioritize the introduction of energy-saving technologies.

In the long run, we will reduce emissions from raw materials by expanding the use of low-carbon fuels and strengthening the recycling of waste glass to reduce emissions from glass production. We are also actively exploring the potential application of carbon capture, utilization, and storage (CCUS) technologies, including CO<sub>2</sub> recovery and utilization (CCU) as well as geological storage, for emissions from glass melting furnace operations.



## Chemicals Business

The majority of Scope 1 and 2 GHG emissions from the Chemicals Business are derived from the electricity used to operate chlor-alkali electrolysis facilities. Approximately 40% of the emissions come from on-site power generation, and the remaining 60% comes from electricity purchased externally. In response, we are rolling out multiple measures at chemical production sites with a view to expanding the supply of renewable energy in the market. Furthermore, we are expanding our procurement of electricity from renewable energy sources and ensuring long-term stability through extended procurement contracts. Furthermore, we are switching to energy-saving electrolyzers to improve energy efficiency.

## Scope 3

About 70% of the AGC Group's Scope 3 GHG emissions come from Category 1 (purchased products and services) and from Categories 10-12 (processing, use, and end-of-life treatment of sold products). Such emission reductions require cooperation throughout the entire value chain, and we place great importance on strengthening ties with our business partners.



# Environment

## Emission Reduction Strategies throughout the Value Chain

To reduce Scope 3 GHG emissions, we are promoting engagement with suppliers and encouraging them to reduce their major sources of emissions. Specific initiatives underway include the following.

- Supporting suppliers to obtain SBT certification: Encouraging business partners to obtain SBT certification for their emissions reduction targets to promote decarbonization throughout the entire supply chain
- GHG emissions data collection for raw materials: Collecting primary data for each raw material through surveys and quantitatively evaluating the reduction efforts of each material supplier
- Visualization of emissions throughout the supply chain: Conducting more accurate Scope 3 GHG emissions calculations and strengthening environmental impact assessments for each product

## Priority measures by category

### Category 1 (Purchased goods and services)

We are promoting the use of low-carbon materials and recycled materials to reduce GHG emissions in the procurement of raw materials.

### Categories 10-12 (processing, use, and end-of-life treatment of sold products)

We are strengthening the development and market introduction of environmentally conscious products such as high-insulation glass, materials for ZEVs, and low-GWP refrigerants and solvents to reduce GHG emissions during the product use phase. Furthermore, we are promoting the development of product recycling technologies with the aim of reducing environmental impact throughout the entire product life cycle.

## Risk and opportunity targets and achievements

### Scope 1 and 2 GHG emissions

	2019	2020	2021	2022	2023	1,000 t-CO <sub>2</sub> 2024
Scope 1 (direct emissions)	6,200	6,469	6,903	6,075	5,970	5,781
Scope 2 (indirect energy-related emissions)	5,493	4,792	4,595	4,835	4,050	4,132
Total	11,694	11,261	11,499	10,910	10,019	9,913

### Scope 3 GHG emissions

	2019	2020	2021	2022	2023	1,000 t-CO <sub>2</sub> 2024
Category 1 Purchased goods and services	4,321	3,716	3,406	4,004	3,746	3,738
Category 2 Capital goods	389	684	685	778	744	725
Category 3 Fuel- and energy-related activities not included in Scope 1 or 2	1,297	1,102	2,266	1,334	1,263	1,060
Category 4 Upstream transportation and distribution	1,021	1,007	1,293	954	901	940
Category 5 Waste generated in operations	56	35	14	49	91	38
Category 6 Business travel	19	43	18	53	90	77
Category 7 Employee commuting	21	51	20	31	38	32
Category 8 Upstream leased assets	-	-	-	-	-	-
Category 9 Downstream transportation and distribution	-	-	-	-	-	-
Category 10 Processing of sold products	245	269	261	344	154	483
Category 11 Use of sold products	2,302	1,945	1,681	1,483	1,378	1,471
Category 12 End-of-life treatment of sold products	3,442	2,581	1,716	1,259	806	806
Category 13 Downstream leased assets	167	167	167	162	151	146
Category 14 Franchises	-	-	-	-	-	-
Category 15 Investments	59	58	58	58	139	132
Total	13,341	11,659	11,585	10,508	9,501	9,646

## Respect for Human Rights


For the AGC Group, efforts to ensure respect for human rights as a company are an essential aspect of the pursuit of our Group Philosophy, **“Look Beyond.”** We have established the AGC Group Charter of Corporate Behavior and the AGC Group Human Rights Policy, and we act in accordance with the United Nations’ Guiding Principles on Business and Human Rights and other internationally recognized human rights standards. We analyzed and assessed our business domains, business activities, value chain characteristics, and stakeholders. As a result, we have identified human rights issues that we should particularly focus on to reduce potential human rights risk across the AGC Group, and we are working to reduce risk through human rights due diligence in relation to these salient human rights issues. We have also reflected our approach to human rights in the AGC Group Purchasing Policy, which specifies items that we will work on in cooperation with suppliers, to promote human rights-conscious business activities not only within the AGC Group but also throughout our supply chain, and we ask for their cooperation in this regard.

### Initiative: Enhancing hotlines

To process complaints related to human rights in the AGC Group, we have joined



the Japan Center for Engagement and Remedy on Business and Human Rights (JaCER), a General Incorporated Association, while also operating our existing hotlines. We have thus created a system for more efficiently gathering the opinions of stakeholders in Japan and overseas and appropriately responding.

 Japan Center for Engagement and Remedy on Business and Human Rights (JaCER)

## Compliance

Compliance is the fundamental premise underlying the AGC Group’s business activities. To that end, the AGC Group Code of Conduct sets forth group-wide requirements for all employees in the workplace. This Code of Conduct comprises global requirements of business conduct that all employees must follow, regardless of country or region, and regional requirements that take into account the difference in laws, regulations, and business customs of those areas, including supplementary explanations on universal items.

The working regulations of each AGC Group company state that a violation of the AGC Group Code of Conduct is grounds for disciplinary action. In addition, if an employee voluntarily consults about or reports his or her own Code of Conduct violation, this will be taken into consideration when determining disciplinary action. The AGC Group has introduced a system in which its employees periodically submit a personal certification to follow the AGC Group Code of Conduct. The goal of the system is to ensure that all employees renew their awareness of compliance and take a fresh look at business affairs and the workplace.

### Initiative: Compliance training and surveys

The AGC Group continuously provides ongoing face-to-face training and e-learning related to compliance for officers and employees. In addition, we use surveys to gauge the level of compliance awareness and recognition of hotlines, and implements any necessary measures based on the results.



## Risk Management

The Group has established the AGC Group Enterprise Risk Management Basic Policies based on its Corporate Policy over Internal Control, the establishment of which was approved by a resolution of the Board of Directors. Through enterprise risk management (ERM) framework developed under these basic policies, we formulate guidelines for responding to risks that may affect the Group’s management objectives and have established a system to prevent the occurrence of risks and minimize their impact if they do occur.


In our ERM process, the CEO judges strategic risks at the Management Committee, Business Strategy Meeting, etc. For other risks, in accordance with the AGC Group Three Lines of Defense Model, Corporate Divisions (second line of defense) direct Business Divisions (first line of defense) on policies for responding in the event of accidents, disasters, or other crises. Additionally, the Internal Audit Division (third line of defense) audits the status of risk management.

Furthermore, within the AGC Group, risks that require particularly intensive monitoring in consideration of their significance in terms of impact on management and the likelihood of their occurrence are selected as key risks. The Group implements measures to mitigate such risks and conducts annual group-wide self-assessments to continuously improve the level of risk management.

### Initiative: Establishment and Improvement of Business Continuity Plan(BCP)

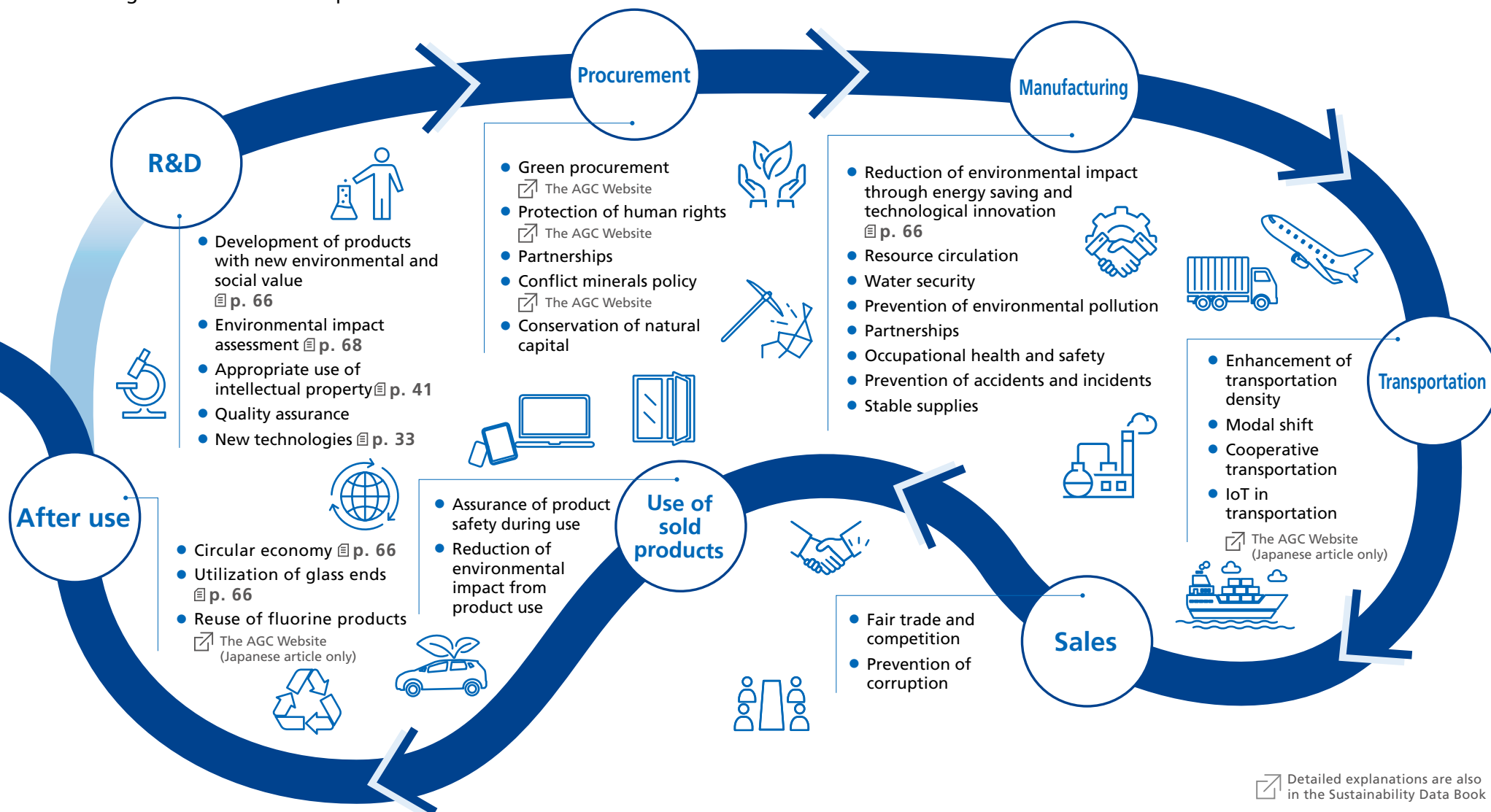
The AGC Group has established four basic policies for responding in the event of accidents, disasters, or other crises. These policies are: “human life and safety first,” “prevention of secondary disasters,” “contribution to and co-existence with society,” and “business continuity.” Each business division and site develop its own BCP.

