

**ESG Briefing**

# **Value Creation Model and Management Capital**

The AGC logo is located in the top right corner of the slide. It consists of the letters "AGC" in a bold, dark blue sans-serif font. A small red square is positioned between the "A" and the "G". The logo is set against a white rectangular background.

**AGC Inc.**

September 26, 2025

Your Dreams, Our Challenge

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# 1 Corporate Overview

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## 2 Value Creation Model

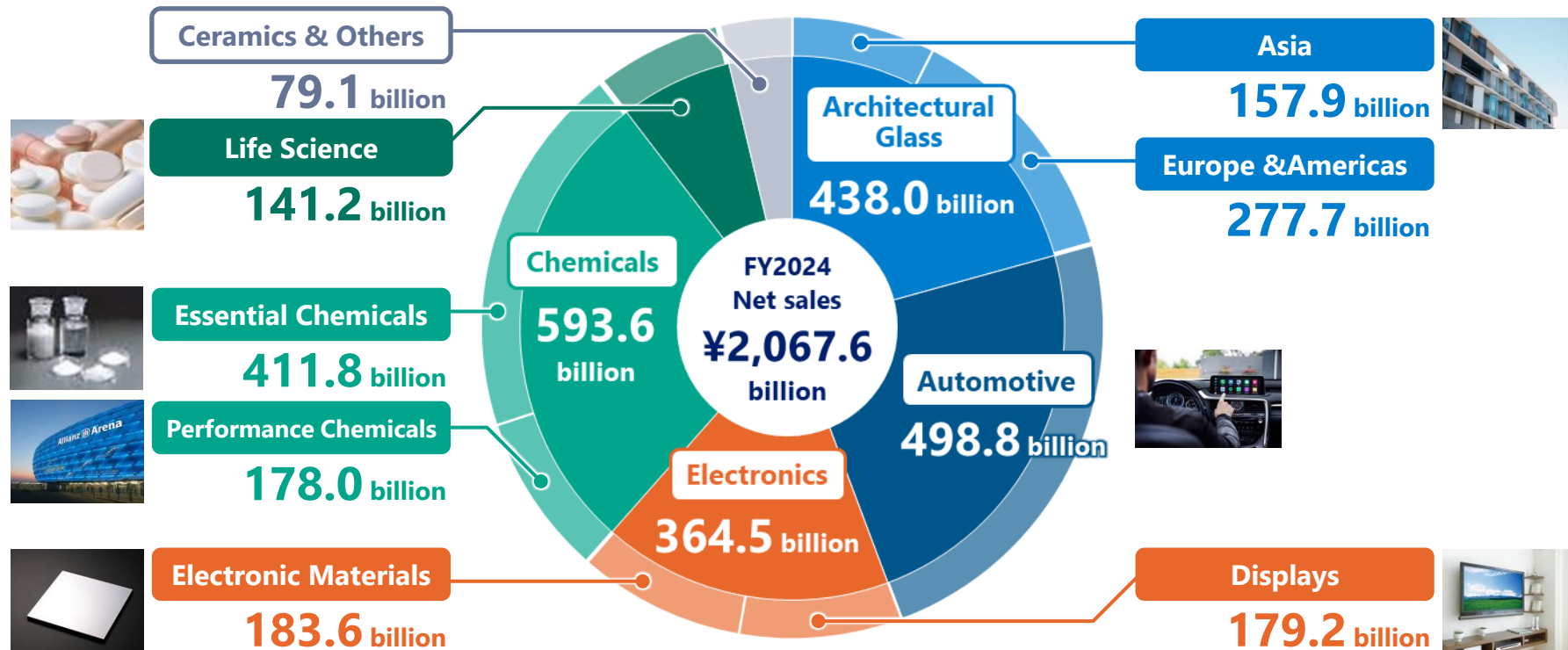
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## 3 Management Capital

- Intellectual Capital
  - Human Capital
- 

## 4 Appendix

# Business Segments

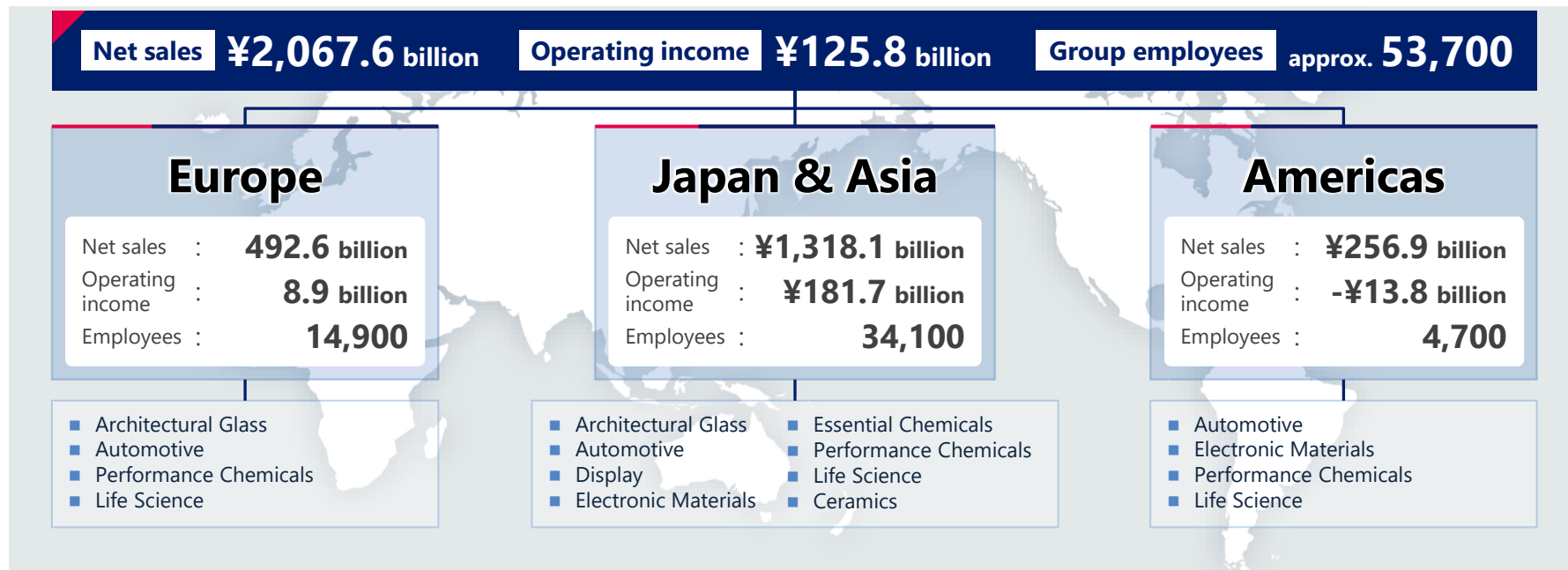


\* As net sales by business are before the deduction of eliminations, the sum of net sales by business does not equal Companywide net sales.  
Sales to external customers are used for subsegment sales

# Regional Segments

- Business spans over 30 countries and regions

(FY2024)



\* Americas includes North, Central and South America.

\* Because the figures for sales and profits by region are before eliminations and common regional expenses, the sum of sales and profits by region does not correspond to the total sales and profits of the Company.

# Evolution of Products and Services

- We have continued to provide materials and solutions that meet the needs of each era.



# Group Philosophy

The aspiration at the  
time of founding

Inherited thoughts



Now

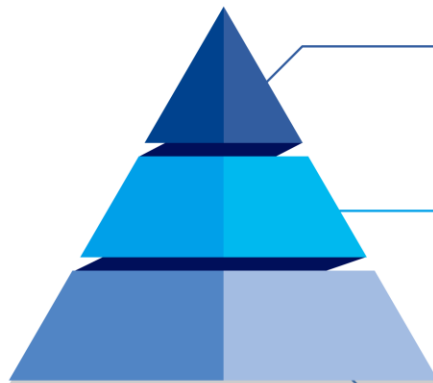
I want to contribute  
to the development  
of society through the  
domestic production  
of flat glass.



創業者 岩崎俊彌

Take on difficult  
challenges with  
determination

***“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.

Our  
Shared  
Values

- Innovation & Operational Excellence
- Sustainability for a Blue Planet
- One Team with Diversity
- Integrity & Trust