In relation to natural disaster risk, we have prepared hazard maps for key sites around the world, and we hold desktop drills and workshops through collaboration between sites in regions where risk is high. In such ways, we have created systems for early recovery and continuity of business.

 Please refer to the Sustainability Data Book for details of our respect for human rights, compliance, and risk management.

# 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 risks and opportunities), aiming to enhance long-term sustainable corporate value and address social issues.



[Detailed explanations are also in the Sustainability Data Book](#)



# Stakeholder Engagement

As declared in our Charter of Corporate Behavior, the AGC Group works to engage in communication with customers, local communities, shareholders, employees, and various other stakeholders inside and outside the AGC Group, maintain an understanding of the opinions of these stakeholders at all times and utilize this understanding to improve corporate activities, and disclose corporate information in a timely and appropriate manner.

	Expectations of AGC	Communication channels
Customers	<ul style="list-style-type: none"> <li>• Increase quality of products and services</li> <li>• Extensive support system</li> </ul>	<ul style="list-style-type: none"> <li>• Sharing information through press releases</li> <li>• Posting sponsored content on online media, etc.</li> </ul>
Business partners	<ul style="list-style-type: none"> <li>• Expand transactions</li> <li>• Fair, equal, and transparent transactions</li> </ul>	<ul style="list-style-type: none"> <li>• Satisfaction surveys</li> <li>• Social events with business partners</li> <li>• Dialog through business partner meetings, etc.</li> </ul>
Local communities	<ul style="list-style-type: none"> <li>• Employment creation</li> <li>• Activities to contribute to regional revitalization</li> </ul>	<ul style="list-style-type: none"> <li>• Plant tours, on-site classes</li> <li>• Employee participation in regional activities</li> <li>• Various social contribution activities, etc.</li> </ul>
NPOs/NGOs	<ul style="list-style-type: none"> <li>• Transparent business activities</li> <li>• Contribution to solving social issues</li> <li>• Collaboration with the AGC Group</li> </ul>	<ul style="list-style-type: none"> <li>• Regular opinion exchange</li> <li>• Collaboration by project, etc.</li> </ul>
Public administration agencies	<ul style="list-style-type: none"> <li>• Appropriate payment of taxes</li> <li>• Compliance</li> </ul>	<ul style="list-style-type: none"> <li>• Dialog through economic and industry bodies</li> <li>• Dialog and collaboration with local government</li> <li>• Various social contribution activities, etc.</li> </ul>
Shareholders and investors	<ul style="list-style-type: none"> <li>• Increase future cash flows</li> <li>• Ensure appropriate share price</li> <li>• Appropriate shareholder returns</li> <li>• Information provision and opportunities for dialog</li> <li>• Compliance</li> </ul>	<ul style="list-style-type: none"> <li>• Ordinary General Meeting of Shareholders</li> <li>• Financial results briefings</li> <li>• Investor briefings</li> <li>• Facility tours</li> <li>• Publication of Financial Review, etc.</li> </ul>
Employees and their families	<ul style="list-style-type: none"> <li>• Good working environment</li> <li>• Opportunities for growth</li> <li>• Fair assessments</li> <li>• Appropriate salaries</li> </ul>	<ul style="list-style-type: none"> <li>• Share information through the Group magazine and intranet</li> <li>• Various opportunities to directly exchange views with the CEO</li> <li>• Engagement surveys</li> <li>• Helpline operation, labor-management discussions, etc.</li> </ul>

## Dialog with investors

### Interviews with investors by Independent Director

Mr. Hiroyuki Yanagi, the Chairperson of the Board of Directors, held four meetings to exchange opinions directly with institutional investors between April 2024 and March 2025.



### Examples of Q&A

**Institutional investor:** How would you assess the current management?

**Yanagi:** A key characteristic is the fact that it is a group that loves AGC. One strength of management is its strong commitment to R&D, product development, and mass-production technology development. Technology development is conducted based on open, frank, and lively discussions, with discipline. The Company does not develop unrelated technologies, but instead utilizes the technologies it has already acquired for new developments. AGC has a high level of trust from leading global companies, thanks to its discipline and technical capabilities. A weakness of management is the fact that the sense of vertical and horizontal integration is somewhat lacking. Vertically, each in-house company is very strong, but management tends to entrust things to these in-house companies, meaning that the ability to manage horizontally is lacking in some aspects. Management has been debating how to make improvements in future in this regard.

**Institutional investor:** I think that outside directors should provide advice on withdrawal from businesses, in line with METI's Practical Guidelines for Business Transformations. Are they properly providing advice in this regard? Under its ambidextrous strategy, AGC operates many businesses, but the share price has fallen. Is it safe to assume that the reason AGC has so many businesses is not because you haven't been providing advice?

**Yanagi:** Matters related to the business portfolio are an important theme discussed at meetings of the Board of Directors. At this point, no businesses have been slated for withdrawal. To date, the Company has undergone structural reforms by optimizing the scale of its business and adding high value to its businesses and products. I believe that decisions regarding business continuity should be made based on an assessment of an ability to accurately scrutinize market trends and to carry out the necessary tasks in areas such as development, production, quality, and sales.

### Interviews with investors by the CEO, CFO, and CTO

The officers chiefly responsible for execution, i.e., CEO Hirai, CFO Miyaji, and CTO Kurata actively engage in dialogue with institutional investors and other stakeholders. These three officers held 81 individual meetings with institutional investors in 2024, where they engaged in lively discussions.

### Examples of Q&A

**Institutional investor:** Many integrated chemicals manufacturers are conglomerates, but they tend to move slower than pure players. It may take more than a decade for their efforts to bear fruit. What do you think about this?

**Hirai:** Whether or not a company is a conglomerate is not the issue. I think the important thing is how much of a sense of urgency they have in the management of individual businesses. I can't deny that we have been complacent at AGC, and we will strengthen our pursuit of profitability and speed. As a materials company, we change the materials that we offer in line with the times. It takes a conglomerate to survive for a century in this business. Saint-Gobain began as a glassmaker, but has diversified into all aspects of the construction business, whereas AGC has diversified into the chemicals and electronics businesses. We must sow seeds with a long-term perspective. We began focusing on our Electronics Business twenty years ago, and it is now entering the period when it is bearing fruit.

# Messages from Independent Director



Chairperson of the Board of Directors,  
Independent Director

**Hiroyuki Yanagi**

## Message from the Chairperson of the Board of Directors

**Making the most of  
AGC's strengths, while  
promoting reform at  
unprecedented speed**

### Focusing on discussions from a frontline perspective as Chairperson of the Board of Directors

It has been six years since I became an independent directors of AGC. During that time, I feel there have been substantial improvements in the proceedings of Board meetings and the discussions held there. Previously, we received reports from executive officers at meetings, but now the meetings are forums for lively discussions between directors and Audit & Supervisory Board members, thanks to the careful and well-considered support of the Secretariat of the Board of Directors. A new independent director joined the Board in March 2025, resulting in more multi-faceted discussions.

As Chairperson of the Board of Directors, I focus on the "four actuals," i.e., the "actual site (frontline)", "actual thing", "actual facts (reality)", and "actual people". I endeavor to ensure discussions at meetings of the Board of Directors are not divorced from the frontlines, but instead are rooted in an understanding of circumstances on the frontlines. The Board explores and identifies what is happening on the frontlines, and the background and causes for any such developments. It is not necessary for us to deeply explore every single issue, but I believe that discussions from a frontline perspective are essential for certain agenda items.

### Discussions at meetings of the Board of Directors Three points of discussion for improving the PBR and ROE

We held discussions on various issues at meetings of the Board of Directors in FY2024. We recognize the low ROE as a major issue. The fact that the ROE has stayed low is also the primary factor causing the PBR to be below 1x.

There are three points of discussion concerning ROE in this regard. First, in AGC's businesses, operating profit tends to fluctuate based on changes in market conditions and market prices, but how can we make them more resilient? Second, how can we limit impairment losses, which put downward pressure on profit for the year? Third, how can we increase the accuracy of investment management? In particular, we have discussed matters such as increasing accuracy up to the decision-making stage of investments, PMI\* after investments, and appropriate business management after that.

I support the direction that is guiding AGC's business portfolio

management, which the management team is implementing as a long-term management strategy. The management team has clearly expressed its intention to pursue higher added value that cannot be easily commoditized, and promote reforms to improve profitability in Core Businesses, while also prioritizing the allocation of management resources to Strategic Businesses. I think they should be highly commended in this regard. Certainly, however, the management team must tackle the issues I described in the three points for discussion. We aim to analyze and learn from past successes and failures, and translate these lessons into meaningful efforts to improve management. This is precisely what the executive team is actively working on right now.

In February 2025, the Company lowered its business performance targets. This decision was made based on various discussions of the factors mentioned above. AGC is targeting operating profit of 150 billion yen in FY2025, and 180 billion yen in FY2026. These figures are based on numerous discussions of results that the Company can expect to achieve under present circumstances, and a reliable pathway to achieving them.

\* Post-Merger Integration

### Challenges in Strategic Businesses Addressing the challenges faced by the Life Science Business

First, the Life Science Business is an issue for AGC's Strategic Businesses. Investors have provided harsh feedback about the status of this business. Certainly, there have been changes in the business environment since the time the Company made major investments in this business, including the falloff in extraordinary demand related to COVID-19, and the drying up of funding for small and mid-sized biotech companies as a result of global monetary tightening. Still, this is no excuse for the performance of this business. In our US biopharmaceuticals business, we faced issues such as delays to the launch of our new production line owing to insufficient product quality and insufficient sales activities to secure new orders. At meetings of the Board of Directors, we have considered whether AGC's approach to PMI\* was appropriate, and whether business management was based on a sufficient understanding of the situation on the frontlines. At the same time, we confirmed methods to quickly resolve the situation.

On the other hand, in the Electronics and Performance

# Messages from Independent Director

Chemicals Businesses, we have judged that a high ROCE has been achieved, while maintaining steady growth. Additionally, in the Mobility Business, it has taken some time, but the signs of growth are becoming visible. We will aim to achieve further growth in these businesses, where we will be prioritizing the allocation of management resources.

## Challenges in Core Businesses

### From volume to value; shifting to value-based Pricing policies

In Core Businesses, earnings have been improving in the Automotive and Display Businesses. This is the result of structural reforms in each business, namely the optimization of production capacity and value-based pricing policies. We confirmed that AGC will introduce products based on new technologies in the future. In this sense, the Company is really testing a shift toward an asset-light business structure, as much as possible, as it moves from volume to quality, and toward value-based Pricing policies.

On the other hand, in the Essential Chemicals Business, performance has been significantly impacted by declining market prices due to inflows of low-price products from China, despite our dominant leading market share in Southeast Asia. Is there any way AGC can increase its ability to lead market prices? Are there any supply chain measures that could be implemented for this purpose? At meetings of the Board of Directors, we have maintained an all-encompassing view of the market environment in each business as we have discussed solutions to issues to encourage and achieve the transformation to a high ROCE and resilient structure.

## Group-wide reforms

### Leave behind the assumptions and practices of the past

When the management environment changes, it is important to engage in management that leaves behind the assumptions and practices of the past.

AGC's relationship with customers is also changing, including shifting from the excessive pursuit of scale to the pursuit of added value, proposing value-based pricing policies, and proposing new supply chain policies. Employees on the frontlines of AGC's businesses may be taking on new challenges they once thought impossible. I have learned about management through my varied

experiences, and I intend to provide as much support as I can to contribute to management change.

I also think that cooperation between vertical in-house companies and horizontal Group corporate functions is important. To date, in the AGC Group, I think there has been a culture of respecting the intentions of in-house companies. This approach has many merits, including facilitating speedy business development, but the Company must also utilize knowledge from across AGC and use its total capabilities as a group in areas where its experience or track record is lacking, such as the Life Science Business. I am encouraging a style of organizational management that facilitates the full utilization of AGC's capabilities, through flexible coordination both vertically and horizontally. I also intend to encourage horizontal collaboration as a competitive strength.

## Foundations to support the growth of the AGC Group AGC's strengths: top-class technical capabilities and commitment to those technologies

The Board of Directors plays an important role in verifying and making judgments on business continuity. Among the various grounds for such judgments, the following factors are important: is AGC competitive in terms of technologies? Is AGC able to provide top-class quality? Is AGC trusted by customers based on its technologies, quality, and service capabilities? Will AGC's successes in this regard lead to the acquisition of market share? Will AGC be able to make use of its unique characteristics in growing markets in the future? I will assess whether AGC has the strength to do as a manufacturer with a high level of accuracy, including the development, production, quality assurance, service, marketing, and other factors required to satisfy the questions above.

I feel that two of AGC's strengths are its commitment to technology and its ability to focus on solving problems. AGC's outstanding technical capabilities and superior quality have contributed to its high level of trust among industry leaders and acquisition of market share. From R&D to the frontlines of production, another characteristic of the AGC Group is the diversity of its human resources. Based on my experience, AGC employees are highly engaged. They possess a passion for taking on the challenge of outstanding technologies, achieving superior

quality, and contributing to corporate growth through those qualities. These are AGC's strengths.

## Strengthening the corporate governance system

### Creating a system befitting a global company

Strengthening governance is an important theme at meetings of the Board of Directors. We are focusing on enhancing the effectiveness of the Board of Directors and augmenting global Group management control. The AGC Group maintains a detailed understanding of circumstances related to misconduct at subsidiaries and associates around the world, compliance problems, internal reports, and other factors, and regularly reports them at meetings of the Board of Directors. In FY2024, AGC launched a special project to strengthen internal controls, in order to further strengthen control while also making Group management more efficient. The aims of this project include optimizing the number of Group companies around the world and optimizing the control structure.

## Restoring business performance and trust

### All Group employees working together to create the future

As a director, I feel substantial responsibility for business performance in FY2024. As part of efforts to restore business performance, the Board of Directors must implement reforms with unprecedented speed. In its portfolio management, AGC is improving its earning structure in Core Businesses, while prioritizing the allocation of management resources to Strategic Businesses. I believe the AGC Group's target direction in this regard is not mistaken. I would like the senior management team to share their vision for the future and aspirations, while strengthening the sense of unity between management and frontline workers, as they continue to refine AGC's technical, sales, and frontline capabilities. Beyond that, I will support their endeavors to make their vision for the future of AGC a reality.

## Profile

Served as President and Representative Director, and Chairperson and Director of Yamaha Motor Co., Ltd. He has abundant experience of corporate management from his time at this company, which is actively expanding in the global mobility market. He utilizes this experience to provide advice on all aspects of management, including strengthening the global development of AGC's businesses. Years of service as a director: Six (as of March 31, 2025)



## Messages from Independent Director



Chairperson of the Nominating Committee,  
Independent Director

**Keiko Honda**

### Message from the Chairperson of the Nominating Committee

### Deeper discussions that prioritize capital efficiency

#### Medium- to long-term corporate value creation

#### Striving to implement AGC's ambidextrous strategy

The AGC Group's aspiration to implement an ambidextrous strategy is extremely ambitious. Indeed, the company is facing numerous challenges that other companies do not have to deal with as a result of implementing this strategy. I intend to work with the other members of the Board of Directors to engage in discussion, and thus support the challenge of business portfolio reform that the AGC Group is taking on.

#### Discussions at meetings of the Board of Directors

#### Management that is more aware of capital efficiency

Five years have passed since I was invited to serve as independent director in the AGC Group. During this period, I have stressed the importance of capital efficiency at every opportunity at meetings of the Board of Directors. However, despite my efforts, in FY2024 ROE fell significantly below the target, and the PBR was also far below 1x. I consider this situation to be extremely concerning. The AGC Group has declared its intention to implement an ambidextrous strategy, for which business portfolio reform will be essential. Accordingly, it will be very important that management identifies the cost of capital and returns on capital in each business. In FY2024, the Board of Directors held many discussions based on monitoring past investments and analysis of asset efficiency in each business. I think we should hold deeper discussions on these matters in FY2025, while also making strict decisions concerning investments in businesses with uncertain returns, from the perspective of capital efficiency, and holding thorough discussions on matters including business continuity.

#### Assessment of the corporate governance system

#### Appointment of Independent Directors as the Chairpersons of committees and diversity of directors

One notable characteristic of the Board of Directors of the AGC Group is the fact that independent directors serve as the Chairperson of the Board of Directors, the Chairperson of the Nominating Committee, and the Chairperson of the Compensation Committee. This has resulted in an environment where independent directors can speak candidly, and there is lively discussion at meetings of the Board of Directors. In terms of issues, however, there is room for improvement in terms of the diversity of directors. Employees of Group companies overseas make up around 70% of the total number of employees of the AGC Group, and female employees also play an active role, but there are no non-Japanese directors, and I am the only female director. I intend to continue actively making suggestions aimed at enhancing diversity.

#### As the Chairperson of the Nominating Committee Examining the abilities required of the next generation of leaders

In the Nominating Committee in FY2024, we mainly discussed the development of next-generation leaders. In these discussions, we focused on succession plans for the CEO. We created a list of candidates for the next CEO, had external parties conduct interviews of candidates, and shared the results of those interviews with the Nominating Committee. The first quality we are looking for in the next CEO will be the leadership to drive reform of the business portfolio. Additionally, I am also focusing on the "management of diversity," as I have phrased it. The AGC Group operates a diverse range of businesses across various fields. It operates in Japan and Asia, as well as Europe and the Americas, with the culture and working conditions differing in each of these regions. Accordingly, in order for the next CEO to lead the AGC Group, they must have qualities that unite employees, beyond the scope of their various differences. As AGC becomes more multinational and diverse, the CEO must be able to enhance the motivation of a diverse workforce. We have already created a process for the succession of the CEO. Going forward, we will hold timely discussions in line with this process. Furthermore, although I feel the skill matrix of the AGC Group's directors and Audit & Supervisory Board members is very strong, I would like it to be further enhanced by reflecting social trends.