Our  
Spirit

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

1 Corporate Overview

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2 **Value Creation Model**

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3 Management Capital

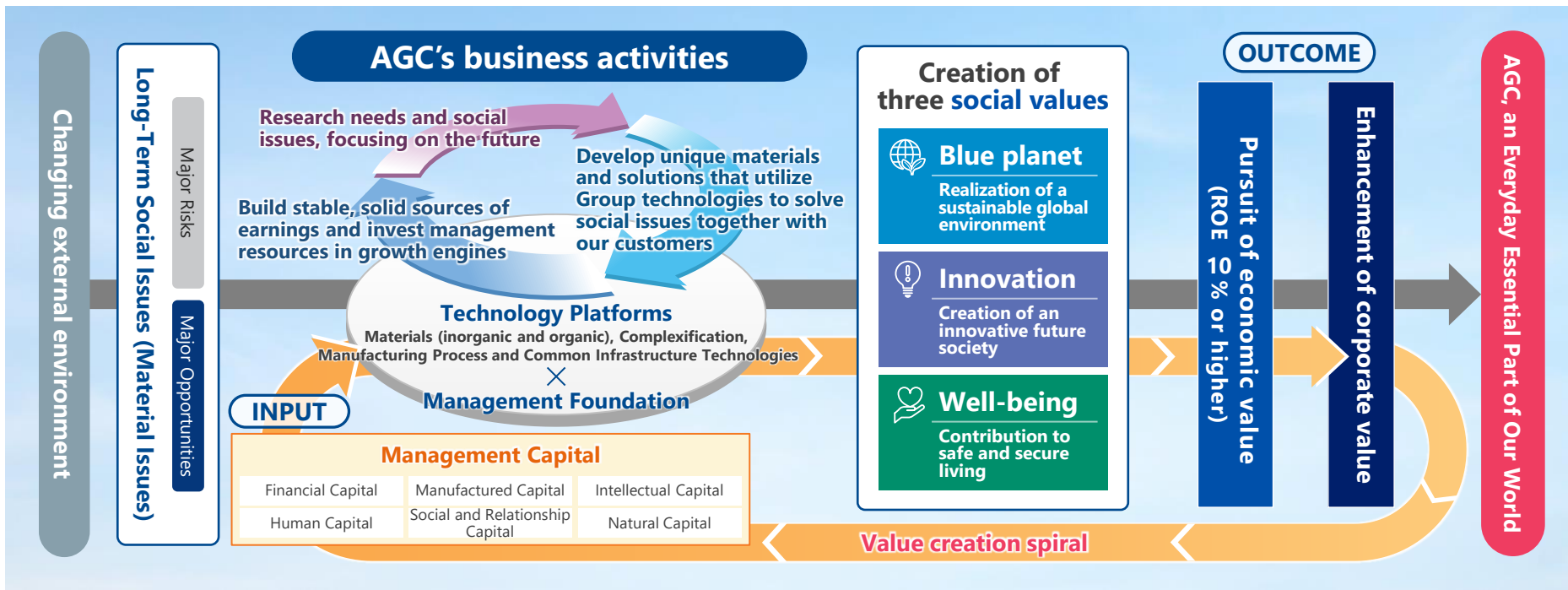
- Intellectual Capital
  - Human Capital
- 

4 Appendix

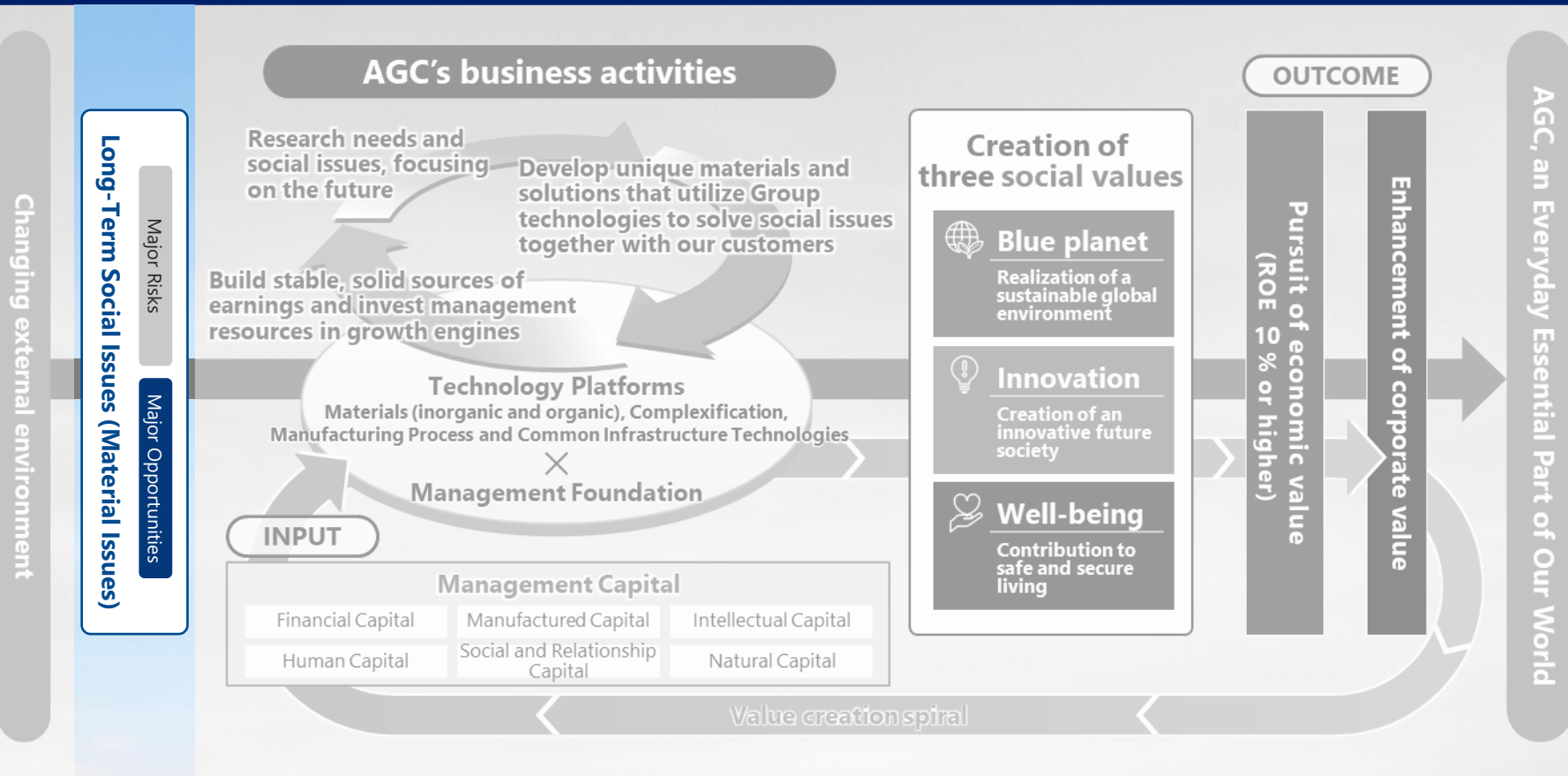


# AGC Group's Value Creation Model

- Practicing long-term management based on Group Philosophy **“Look Beyond”**
- Pursuing economic value through the creation of social value, aiming to enhance corporate value



# AGC Group's Value Creation Model



# AGC Group's Long-Term Social Issues (Materiality)

- Aiming to contribute to the realization of a sustainable society while achieving the AGC Group's sustainable growth, we have identified 10 key risks and opportunities as long-term social issues (materiality).
- They serve as the basis for setting sustainability goals and are reflected in our management strategy.

## Long-Term Social Issues (Materiality)

### 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

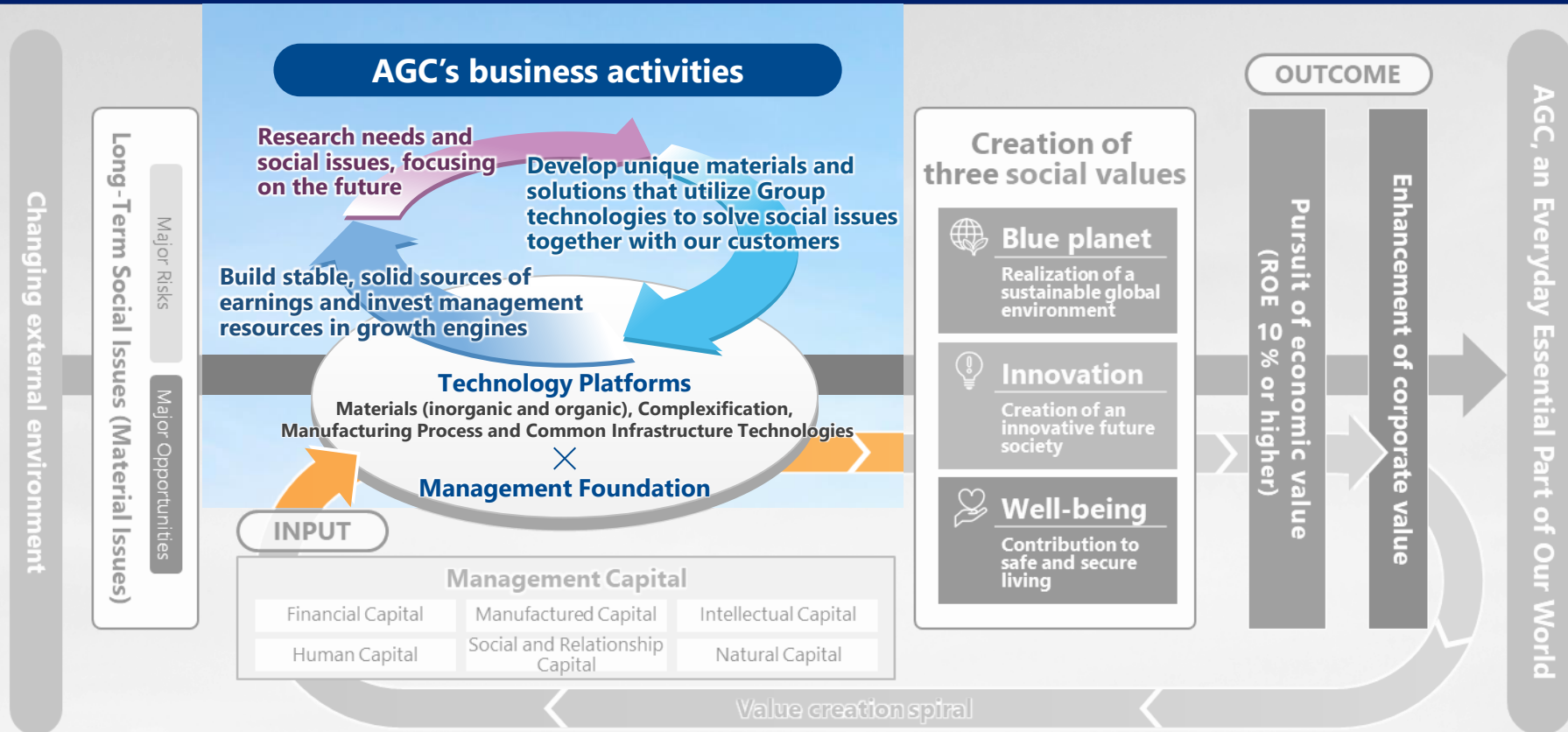
### Major Opportunities

Social issues to be solved through products and technologies

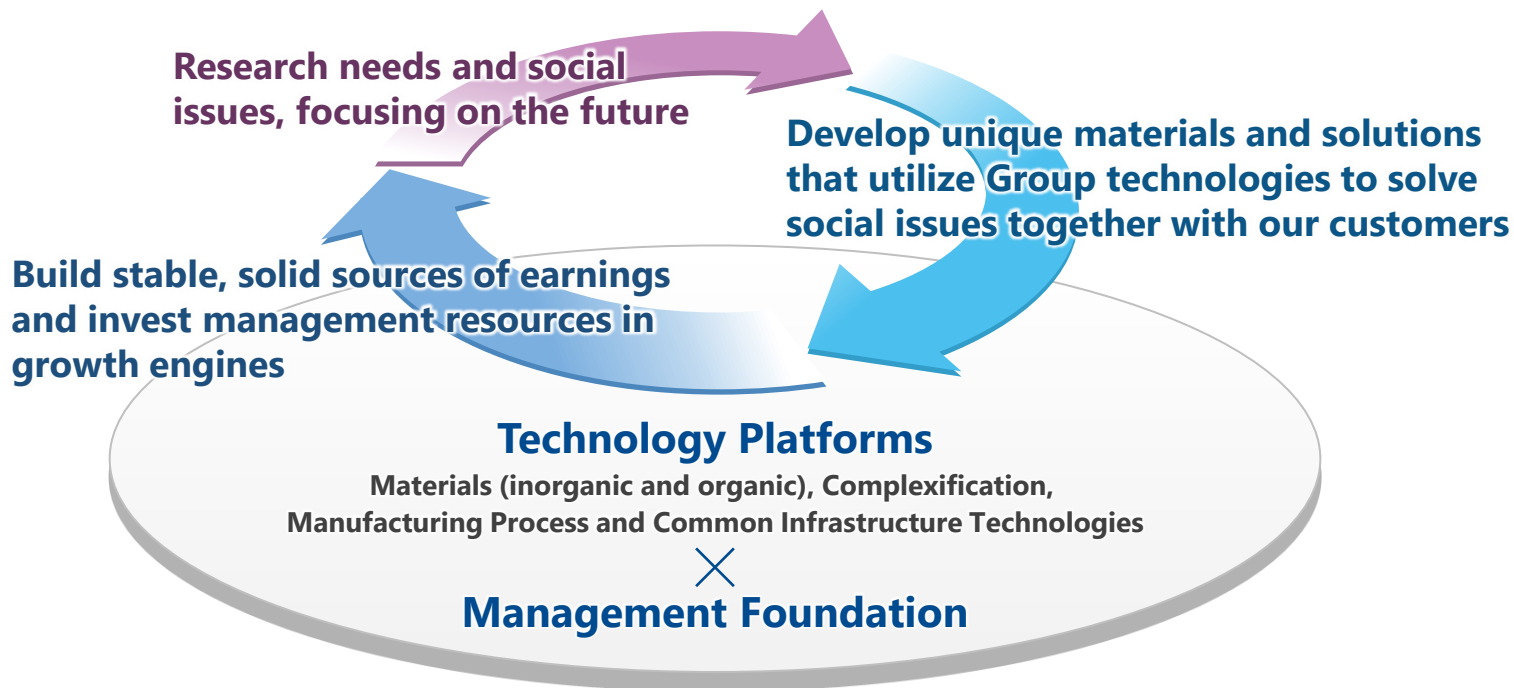
- Using resources effectively

- 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

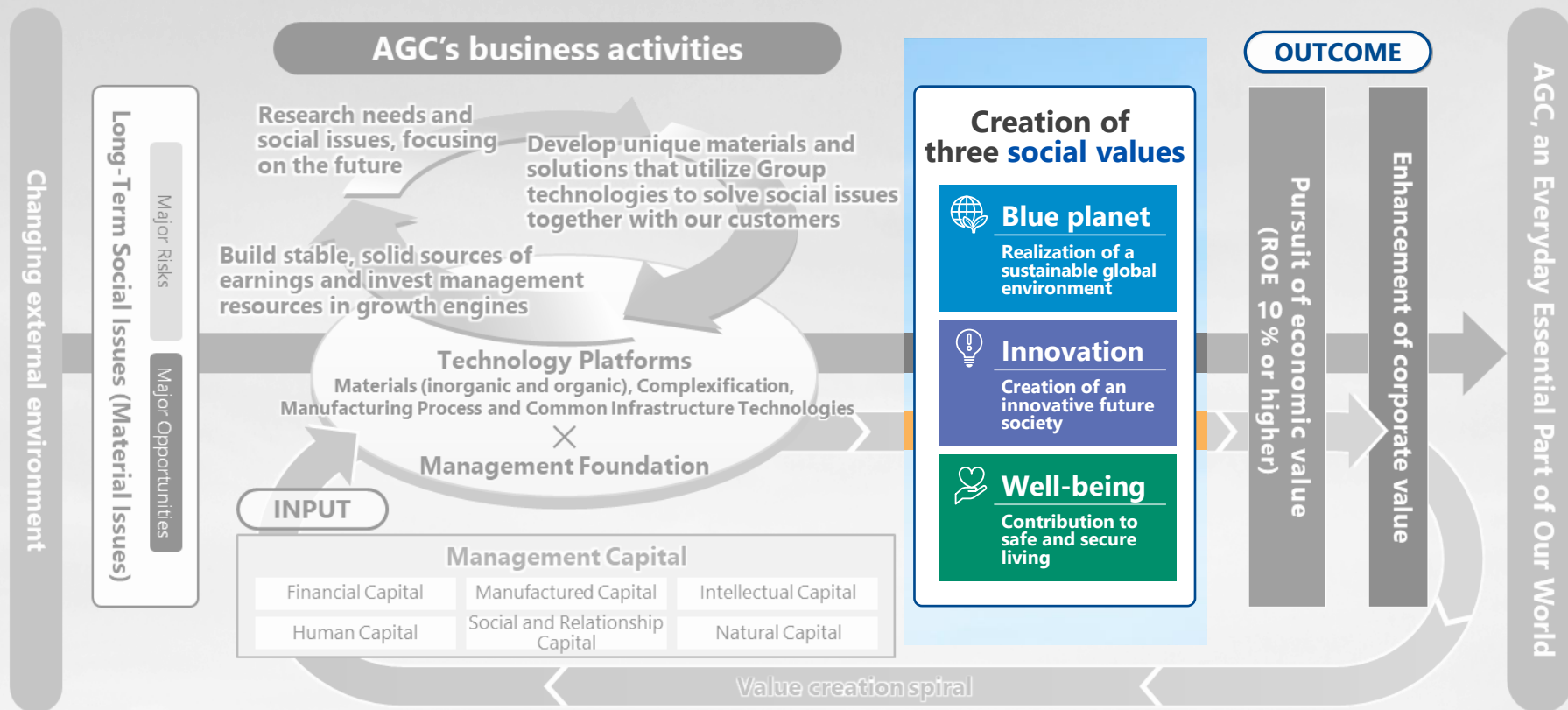
# AGC Group's Value Creation Model



- Based on our unique, robust technological platforms and management foundation, we cycle through exploration, development, and resource allocation.



# AGC Group's Value Creation Model



# Three Social Values the AGC Group Wishes to Create

- We aim to create three social values through our products and technologies with a focus on Major Opportunities.