#### Profile

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. She then worked as an adjunct professor specializing in environmental, social, and governance (ESG)-related investment at Columbia University in the United States. 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: Five (as of March 31, 2025)

## Messages from Independent Director



Chairperson of the Compensation Committee,  
Independent Director

**Isao Teshirogi**

### Message from the Chairperson of the Compensation Committee

## Quickly moving to improve earnings, based on a group- wide shared sense of crisis

#### Assessment of the corporate governance system

#### Contributing to business performance with an excellent corporate governance system

Looking at recent global trends, I feel it is very difficult to foresee future developments for materials companies like the AGC Group. Under these circumstances, the AGC Group is promoting its ambidextrous strategy. Looking back on business performance in FY2024, however, it's difficult to say that previous management measures have been successful.

I think AGC has a fairly complete corporate governance system. There are very lively discussions at meetings of the Board of Directors. Independent Directors also speak in depth, utilizing their respective expertise. The executive team listen to the advice of independent directors, resulting in open discussions. I serve as a director at multiple companies, and I feel that the level of discussions at meetings of the Board of Directors of AGC is high.

The Secretariat provides in-depth support to independent directors, as a mechanism for supporting lively discussions at meetings of the Board of Directors. Their support is very detailed and efficient, with video-based explanations of materials provided in advance. I feel this results in shorter time spent on explanatory materials at Board meetings, and a focus on substantive discussions. Along with the senior management team, however, I feel that as directors, we must recognize that although the operation of the Board of Directors is very good, this has not contributed to business performance in recent years.

#### Discussions at meetings of the Board of Directors

#### Sharing a sense of crisis across business divisions

At meetings of the Board of Directors in FY2024, I focused on how to increase performance across the Group as a whole when I spoke. Perhaps this is a shortcoming of an ambidextrous strategy that involves operating various businesses, but on the executive side, the managers of in-house companies tend to overly focus on their own businesses. With the Group as a whole in the situation that it is currently, however, the executive side must not only focus on their own businesses. Instead, business divisions that are performing well must be prepared to support other businesses with weak performance and underpin their business performance. The same applies to back-office divisions, and expenses must be thoroughly managed to increase profits as much as possible. All employees, in addition to us as directors, of course, must share a sense of crisis that this is the kind of circumstances AGC is facing.

#### As the Chairperson of the Compensation Committee

#### Creating a more open compensation structure through structural reforms

In 2024, AGC revised its officer compensation system. In

addition to ROE and EBITDA, we have introduced new share-related indicators as performance indicators for stock-based compensation, and we have also added sustainability-related indicators as non-financial indicators. This was designed with the objective of committing all officers to the enhancement of corporate value over the medium and long term. As a result, I think AGC is a pioneer among Japanese companies in terms of its advanced and open compensation system. Based on this compensation system, which dynamically reflects business performance, compensation in 2025 for directors serving concurrently as executive officers was reduced substantially, in consideration of business performance in 2024. Going forward, I intend to continue gradually increasing the proportion of variable compensation in officer compensation, and bring AGC closer to a global standard.

#### Toward medium- to long-term growth

#### Striving to increase the accuracy of investments

All directors deeply regret the business performance in FY2024 and share a strong sense of urgency. The reasons for this performance are varied, but there has been a significant impact from past business investments where we have been unable to deliver results due to changes in the business environment. The Life Science Business is an area where I can exercise my expertise, and I will endeavor to be particularly active in making suggestions to lower volatility. As independent directors, we will utilize our respective expertise and repeatedly engage in more active discussion aimed at improving earnings.

### Profile

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 AGC from an independent standpoint and submits proposals on its overall management, including the development of its Strategic Businesses.  
Years of service as a director: Three (as of March 31, 2025)

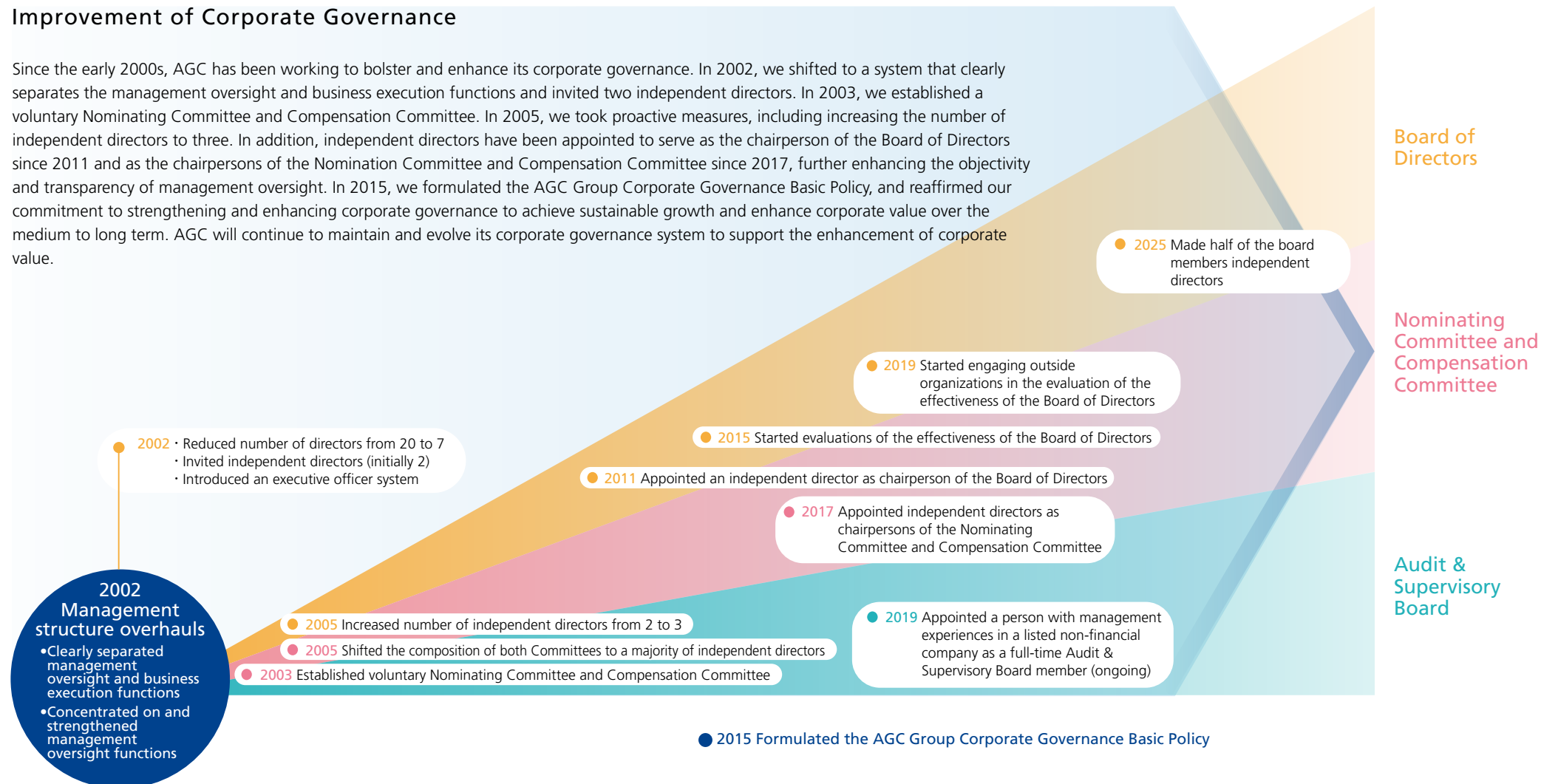
# AGC's Basic Approach to and System of Corporate Governance

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 Purpose, Our Shared Values, and Our Spirit as articulated in our Group Philosophy **“Look Beyond”** in order to achieve sustainable growth and enhance corporate value over the medium to long term.

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

## 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 independent directors. In 2003, we established a voluntary Nominating Committee and Compensation Committee. In 2005, we took proactive measures, including increasing the number of independent directors to three. In addition, independent directors have been appointed to serve as the chairperson of the Board of Directors since 2011 and as the chairpersons 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.





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

## Basic Policy

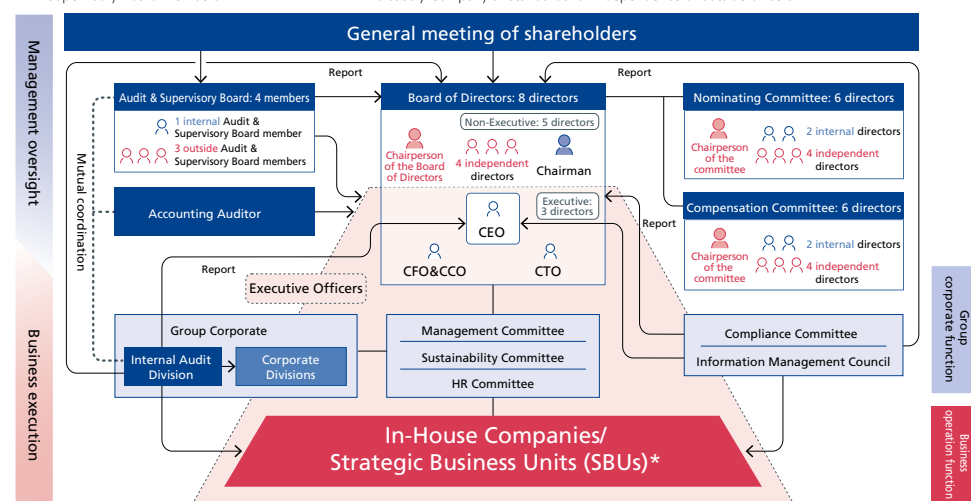
As AGC Group's basic policy on corporate governance structure, AGC clearly separates the functions of "management oversight" and "business execution", aiming to reinforce the management oversight function while ensuring prompt decision-making in management execution.

### Management oversight functions in the corporate governance system

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 management oversight functions. In addition, the Company has adopted an Audit & Supervisory Board system to audit the execution of duties by directors.

## Corporate Governance System

👤 : Internal directors or internal Audit & Supervisory Board members  
 👤 : Independent directors or outside Audit & Supervisory Board members who satisfy Company's "Standards for Independence of outside officers"

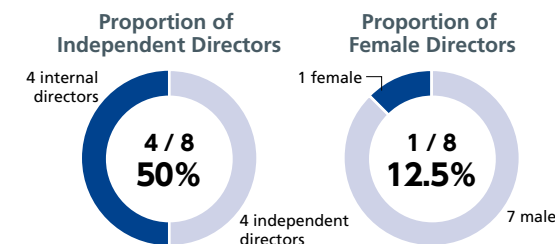


\*An in-house company is defined as a business unit that has net sales exceeding ¥200.0 billion and which conducts its business globally. There are six In-House Companies: the Architectural Glass Europe & Americas Company, the Architectural Glass Asia Pacific Company, the Automotive Company, the Electronics 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.

## Board of Directors

### ● Composition

AGC's Board of Directors consists of eight directors, including four independent directors. The chairperson of the Board of Directors is an independent director, which contributes to enhancing objectivity and transparency in management oversight.



### ● Roles and operation status

The Board of Directors decides important management matters from the viewpoint of sustainable growth and medium- to long-term enhancement of the corporate value of the AGC Group, and oversee business execution, as "the body which approves the basic policies of the AGC Group and oversees business execution". The basic management policies of the AGC Group include the Group Philosophy, medium-term management plans, and business portfolio strategies. The Board of Directors is focused on enhancing strategic discussions related to these policies. The Board of Directors holds regular meetings once a month, in principle, with extraordinary meetings as necessary.

As strategic discussion in FY2024, it has resolved to revise the Group Vision **"Look Beyond"** formulated in 2002, and deeply discussed business portfolio policies, structural reforms, and cost of capital-conscious management at four off-site meetings.

## Main Themes and Agenda at Board of Directors Meetings and Off-Site Meetings in FY2024

Theme	Agenda
Basic management policies	Revisions to the Group Vision <b>"Look Beyond"</b> , business portfolio policies, structural reforms, cost of capital-conscious management, etc.
Oversight	Report on the special project to strengthen internal control, Group enterprise risk management report, Group compliance report, corporate policy over internal control, country risk report, digital transformation (DX) and information security initiatives, report on legal cases and disputes, evaluations of the President & CEO's performance and reappointment decision, etc.

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

## Nominating Committee: 10 meetings in FY2024

### ● Composition

This committee consists of six directors, a majority of whom are independent directors. The chairperson is an independent director, contributing to more objectivity concerning the appointment and dismissal of directors, Audit & Supervisory Board members, and executive officers.

### ● Roles and operation status

As an advisory body for the Board of directors, the Nominating Committee deliberates the requirements of directors, as well as the President & CEO and other executive officers. It assumes the roles of formulating succession plans for the President & CEO, etc. and conducting a review to ensure that candidates are developed systematically in accordance with such plans, and selecting candidates for directors, Audit & Supervisory Board members, and the President & CEO, and recommending them to the Board of Directors. Every year, it evaluates the achievements and the status of the performance of the President & CEO and propose to the Board of Directors, and the Board of Directors decides the reappointment.

## Compensation Committee: 6 meetings in FY2024

### ● Composition

This committee consists of six directors, a majority of whom are independent directors. The chairperson is an independent director, which enhances objectivity concerning compensation for directors and executive officers.

### ● Roles and operation status

As an advisory body to the Board of Directors, the Compensation Committee assumes the roles of deliberating the principles, strategies, and systems of compensation for directors and executive officers, making proposals to the Board of Directors, and examining the evaluations of performance and results of payment of compensation for each executive officer.

## Audit & Supervisory Board: 14 meetings in FY2024

### ● Composition

The Audit & Supervisory Board consists of four Audit & Supervisory Board members, of whom three are outside Audit & Supervisory Board members. There are two full-time Audit & Supervisory Board members, of whom one is an outside Audit & Supervisory Board member, thereby enhancing the objectivity of the audit functions. The internal full-time Audit & Supervisory Board member has many years of experience in the Legal and General Affairs departments of the Company and has considerable knowledge of legal & compliance, corporate governance, internal control and internal audit, and the external full-time Audit & Supervisory Board Member has considerable expertise in finance and accounting.

### ● Roles and operation status

Audit & Supervisory Board members audit the execution of duties by directors in accordance with the Code of Audit and Supervisory Board Member Auditing Standards set forth by the Audit & Supervisory Board. Regular meetings of the Audit & Supervisory Board are held once a month, in principle, to make resolutions on matters set forth in laws and regulations, etc. Audit & Supervisory Board members also attend meetings of the Board of Directors and meet regularly with internal and independent directors. They also interview divisions at the headquarter office, have meetings with internal audit division and internal control divisions, audit the Group companies in Japan and

overseas, exchange information with the Audit & Supervisory Board members of the Group companies, and attend important internal meetings, including the Management Committee, in accordance with the responsibilities of each Audit & Supervisory Board member. In such ways, they monitor and verify whether or not executive directors are executing business soundly, fairly, appropriately, and efficiently in accordance with basic management policies.

### Administrative features

◆ **Improvement of Board meetings with more focus on discussion by significantly reducing time for explanations**  
Since 2022, explanatory videos with narration 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 & Supervisory Board members are better able to conduct in-depth discussions and supervision utilizing their experience and expertise in their respective roles.

◆ **Improvement of the quality of discussion by continuously innovating agenda-setting for Board meetings and off-site meetings**

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.

◆ **Enhancement of the support system for independent directors and outside Audit & Supervisory Board members to enhance the quality of the Board's discussions and supervision even further**  
The Corporate Planning General Division, which is the secretariat of the Board, provides notifications of Board of Directors' meetings to independent 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 & Supervisory Board members on administration. The Secretariat of the Audit & Supervisory Board is tasked with assisting the duties of the outside Audit & Supervisory Board members, including the convening of the Audit & Supervisory Board; participation in important meetings; and coordinating meetings with the representative directors, independent directors, the Internal Audit Division, and the accounting auditor. Regular meetings for exchange of opinion between independent directors and Audit & Supervisory Board members are held to activate communication and enhance quality of discussions among independent directors and outside Audit & Supervisory Board members.

◆ **Establishment of an effective audit system through reinforced coordination**  
Audit & 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.

### ■ Topic Plant tour for outside officers

Every year, one Board of Directors meeting is held at a manufacturing site in Japan, and we also provide opportunities for a plant tour, to deepen outside officers' understanding of AGC's businesses. In FY2024, the officers visited the Kashima Plant, where we manufacture architectural glass and chemicals.

# 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 evaluated the effectiveness of the Board of Directors every year since 2016. Moreover, approximately every three years the Company enlists the help of an external organization, thereby enhancing the objectivity of the evaluation. In 2024, this took the form of a self-evaluation.

### Evaluation Process in 2024

#### 1 Self-evaluation based on questionnaires answered by directors and Audit & Supervisory Board members (September 2024)

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 independent directors, etc.
- Composition of the Audit & Supervisory Board: the number of members, diversity, etc.
- Operation of advisory committees (Nominating Committee, Compensation Committee): deliberation time, selection of agenda items, provision of information, etc.
- Demonstration of the roles played by the chairperson of the Board of Directors and independent directors

#### 2 Interviews with directors and Audit & Supervisory Board members (October and November, 2024)

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 2025)

The Board of Directors assessed the overall effectiveness and deliberated policies and measures 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 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.

- (1) Further utilization of the insights of independent directors on important themes in the long-term management strategy and the new medium-term management plan**
  - Active discussions on important themes such as the business portfolio, sustainability, and DX promotion were conducted at Board of Directors meetings and off-site meetings utilizing the insights of independent directors. In particular, compared with the previous year, the Board of Directors had in-depth discussions on the business portfolio more frequently.
- (2) Continuous strengthening of the oversight functions of the Board of Directors**
  - The monitoring of Group governance was further strengthened through regular reports on enterprise risk management and the governance of subsidiaries.
- (3) Ongoing discussions on ensuring diversity on the Board of Directors and other bodies as well as on the selection of governance style**
  - Selection of governance style was discussed at off-site meetings, with the aim of further strengthening the corporate governance system.
- (4) Continuous improvement of the operations of the Board of Directors and Committees**
  - The Company ensured sufficient time for discussions at meetings of the Board by continuing to make improvements to the composition and content of explanatory materials, and continuing to provide explanatory videos with narration in advance.
  - Starting in FY2024, the key points of discussions in the Management Committee have been shared at the beginning of deliberations by the Board, resulting in more in-depth discussions at meetings of the Board of Directors.
  - The Committees continued to maintain close communication between the chairpersons of Committees and the Secretariats of Committees, and set appropriate agenda in an effort to make the meeting frequency more efficient.
  - The Board of Directors meeting was held at the Kashima Plant in September 2024, along with plant tour for outside officers to promote their understanding of our businesses.
- (5) Consideration of conducting evaluations of the chairperson of the Board of Directors and independent directors**
  - In FY2024, the methodology for evaluating the effectiveness of the Board of Directors was enhanced, by assessing the roles played by the chairperson of the Board of Directors and independent directors.

It is confirmed that AGC's Board of Directors engages in open and lively discussions, and have no problems in terms of governance, and that high effectiveness is ensured in general. On the other hand, the issue of not meeting expectations of capital markets was shared among the Board.

### Summary of 2024 Evaluation Results

### Future Improvement Measures

- (1) Continuing and deepening appropriate discussions for enhancing corporate value**
  - The Board of directors will further deepen discussions to meet the expectations of capital markets at Board meetings and off-site meetings, including corporate value creation scenarios, the business portfolio, and capital policy and capital allocation etc.
- (2) Enhancing and deepening management oversight functions**
  - The systems for timely follow-up on investments resolved upon by the Board and for enabling the Board to check their progress as needed will be established.
- (3) Enhancing oversight and discussion of succession plans for the CEO, etc., by the Board**
  - Oversight of the progress of succession plans for the CEO, etc., by the Board will be enhanced. And, the items consulted by the Board to the Nominating Committee will be more sufficiently discussed at the Board.