## Creation of the three value



### Blue planet

Realization of a sustainable global environment

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



### Innovation

Creation of an innovative future society

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

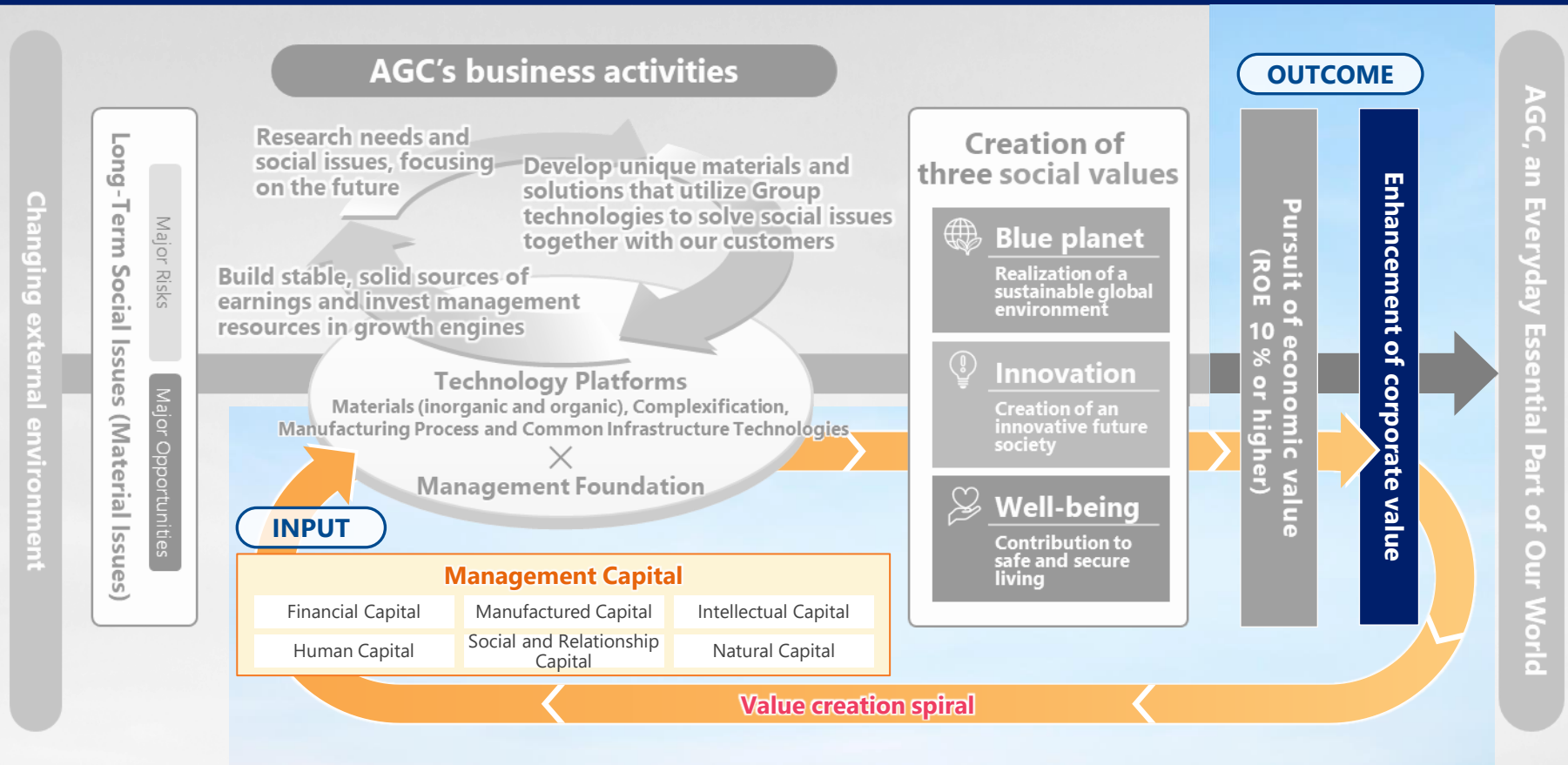


### Well-being

Contribution to safe and secure living

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

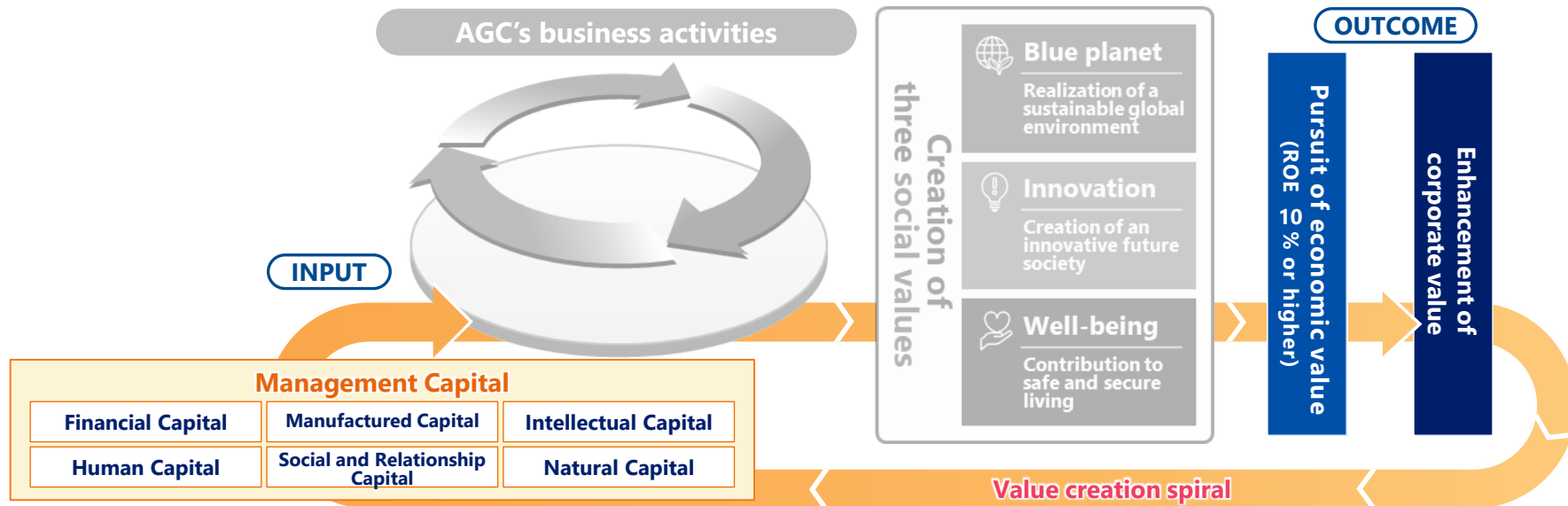
# AGC Group's Value Creation Model








# Value Creation Spiral and Management Capital

- By circulating Value Creation Spiral that enhances corporate value through business activities, we achieve continuous value creation.
- By investing the management capital cultivated through this process into business activities, we further strengthen and accelerate the spiral cycle.



# AGC Group's Management Capital

- Strengthen the six management capitals that are the source of value creation and maximize value creation through business activities.
- Details for Intellectual Capital and Human Capital in the next section.

AGC Group's Philosophy and Goals	
 <b>Financial Capital</b>	<ul style="list-style-type: none"><li>■ Quickly achieve ROE of at least 8% from 2027 onward</li><li>■ In 2030, 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</li></ul>
 <b>Manufactured Capital</b>	<ul style="list-style-type: none"><li>■ Emphasizing production technology and equipment development in collaboration with product development</li></ul>
 <b>Intellectual Capital</b>	<ul style="list-style-type: none"><li>■ Technology development that anticipates customer needs</li><li>■ Build a strategic intellectual property portfolio and appropriately protect and utilize technological development outcomes as intellectual property</li><li>■ Accelerating value creation through DX</li></ul>

AGC Group's Philosophy and Goals	
 <b>Human Capital</b>	<ul style="list-style-type: none"><li>■ Execute initiatives aligned with management strategy</li><li>■ Planning and executing initiatives based on "AGC People: Driving our Growth!"</li><li>■ Monitoring numerical targets</li></ul>
 <b>Social and Relationship Capital</b>	<ul style="list-style-type: none"><li>■ Delivering new value through collaborative innovation</li></ul>
 <b>Natural Capital</b>	<ul style="list-style-type: none"><li>■ Reduce environmental impacts throughout the entire life cycle of products, technologies, and services</li><li>■ Achieving both a sustainable society and our company's growth</li></ul>

1 Corporate Overview

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2 Value Creation Model

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**3 Management Capital**

- Intellectual Capital
  - Human Capital
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4 Appendix

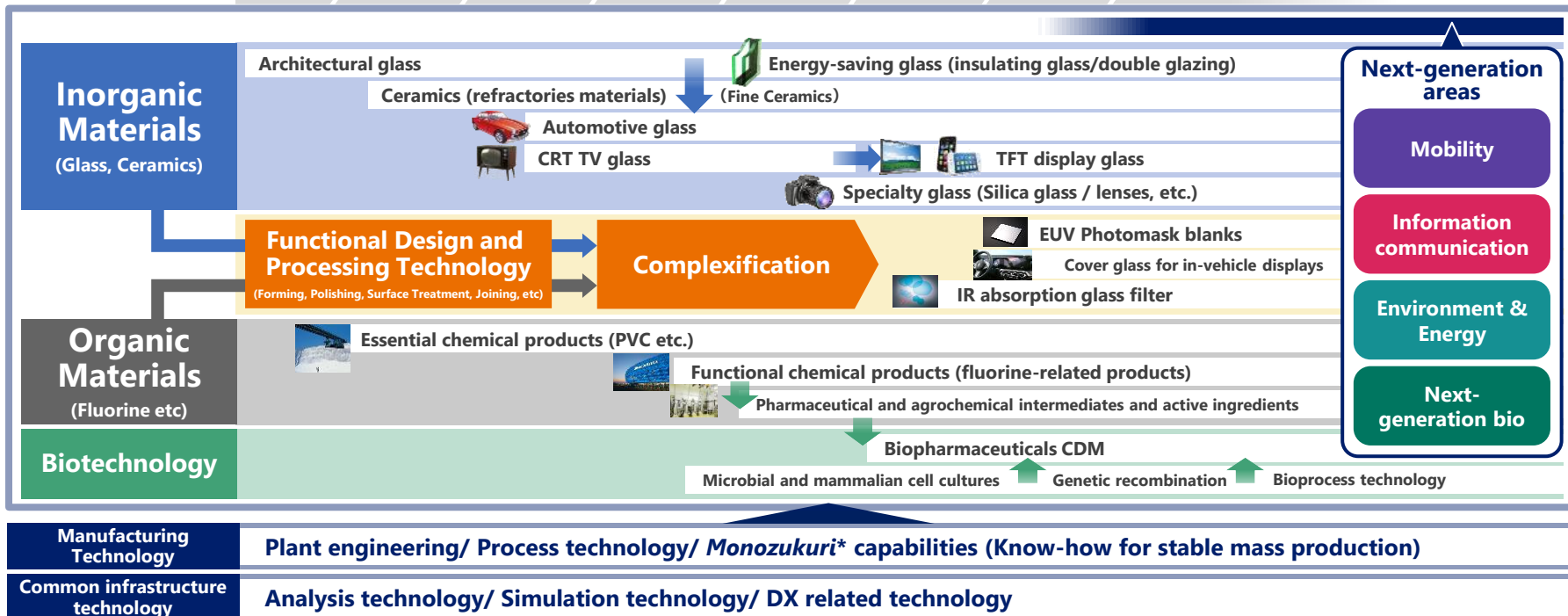
# Unique Materials and Solutions

## AGC's technological strengths

Material technologies with unique advantages (inorganic/organic), design and processing technologies enabling high functionality, black-boxed manufacturing technologies (glass processes, chemical processes, bioprocesses), and common infrastructure technologies.