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

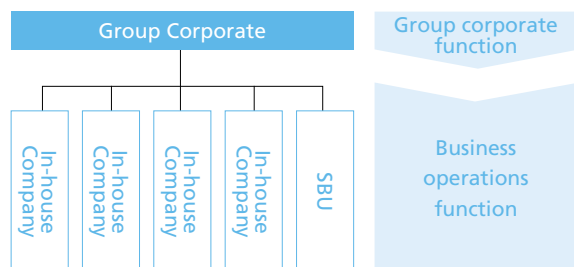
## Business execution functions in the corporate governance system

The business execution functions are assured by the 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 Company has adopted an in-house company system (quasi-subidiaries within the Group) and global consolidated management system for business execution. Responsibilities and authorities related to business execution are substantially delegated to in-house companies and strategic business units (SBUs).

### ● Management control system under the in-house company system

AGC's in-house company system separates the roles and functions of the Group Corporate and in-house companies / SBUs, and the scopes of responsibility and authority are clearly defined. The Group Corporate aim to maximize the corporate value of the entire Group by formulating the Group philosophy and management strategies, formulating Group business portfolio policies, establishing the Group's policies on the fundamental elements of business management, and providing common management platforms. 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, with the aim of maximizing their own business value.

This separation of the roles and functions of the Group Corporate and in-house companies / SBUs clarifies the scopes of responsibility and authority, thereby accelerating management decision-making and increasing its efficiency.



## Major organizations in business execution functions

### ● Management Committee

The Management Committee has been established as an advisory body to the President & CEO to deliberate on decision making for the Group's management and oversee the business management in the AGC Group. The President & CEO, CFO, and CTO attend this Committee's meetings, nominating other participants in accordance with the matters being discussed, ensuring

more in-depth deliberations from a range of perspectives on matters such as basic management policies for the AGC Group and important investments for in-house companies and SBUs.

### ● Sustainability Committee

The Sustainability Committee has been established as a body to deliberate and make decisions on basic policies and measures for AGC Group's sustainability management initiatives that create the three types of social value based on long-term social issue. It has an organizational rank equivalent to that of the Management Committee, is chaired by the President and CEO, held four times a year, are attended by the CFO, CTO, Audit & Supervisory Board members, and all heads of In-house company / SBU and corporate division. The details of the meetings are reported to the Board of Directors twice a year.

### ● HR Committee

In February 2025, the HR Committee has been established as an advisory body to the President & CEO, to deliberate important matters related to human capital in the AGC Group. It has an organizational rank equivalent to that of the Management Committee, and is held seven times a year, in principle with the President & CEO, CFO, CTO, and General Manager of the Human Resources Division, and Presidents of in-house companies attending its meetings. The details of those meetings are reported to the Board of Directors every year. This Committee deliberates themes such as the selection and development of management personnel for the Group and the promotion of diversity, thus promoting human capital management in the AGC Group.

### ● Compliance Committee

The AGC Group has appointed a Chief Compliance Officer (CCO) responsible for the development for the compliance framework and promotion of compliance in the AGC Group and established the Compliance Committee. As an advisory body led by the CCO, the Compliance Committee plans, implements and monitors compliance programs, and regularly reports to the Board of Directors regarding Groupwide policies and the current status of the compliance system.

### ● Information Management Council

The AGC Group has established the Information Management Council, chaired by the CFO to provide guidance and supervision, etc. on compliance with laws and internal regulations relating to the prevention of insider trading and information disclosure.

# Compensation System

## Basic Policy

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 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 (2024)

	Number of recipients	Total payment (millions of yen)		Number of recipients	Total payment (millions of yen)
Directors	7	628	Audit & Supervisory Board members	4	100
Independent directors only	3	57	Outside Audit & Supervisory Board members only	3	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 must retain the granted shares 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.

We use the following performance indicators for stock-based compensation for a given period of medium-term management plan, with the aim of enhancing medium- to long-term corporate value, raising awareness of company-wide 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)* <sup>1</sup>	Further sharing gains with shareholders	20%
Non-Financial Indicators	Greenhouse gas emissions intensity per unit of net sales* <sup>2</sup>	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%

\*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 emissions intensity per unit of net sales: 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\*<sup>1</sup>

	Fixed Compensation	Variable Compensation	
	Monthly Compensation	Bonus	Stock Compensation
Directors 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* <sup>2</sup> (Director & Chairman)	60%		40%
Independent directors* <sup>2</sup>		90%	10%

\*1 If none of the above applies, it shall be deliberated by the Compensation Committee and resolved by the Board of Directors.

\*2 Stock compensation for directors who do not concurrently serve as executive officers (including Independent directors) consists only of the fixed portion. The fixed portion of stock compensation is not linked to the business performance of the Company, and is only linked to the share price of the Company.

# Compensation System

## Variable Compensation

	Bonus	Stock Compensation
Composition	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.	In addition to the financial indicators ROE (weighted at 30%) and EBITDA (also 30%), the Company uses a stock price indicator, TSR relative to TOPIX (20%), and non-financial indicators, GHG emissions 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 based on the degree of achievement of the targets at the end of the medium-term management plan. 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 2024 Performance Indicators	<b>2024 Results</b> <ul style="list-style-type: none"> <li>Return (operating profit) on capital employed was 5.3% (adjusted amount), compared with a target of 6.9%.</li> <li>Cash flow indicator increased compared with the previous year.</li> <li>In light of the two indicators above and a special evaluation, bonuses to be paid to directors serving concurrently as executive officers were set at 90% of the standard payment amount.</li> </ul>	<b>2024 Results</b> <ul style="list-style-type: none"> <li>ROE was -6.5%, compared to the target of 8.4% set during the initial formulation of the medium-term management plan for the fiscal year ending December 31, 2026, the final year of the medium-term management plan.</li> <li>EBITDA was ¥307.1 billion (calculated simply by adding operating profit and depreciation and amortization), compared to a target of ¥441.0 billion set during the initial formulation of the medium-term management plan.</li> </ul>
Targets	<b>2025 Targets</b> <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>	<b>Medium-Term Management Plan (2026) Targets</b> <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>



# Directors and Audit & Supervisory Board Members

## (As of March 31, 2025)

➤ Please see here for the career summaries of directors and Audit & Supervisory Board members and other details.

➤ For information about executive officers, please see here.

Director & Chairman  
**Takuya Shimamura**



Years of service: 10  
Number of the Company's shares held: 54,200  
Important concurrent positions:  
Outside Director, EBARA CORPORATION  
Outside Audit & Supervisory Board Member, JFE Holdings, Inc.

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



Years of service: 11  
Number of the Company's shares held: 46,900  
Important concurrent positions: None

Representative Director &  
Senior Executive Vice President  
CFO, CCO  
**Shinji Miyaji**



Years of service: 10  
Number of the Company's shares held: 23,500  
Important concurrent positions: None

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



Years of service: 4  
Number of the Company's shares held: 15,000  
Important concurrent positions: None

Director  
Chairperson of the Board of Directors  
Member of Nominating/  
Compensation Committee  
**Hiroyuki Yanagi**



Outside/Independent

Years of service: 6  
Number of the Company's shares held: 5,400  
Important concurrent positions:  
Adviser, Yamaha Motor Co., Ltd.  
Outside Director, Kirin Holdings Co., Ltd.  
Outside Director, Japan Airlines Co., Ltd.  
Outside Director, Mitsubishi Electric Corporation

Director  
Chairperson of Nominating Committee  
Member of Compensation Committee  
**Keiko Honda**



Outside/Independent

Years of service: 5  
Number of the Company's shares held: 0  
Important concurrent positions:  
Outside Director, Mitsubishi UFJ Financial Group, Inc.  
Outside Director, Recruit Holdings Co., Ltd.

Director  
Chairperson of Compensation  
Committee  
Member of Nominating Committee  
**Isao Teshirogi**



Outside/Independent

Years of service: 3  
Number of the Company's shares held: 400  
Important concurrent positions:  
Chairman of the Board, Representative Director,  
President and CEO, Shionogi & Co., Ltd.  
Outside Director, Sumitomo Mitsui Banking Corporation  
Outside Director, Japan Exchange Group, Inc.

Director  
Member of Nominating /  
Compensation Committee  
**Koji Arima**



Outside/Independent

Years of service: 0  
Number of the Company's shares held: 0  
Important concurrent positions:  
Representative Member of the Board, Chairman,  
DENSO CORPORATION  
Outside Audit & Supervisory Board Member, KDDI CORPORATION

Full-time Audit & Supervisory  
Board member  
**Isamu Kawashima**



Outside/Independent

Years of service: 2  
Important concurrent positions:  
Outside Director, JAPAN PURE CHEMICAL CO., LTD.  
Outside Director, Sansei Technologies, Inc.

Full-time Audit & Supervisory  
Board member  
**Naoko Araki**



Years of service: 0  
Important concurrent positions: None

Audit & Supervisory Board  
member  
**Tatsuro Ishizuka**



Outside/Independent

Years of service: 3  
Important concurrent positions:  
Outside Director, K&O Energy Group Inc.  
Outside Director, Tadano Ltd.

Audit & Supervisory Board  
member  
**Haruka Matsuyama**



Outside/Independent

Years of service: 2  
Important concurrent positions:  
Partner, Hibiya Park Law Offices  
Outside Director, Tokio Marine Holdings, Inc.  
Outside Director, Mitsubishi Electric Corporation

# Directors and Audit & Supervisory Board Members

## Skills of Directors and Audit & Supervisory Board Members

© Indicates chairperson

Name	Posts	Board of Directors	Nominating Committee	Compensation Committee	Audit & Supervisory Board	Global Business Management	Legal & Compliance	Finance & Accounting	Sales & Marketing	Manufacturing & R&D	Business Development	IT, DX	Sustainability
Takuya Shimamura	Director & Chairman	○ (Non-executive)	○	○		●			●				●
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	○	○	◎		●			●	●	●		●
Koji Arima	Outside Director	○	○	○		●			●	●		●	●
Isamu Kawashima	Full-time Audit & Supervisory Board member				◎	●	●	●					●
Naoko Araki	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
- Deepening of sustainability management
- Promoting of value creation DX
- Strengthening of the management foundation

### 3 Business Characteristics

Includes diverse specialized skills

	Skills	Definitions of skills
Basic specialized skills	<b>Global Business Management</b>	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
	<b>Legal &amp; Compliance</b>	The ability to properly understand and manage risks with knowledge of legal and compliance matters
Diverse specialized skills	<b>Finance &amp; Accounting</b>	The ability to propose financial strategies linked to management strategies with knowledge of financial and accounting matters
	<b>Sales &amp; Marketing</b>	The ability to propose sales and marketing strategies while understanding the needs of customers
	<b>Manufacturing &amp; R&amp;D</b>	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
	<b>Business Development</b>	The ability to grasp the needs of society and customers, and to promote the creation, building, and expansion of businesses
	<b>IT, DX</b>	The ability to transform business models, business processes, etc. through the use of data and digital technologies
	<b>Sustainability</b>	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
	Corporate 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

(Millions of yen)

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Net sales	1,282,570	1,463,532	1,522,904	1,518,039	1,412,306	1,697,383	2,035,874	2,019,254	<b>2,067,603</b>
Operating profit	96,292	119,646	120,555	101,624	75,780	206,168	183,942	128,779	<b>125,835</b>
Profit before tax	67,563	114,424	128,404	76,213	57,121	210,045	58,512	122,775	<b>(50,050)</b>
Profit (loss) for the year	53,362	79,297	101,991	55,515	41,164	159,062	22,505	82,484	<b>(77,924)</b>
Profit (loss) for the year attributable to owners of the parent	47,438	69,225	89,593	44,434	32,715	123,840	(3,152)	65,798	<b>(94,042)</b>
Depreciation	121,803	128,226	121,668	143,361	143,716	166,756	185,656	175,346	<b>181,273</b>
Capital expenditure	126,025	165,095	230,598	207,661	241,348	216,503	236,553	231,715	<b>257,458</b>
R&D expenses	39,212	43,912	45,755	47,450	46,444	49,444	52,252	57,342	<b>61,823</b>
Cash flows from operating activities	203,637	203,504	189,287	191,906	225,392	326,713	217,146	212,546	<b>284,815</b>
Cash flows from investing activities	(113,596)	(209,560)	(194,450)	(182,636)	(230,248)	(123,787)	(145,312)	(179,790)	<b>(195,583)</b>
Free cash flow	90,041	(6,055)	(5,162)	9,269	(4,855)	202,926	71,834	32,755	<b>89,232</b>

## Major Investment Indices

(Millions of yen)

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Market value	920,461	1,102,751	758,662	869,552	796,764	1,216,595	974,298	1,109,050	<b>980,315</b>
Return on equity attributable to owners of the parent (ROE)* <sup>1</sup>	4.3%	6.1%	7.7%	3.9%	2.9%	10.2%	—	4.6%	—
Return on assets (ROA)* <sup>2</sup>	4.8%	5.7%	5.4%	4.4%	3.1%	7.9%	6.7%	4.5%	<b>4.3%</b>
Price / earnings ratio (PER) (times)	19.40	16.15	8.59	19.57	24.35	9.82	(309.07)	17.18	<b>(10.42)</b>
Price / book value ratio (PBR) (times)	0.84	0.93	0.67	0.75	0.71	0.93	0.70	0.77	<b>0.68</b>
Return on invested capital (ROIC)* <sup>3</sup>	2.9%	4.1%	5.0%	2.4%	1.6%	5.9%	(0.1%)	2.9%	<b>(4.0%)</b>
EBITDA* <sup>4</sup>	195,767	249,879	259,424	231,856	208,458	383,226	253,209	315,965	<b>147,842</b>
Earnings (loss) per share (yen)* <sup>5</sup>	204.25	300.65	397.58	199.95	147.24	557.10	(14.22)	304.01	<b>(443.71)</b>
Cash dividends per share (yen)* <sup>5</sup>	90.00	105.00	115.00	120.00	120.00	210.00	210.00	210.00	<b>210.00</b>
Consolidated dividend payout ratio	43.9%	34.8%	28.8%	59.7%	81.2%	37.6%	—	68.9%	—

\*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 has been recalculated.



# Financial Data

## Asset and Efficiency Indicators

(Millions of yen)

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total assets	1,981,451	2,228,560	2,235,776	2,335,415	2,534,458	2,666,031	2,814,029	2,932,991	<b>2,889,665</b>
Property, plant and equipment	937,869	1,060,601	1,108,934	1,177,691	1,246,885	1,323,868	1,350,769	1,457,950	<b>1,550,862</b>
Inventories	227,284	261,708	277,014	291,224	274,835	330,101	436,516	454,056	<b>454,143</b>
Trade receivables	241,476	260,497	260,111	264,102	266,177	295,161	315,808	338,850	<b>332,442</b>
Total asset turnover (times)* <sup>6</sup>	0.65	0.70	0.68	0.66	0.58	0.65	0.74	0.70	<b>0.71</b>
Tangible fixed asset turnover (times)* <sup>7</sup>	1.34	1.46	1.40	1.33	1.16	1.32	1.52	1.44	<b>1.37</b>
Inventory turnover (months)* <sup>8</sup>	3.0	2.8	2.9	3.1	3.2	3.1	3.1	3.5	<b>3.5</b>
Receivables turnover (months)* <sup>9</sup>	2.3	2.1	2.1	2.1	2.3	2.0	1.8	1.9	<b>1.9</b>

## Indicators of Stability

(Millions of yen)

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Shareholders' equity* <sup>10</sup>	1,095,438	1,184,034	1,137,204	1,157,097	1,115,142	1,314,161	1,390,254	1,447,080	<b>1,435,787</b>
Shareholders' equity ratio	55.3%	53.1%	50.9%	49.5%	44.0%	49.3%	49.4%	49.3%	<b>49.7%</b>
Debt-to-equity ratio (times)* <sup>11</sup>	0.37	0.38	0.43	0.47	0.63	0.41	0.41	0.42	<b>0.39</b>

\*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 has been recalculated.

\*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

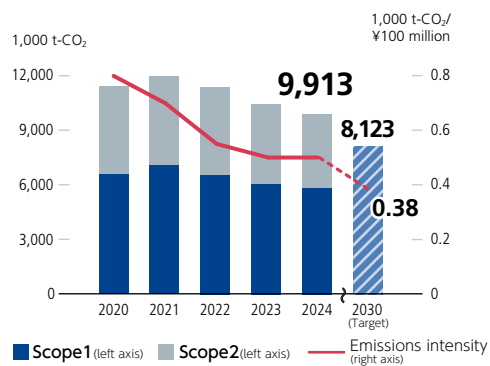
\*9 Receivables turnover = Trade notes and accounts receivable (Trade receivables) / (Net sales / 12)

\*10 Shareholders' equity = Net assets – Treasury shares – Minority interests

\*11 Debt-to-equity ratio = Interest-bearing debt / Net assets (equity)

# Non-Financial Highlights

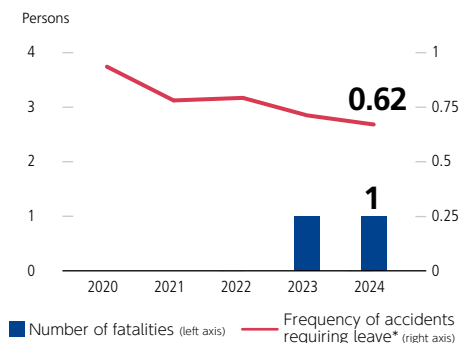
## GHG Emissions (Scope 1 and 2)



\*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

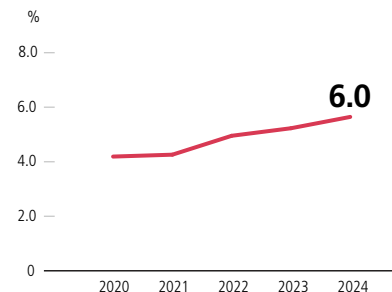


\*Frequency of accidents requiring leave = Fatalities and injuries due to work-related accidents (leave of one or more days) × 1,000,000 ÷ Total working hours

The AGC Group promotes health and safety activities based on its policy of "No Production without Safety."

## Percentage of Female Managers

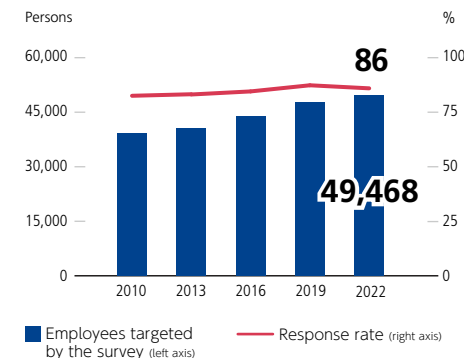
(Section Managers and Above)\*  
(AGC, Non-Consolidated Basis)



\*As of December 31 of each year (excluding employees aged 60 and above)

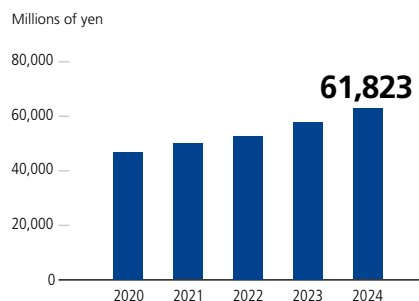
To provide society with value through the realization of diversity that empowers talented personnel regardless of gender, AGC aims for women to account for 30% of its directors and Audit & Supervisory Board members, 20% of its executive officers, and 8% of its managers by 2030 on a non-consolidated basis.