1907 > 1910s > 1950s > 1970s > 1990s > 2000s > 2010s > 2020s-

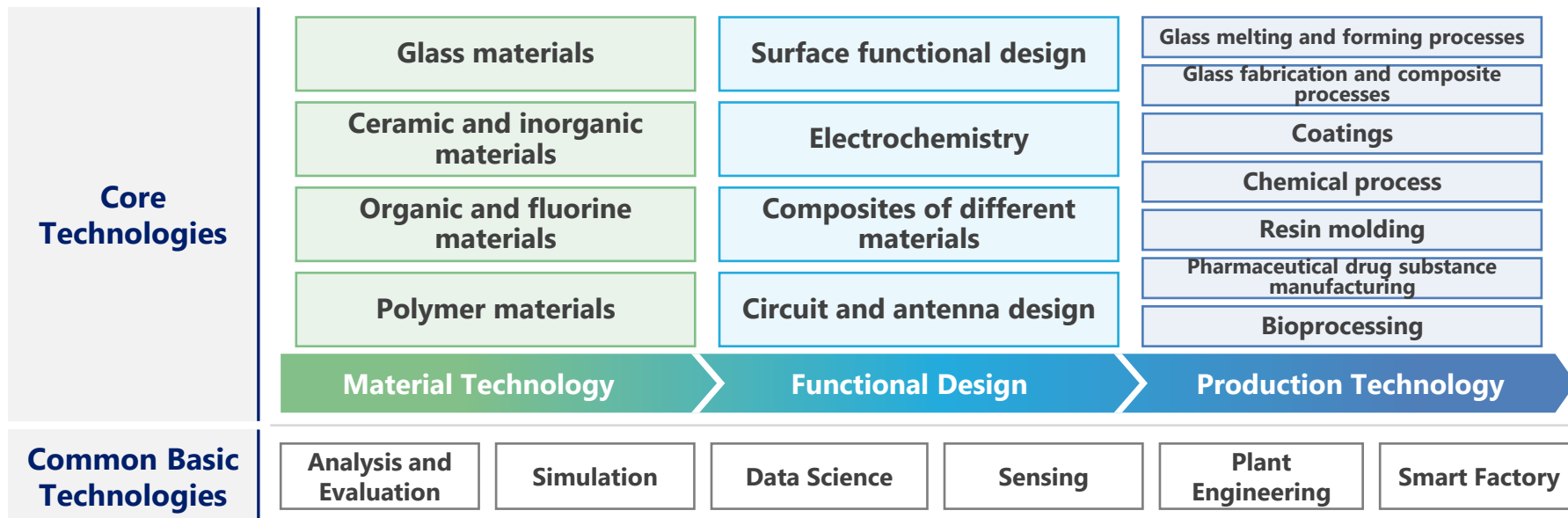


# Intellectual Capital of AGC Group (Technology Platforms)

- Core technology cultivated over more than 115 years form the core of AGC Group's intellectual capital.

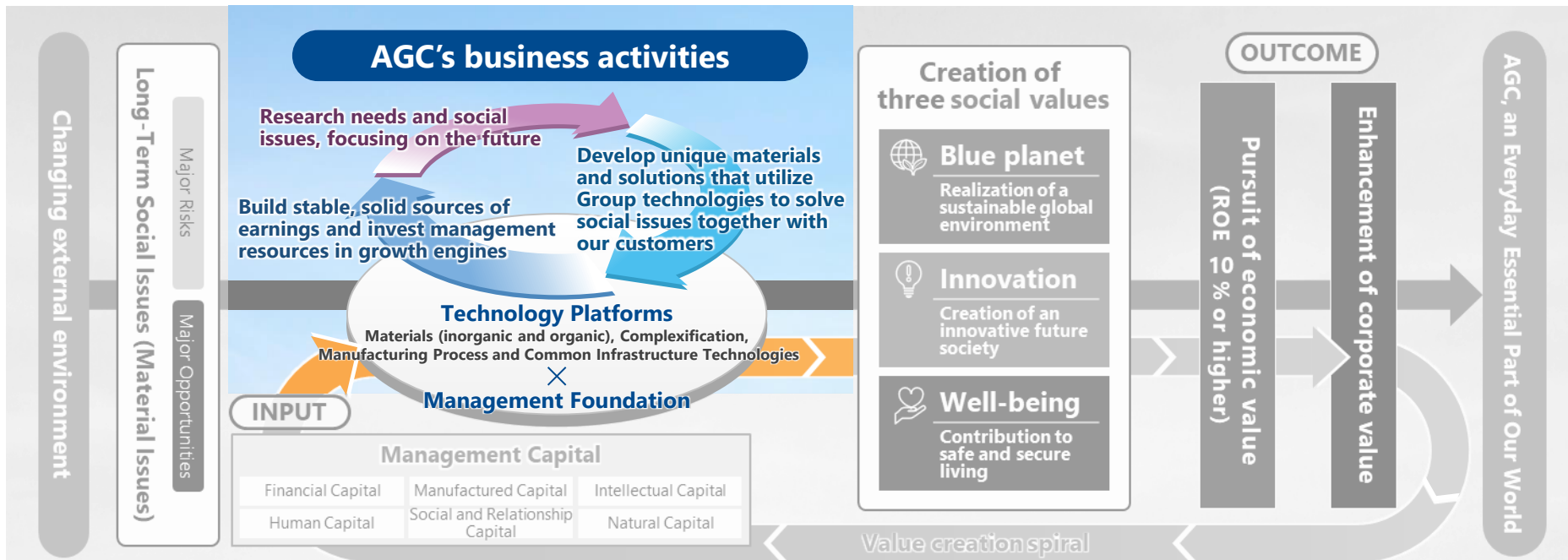


## Core Technology



# Research and Development that Forms the Core of Intellectual Capital

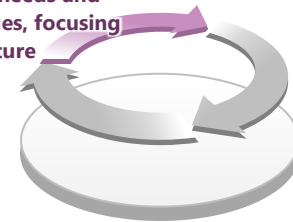
- Among various business activities, R&D forms the core of intellectual capital utilization and enhancement.



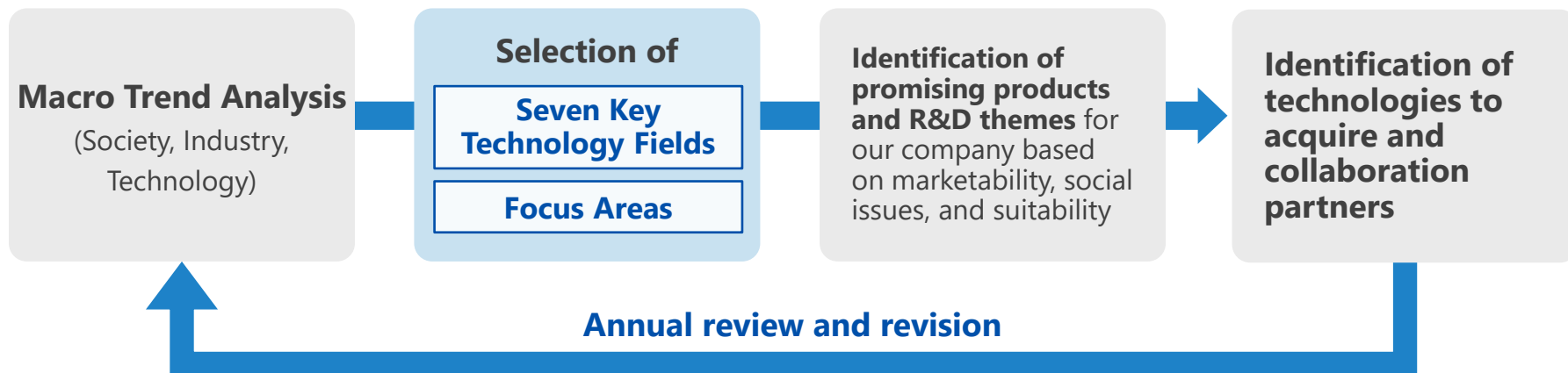
# Business and Technology Outlook (BTOL)

- Explore both market and technology with future growth potential through the “Business and Technology Outlook (BTOL)” initiative
- We selected “Seven Key Technology Fields” and their corresponding “Focus Areas.”

Research needs and social issues, focusing on the future

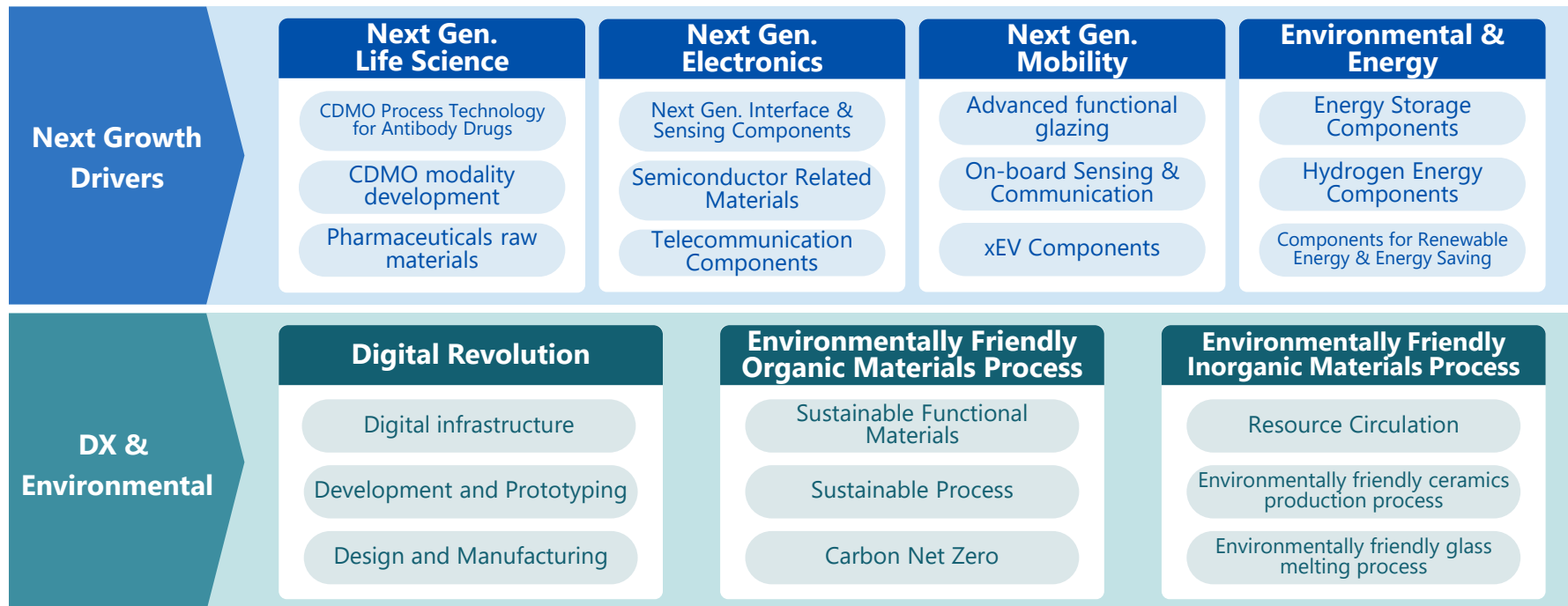
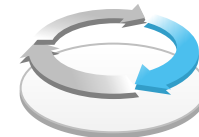


## Business and Technology Outlook (BTOL) Initiative



# Seven Key Technology Fields and Focus Areas

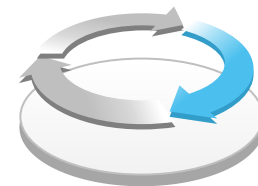
- Through BTOL activities, seven key technology fields and 21 corresponding focus areas were selected.



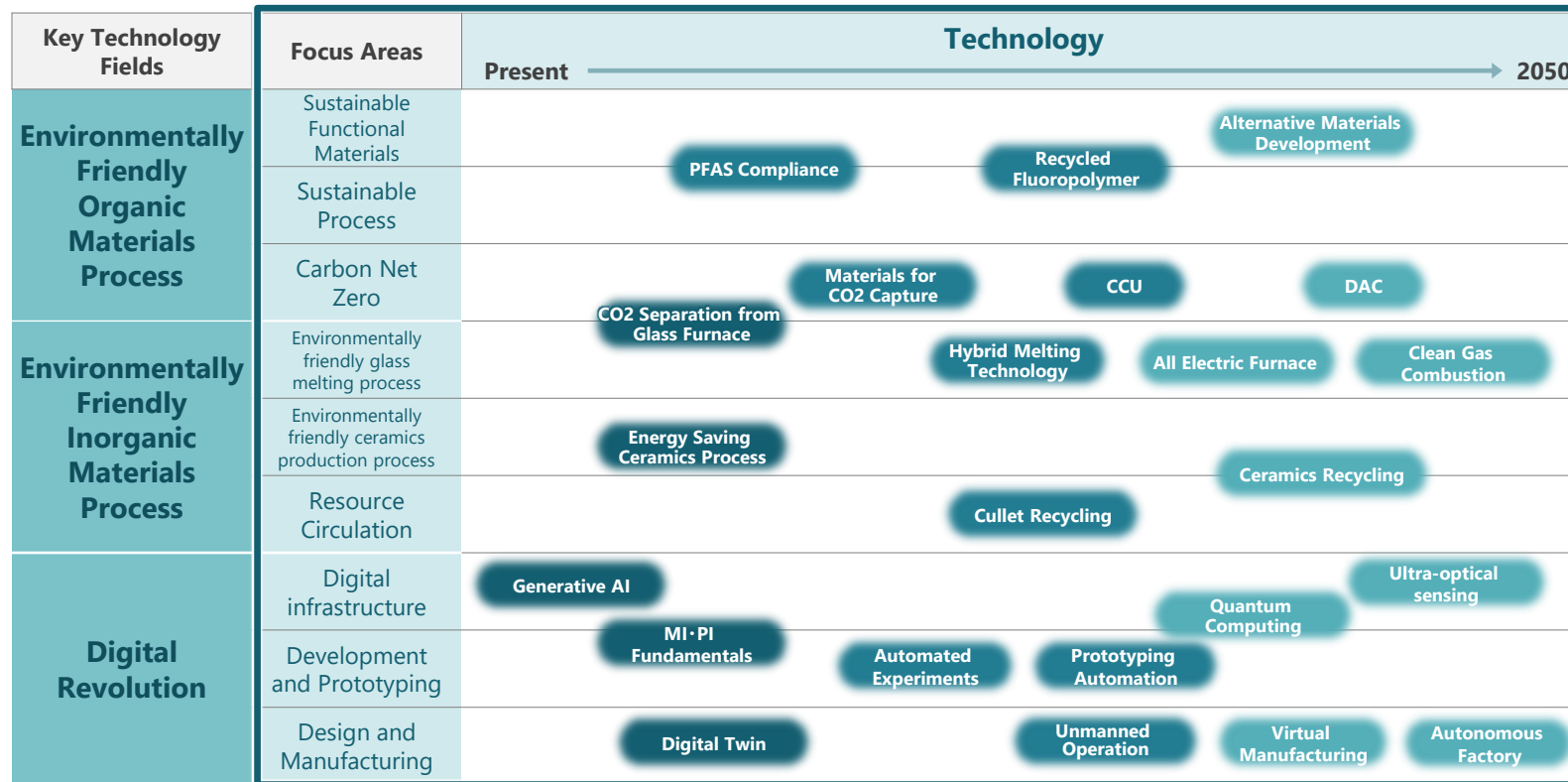
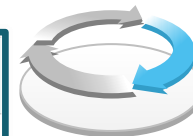


# Seven Key Technology Fields and Technologies of Focus Areas

Key Technology Fields	Focus Areas	Technology	
		Present	2040
Next Generation electronics	Next-gen. interfaces and sensing components	Next Gen. IRCF	AR/VR Materials
	Semiconductor related materials	EUV Mask Blanks	Carrier Glass
	Telecommunication components	Next Gen. CCL	Glass Core
Next Generation Mobility	xEV components		Co-Package Optics
	On-board sensing & communication	Components for ADAS Sensing	Materials for EVs
	Advanced functional glazing	Active glazing	On-board Antenna
Next Generation life science	CDMO Process technology for antibody drugs	Pharmaceutical CDMO	Process Monitoring
	CDMO modality development	Antibodies & Proteins	CGT
	Pharmaceutical raw materials		mRNA
Environment & Energy	Energy Storage Components		LNP
	Hydrogen Energy Components		Solid-State Battery Materials
	Components for Renewable Energy & Energy Saving	Insulating glass	PEMFC Materials
			PEM Water Electrolysis Materials
			AEM Water Electrolysis Materials
			BIPV

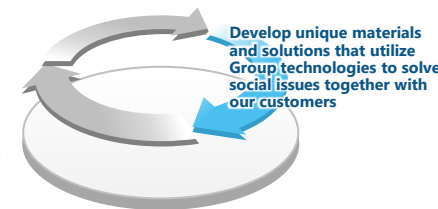





# Seven Key Technology Fields and Technologies of Focus Areas



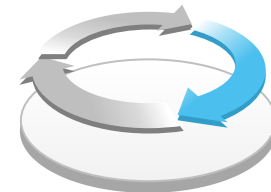
# Research and Development Enhancement: Supporting Concepts and Initiatives

- Strengthening research and development is a key element in advancing sustainability management.
- Accelerate research and development enhancement by pursuing DX and open innovation.