## Engagement Surveys



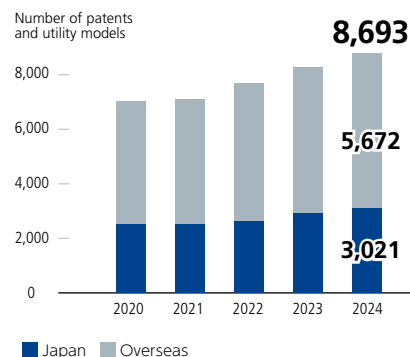
We conduct engagement surveys every three years targeting all AGC Group employees. Based on the survey results, we determine and implement necessary measures in each division and workplace. We continually strive to enhance engagement by verifying the effectiveness of these measures through annual simplified surveys.

## R&D expenses



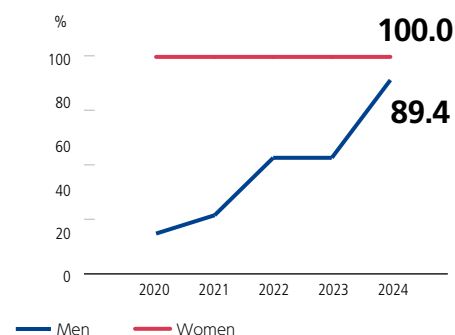
AGC will advance research and development to continuously create economic and social value based on the Company's core technologies, which span the glass, electronics, chemicals, and ceramics fields.

## Patents and Utility Models



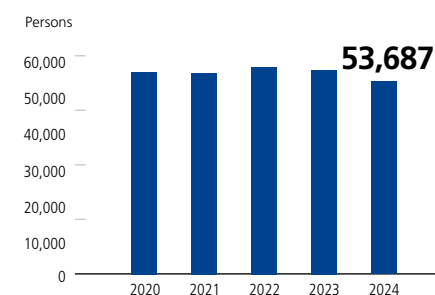
In alignment with our management strategy, we are enhancing our competitiveness in the global market through a strategic approach to intellectual property.

## Childcare leave take-up rate



To ensure employees can take time off work for childcare, we have created a workplace environment that enables them to balance work and home life, including the creation of the "Work and Childcare Balance Support Handbook." In this way, we provide an environment where employees can live rich and full lives, while balancing work and home life.

## Consolidated Group employees



AGC Group operates in more than 30 countries and regions, with over 50,000 employees working globally.

# 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>



FTSE4Good

FTSE Blossom  
JapanFTSE Blossom  
Japan Sector  
Relative Index

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.



DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

AGC was selected for inclusion in the MSCI Japan Equity ESG Select Leaders Index,<sup>\*</sup> 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).

Gold: AGC Si-Tech Co., Ltd., AGC Wakasa Chemicals Co., Ltd.  
Silver: Chiba Plant, Kashima Plant  
Bronze: PT. Asahimas Chemical



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 one of 25 companies selected by the Ministry of Economy, Trade and Industry (METI) and the Tokyo Stock Exchange as a Digital Transformation (DX) Stock 2024, which recognizes companies that demonstrate outstanding utilization of digital technologies and the establishment of internal systems for promoting DX, thereby enhancing corporate value.



The S&P/JPX Carbon Efficient Index uses TOPIX, a representative stock index that shows trends in the Japanese market, as its universe, and focuses on the disclosure status of environmental information and the level of carbon efficiency (carbon emissions per sales amount) to determine the weights of constituent stocks.

This index has been selected as an ESG index by the Government Pension Investment Fund (GPIF).

AGC received a four-star rating in the Nikkei Smart Work Management Survey, organized by Nikkei Inc. This survey recognizes advanced companies that are pioneering a productivity revolution through workstyle reforms.



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) for the composition of its Board of Directors,<sup>\*3</sup> (2) for shareholder rights, (1) for executive compensation, and (1) for auditing and risk management.

<sup>\*1</sup> 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.

<sup>\*2</sup> Well below 2°C

<sup>\*3</sup> 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 a widening range of activities, including providing grants for talent engaged in cutting-edge research, granting scholarships to future leaders, recognizing individuals and organizations that have made significant contributions toward solving global environmental problems, and supporting raising awareness among the younger generation.

## Main Programs of the Asahi Glass Foundation

The foundation is focused on four key activities: the Scholarship Program, the Research Grant Program, the Commendation Program, and the Awareness Support Program.

### Scholarship Program

- Fostering exceptional future leaders by providing scholarships to Japanese and international students enrolled in graduate schools in Japan.

**Provision of approx. ¥3.7 billion, covering 4,459 scholarships**

- Noto Peninsula Earthquake Disaster Scholarship launched  
Began providing funds to 30 high school students from 10 schools in the hardest-hit areas.  
Support is provided not only during high school enrollment but also through higher education

### Research Grant Program

- Supporting original research by giving grants to universities and technical colleges in Japan, Thailand, Indonesia, and Vietnam.

**Provision of approx. ¥13.0 billion, covering 6,020 grants**

- Research grants are offered across a wide range of fields, from natural sciences and architecture/urban studies to the humanities, social sciences, and environmental studies
- The Blue planet Special Grant for Global Environmental Research supports interdisciplinary studies aimed at addressing challenges related to the global environment



### Commendation Program

- Presenting the "Blue planet Prize," an international environmental award (see next page)
- 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.

### Awareness Support Program (Started in 2024)

- Helping the younger generation, the future leaders of our planet, gain a deeper understanding of global environmental issues and supporting initiatives to resolve these issues
- Called for proposals for "Global Environmental Issues Workshop for the Young Generation, etc."

Fostering future  
leaders throughout  
society

Seeking to build the foundations  
for a next-generation society

Contributions to  
environmental  
issues

Providing support for the  
younger generation as they  
take their first steps forward

# Blue planet Prize



## 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.

#### Learning about global environmental issues through workshops, etc.

As part of our Awareness Support Program, we launched a new initiative in 2024 to support workshops and exploratory learning activities themed around the achievements of the 2024 Blue planet Prize laureates, with the aim of encouraging younger generations to take action on global environmental issues.

### Former laureates (one of each year's two laureates)

1992 (1st)	2004 (13th)	2008 (17th)	2016 (25th)	2019 (28th)	2024 (33rd)
					
<b>Dr. Syukuro Manabe</b> (USA)	<b>Dr. Susan Solomon</b> (USA)	<b>Prof. José Goldemberg</b> (Brazil)	<b>Mr. Pavan Sukhdev</b> (India)	<b>Prof. Eric Lambin</b> (Belgium)	<b>Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)</b>
Dr. Manabe pioneered research for predicting climate change by using numerical models. He was awarded the Nobel Prize in Physics in 2021.	Dr. Solomon's pioneering work in identifying the mechanism that produces the Antarctic ozone hole made momentous contributions toward the protection of the ozone layer.	Prof. Goldemberg made major contributions in formulating and implementing many policies associated with improvements on energy use and conservation and in devising a pioneering concept for the developing countries for their sustainable development. He led preparations for the Rio Earth Summit.	Mr. Sukhdev has incorporated the values of ecosystem services into public policies and business practices. By developing sustainability metrics for the corporate, provincial, and national levels, he has hastened the evolution to a green economy.	Prof. Lambin has used satellite remote sensing technology and his original method of time-series analysis to point out that land use changes are causing adverse effects globally on natural systems.	IPBES is an international organization that provides knowledge and scientific assessments of biodiversity, ecosystem services, and nature's contribution to people. The organization's evaluation reports are used for policy making and other purposes around the world.

# Corporate and Stock Information

## Corporate Information

Head office	1-5-1, Marunouchi, Chiyoda-ku, Tokyo 100-8405, Japan
Trade name	AGC Inc.
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	186 (including 149 overseas)

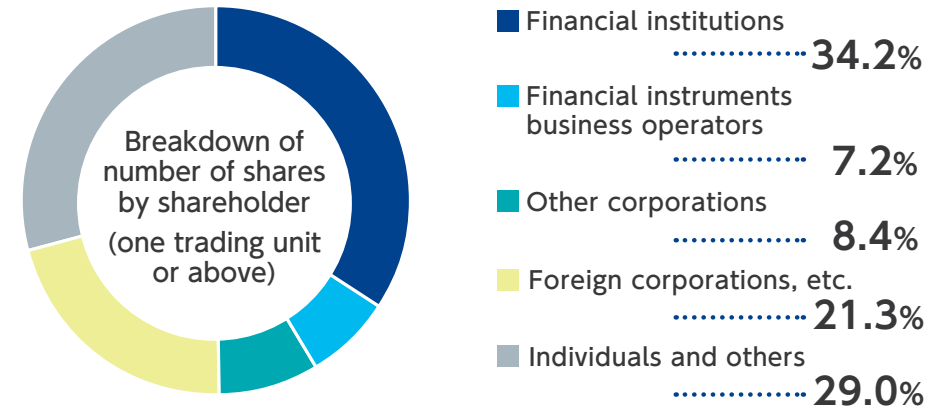
## Stock Information

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 Information

Stock authorized	400,000,000 shares
Stock issued	217,434,681 shares
Total number of shareholders	114,055

## Shareholder Information



## Major Shareholders

	Number of shares held (Thousand shares)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	33,953	15.99
Custody Bank of Japan, Ltd. (Trust Account)	17,320	8.16
Meiji Yasuda Life Insurance Company	7,692	3.62
The Asahi Glass Foundation	6,297	2.97
Asahi Glass Business Partner Shareholding Association	4,721	2.22
SMBC Nikko Securities, Inc.	4,011	1.89
STATE STREET BANK WEST CLIENT - TREATY 505234	3,813	1.80
Nippon Life Insurance Company	3,662	1.73
Barclays Securities Japan Limited BNYM	3,000	1.41
AGC Employee Shareholding Association	2,992	1.41

\*In addition to the above, AGC Inc. holds treasury stock of 5,156,771 shares.

\*The shareholding ratio is calculated excluding treasury stock.