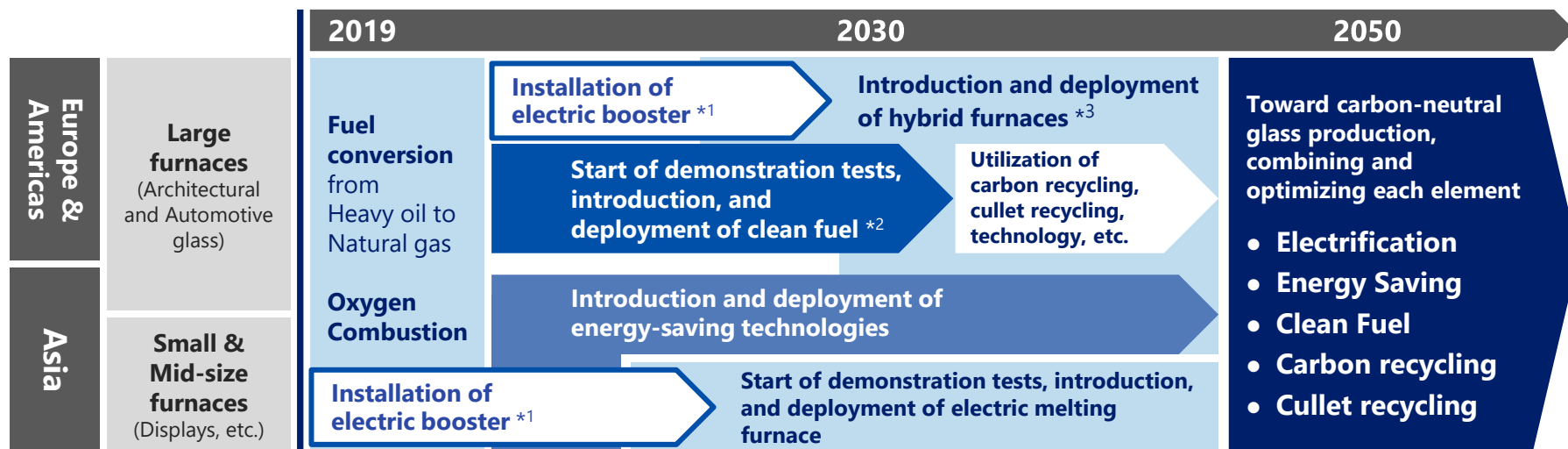


Concepts and Initiatives	Description	Examples
 <b>Sustainability Management</b>	Corporate management practices to enhance sustainability of AGC Group	<ul style="list-style-type: none"> <li>■ Development of plant engineering technologies contributing to GHG reduction</li> <li>■ Development and expansion of environmentally friendly products</li> <li>■ Material development contributing to technological innovation</li> <li>■ Diversification of talent and efficient work practices</li> </ul>
 <b>Strengthened Competitiveness through Accelerated DX</b>	Advancing digital transformation technologies to improve operational efficiency and enhance competitiveness	<ul style="list-style-type: none"> <li>■ Utilize digital technology across diverse business functions to transform operations through DX</li> </ul>
 <b>Open Innovation</b>	Accelerate the development of innovative materials and solutions through collaboration with internal and external partners	<ul style="list-style-type: none"> <li>■ Global operations of new business exploration hubs</li> <li>■ Establish co-creation hubs with customers and external partners</li> </ul>

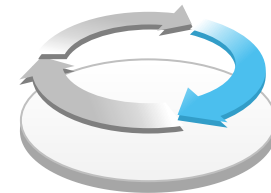
- Implement energy-saving technologies, reduce emissions from glass melting furnaces, and transition power sources to renewable energy, all while ensuring economic rationality.



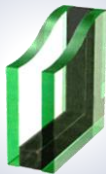
## Roadmap for GHG Emission Reduction Technologies in Float Glass Melting Furnaces



- Focusing on the development and expansion of high-value-added products that respond to heightened environmental awareness.



## Products Contributing to the Environmental and Energy Sectors



### Heat Insulating Glass

High thermal insulation performance contributes to reducing GHG emissions from buildings.



### Environmentally Friendly Refrigerants and Solvents

Next-generation refrigerants with low global warming potential (GWP\*) that are gentle on the ozone layer contribute to preventing climate change.



### Building Integrated Photovoltaics Glass

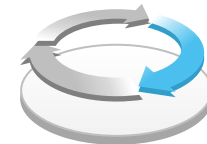
By achieving both energy-generating performance and aesthetic appeal, it contributes to resolving constraints on solar panel installation sites in urban areas.



### Polymer Electrolyte for Fuel Cells

With its high power generation performance and durability, it contributes to the widespread adoption of fuel cell vehicles and the realization of a hydrogen society.

- We develop and provide essential materials and solutions to realize world-leading technological innovation by pooling our intellectual capital cultivated over many years.



## Examples of Products for Cutting-edge Semiconductor Manufacturing

### The Evolution of Next-Generation Semiconductors



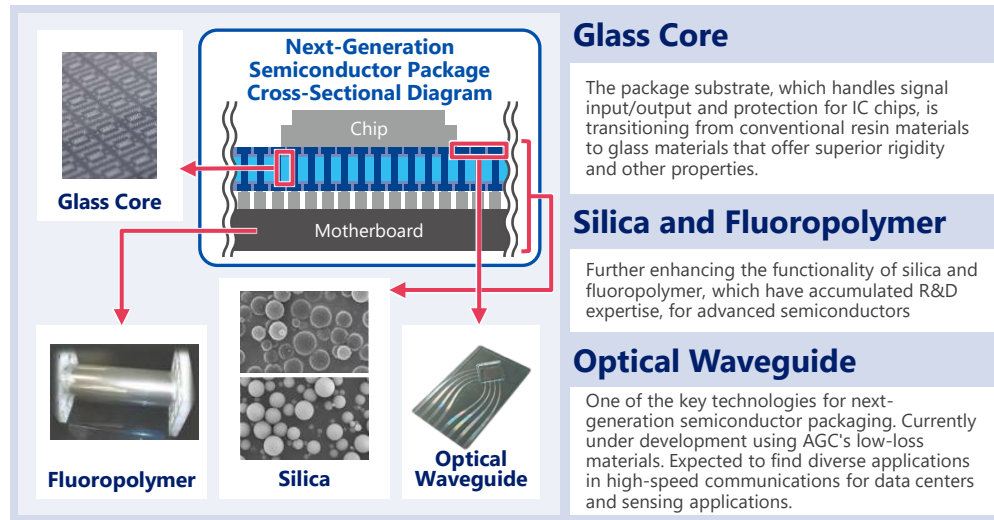
#### **Ceria Slurry for Semiconductor CMP Process** AGC delivers slurries an

Leveraging our strength in the fully integrated manufacturer from abrasive production, we provide meticulous material solutions tailored to customer requirements.

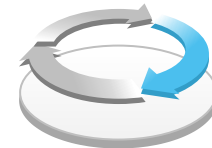


#### **EUV Photomask Blanks**

Manufactures blanks for cutting-edge semiconductor production, from glass materials to coating films. Also develops production technologies and materials for next-generation blanks.



- Strengthening competitiveness through the optimization of manufacturing processes and the streamlining of quality inspections using digital technology.



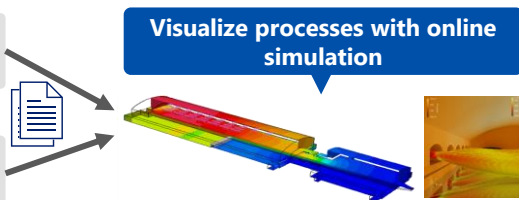
## Utilization of Digital Twin Environments in Glass Melting Furnaces

### Visualize processes with online simulation

By inputting proprietary, precise physical property data and actual machine process data, we have built a digital twin environment that reproduces, predicts, and operates the glass melting process—which is difficult to measure directly. Visualizing the process enables optimization of the melting furnace operation.

Precise physical property data obtained from the experimental process

Data obtained from the actual production plant



## Reducing Front Windshield Quality Inspection Process Time

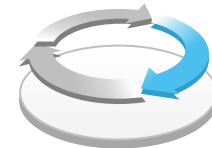
### High-precision defect detection and full automation of inspection processes

Through the development of a proprietary inspection machine model combining anomaly detection AI technology with rule-based image processing algorithms in windshield manufacturing, we achieved high-precision defect detection and full automation of the inspection process.



**Annual reduction of 30,000 hours** in inspection time is projected

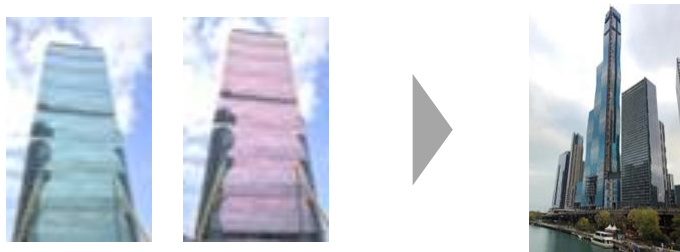
- Utilizing simulation technology to significantly reduce lead times for business negotiations and material development.



## Streamlining Sales Activities Through Simulation and AR/VR Technologies

### Reducing Time from Product Specification Review to Prototype Manufacturing

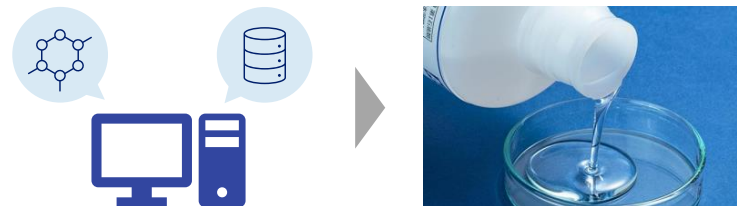
By using simulation technology to recreate the visual of architectural glass products installed on a property, we shorten the lead time required to finalize product specifications, enabling prototype glass samples to be manufactured on the day of the meeting.



## Materials Informatics-Driven Material Development

### Reducing material development lead times

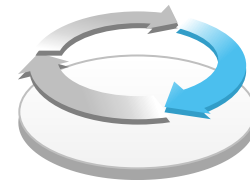
By leveraging an experimental database system with electronic lab notebook functionality and Materials Informatics (MI)\*, we have significantly reduced material development lead times.







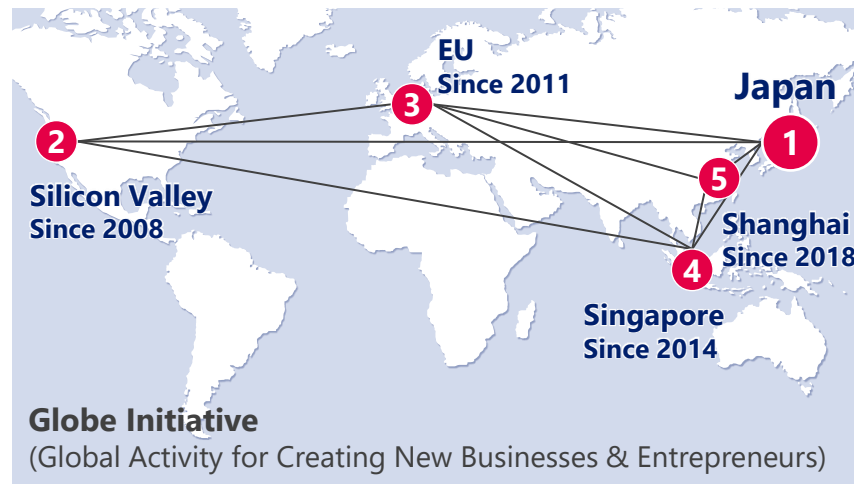
- We have established the Yokohama Technical Center to promote the creation of unique materials and solutions through open innovation, facilitated by co-creation with customers and technical exchanges with external partners such as academia.
- In addition to the above, we have established open innovation hubs globally to explore new businesses and technologies.



## Open Innovation at Yokohama Technical Center

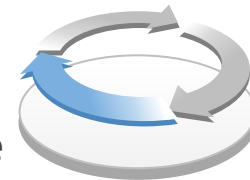


## New Business and Technology Exploration Hub



# Three Directions for Research and Development

- Conduct research and development in three directions based on existing businesses and technologies.
- We prioritize leveraging our existing intellectual capital and do not pursue the development of entirely new businesses in uncharted territory.



## Three Directions for Research and Development

**Existing Business  
and Technology**

**Seven Key  
Technology  
Areas and Focus  
Areas**

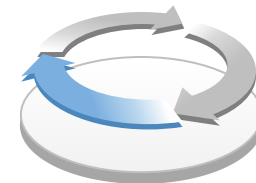
**1 Leverage existing capabilities to enter new markets**

**2 Next-generation and new product development within existing businesses**

**3 Production and Basic Technology Innovation**

# Patent Acquisition and Utilization

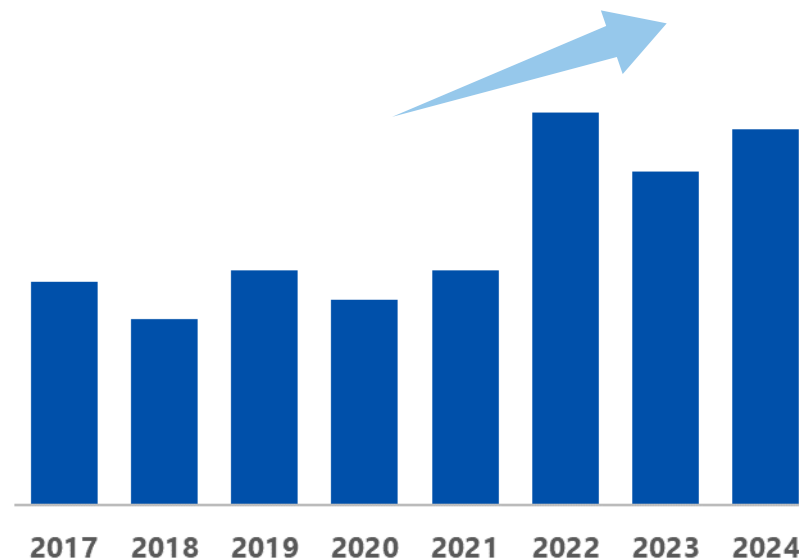
- We aim to build a strategic intellectual property portfolio through patent acquisition, and further increase licensing revenue through patent utilization.
- Both patent applications and licensing revenue are currently on an upward trend.



## Number of Patent Applications (Index trend with 2001 applications set to 1)



## Patent Licensing Revenue Trend



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**3 Management Capital**

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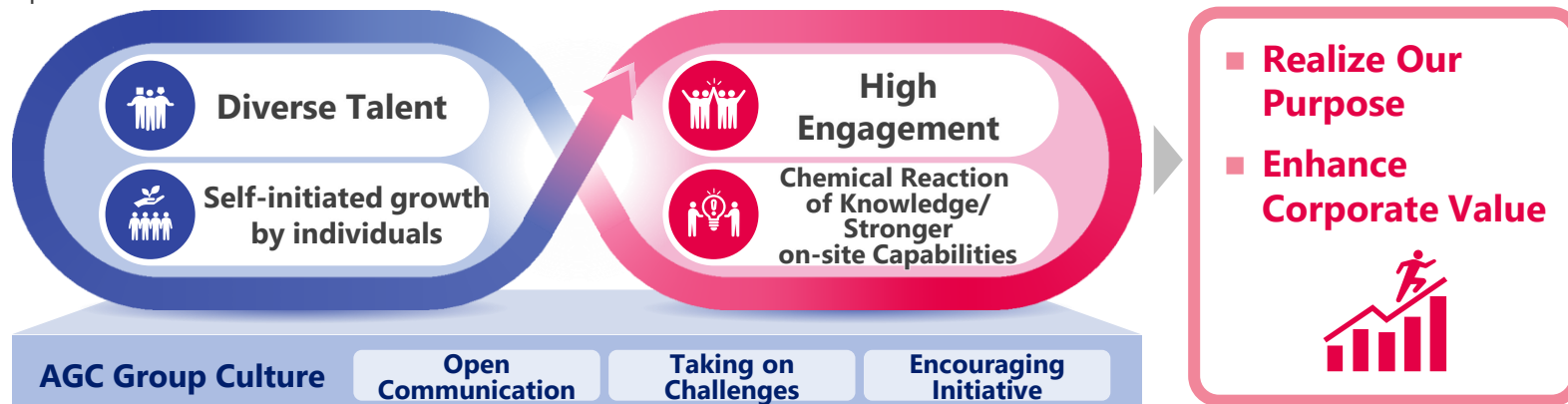
4 Appendix

# Promoting Human Capital Management

- Through diverse talent, we realize our corporate purpose and achieve sustainable corporate growth.

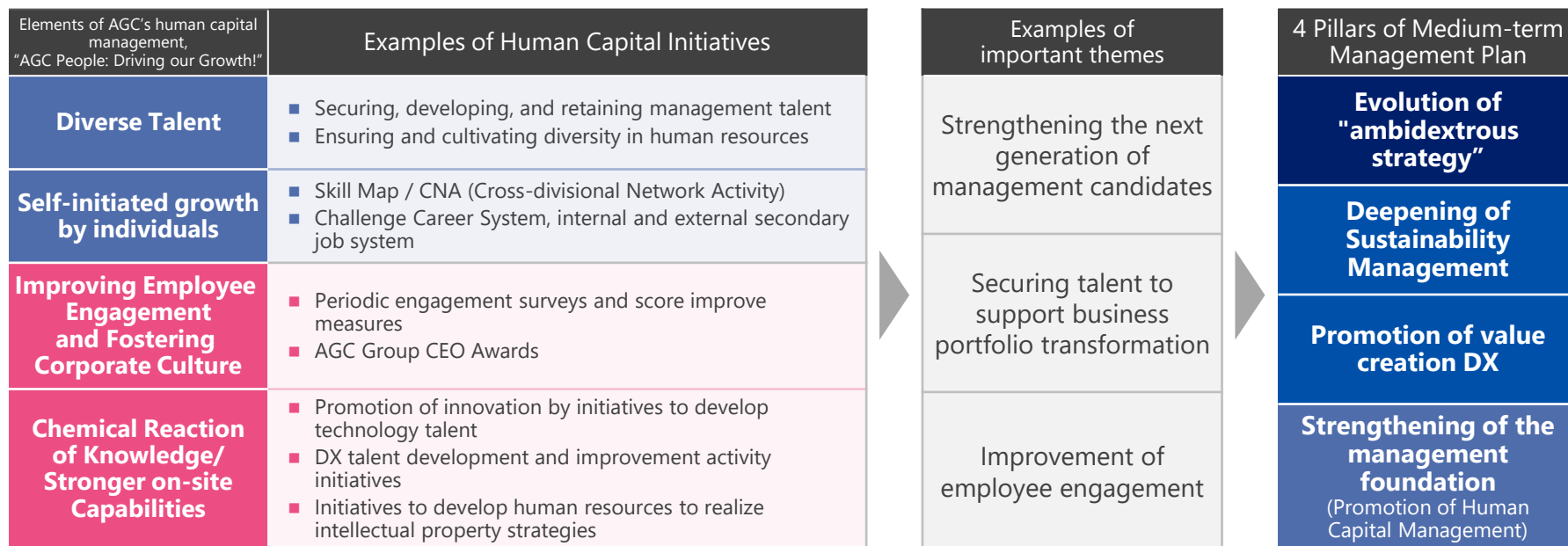
## AGC People: Driving our Growth!

- 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.



# Human Capital Initiatives and Medium-term Management Plan

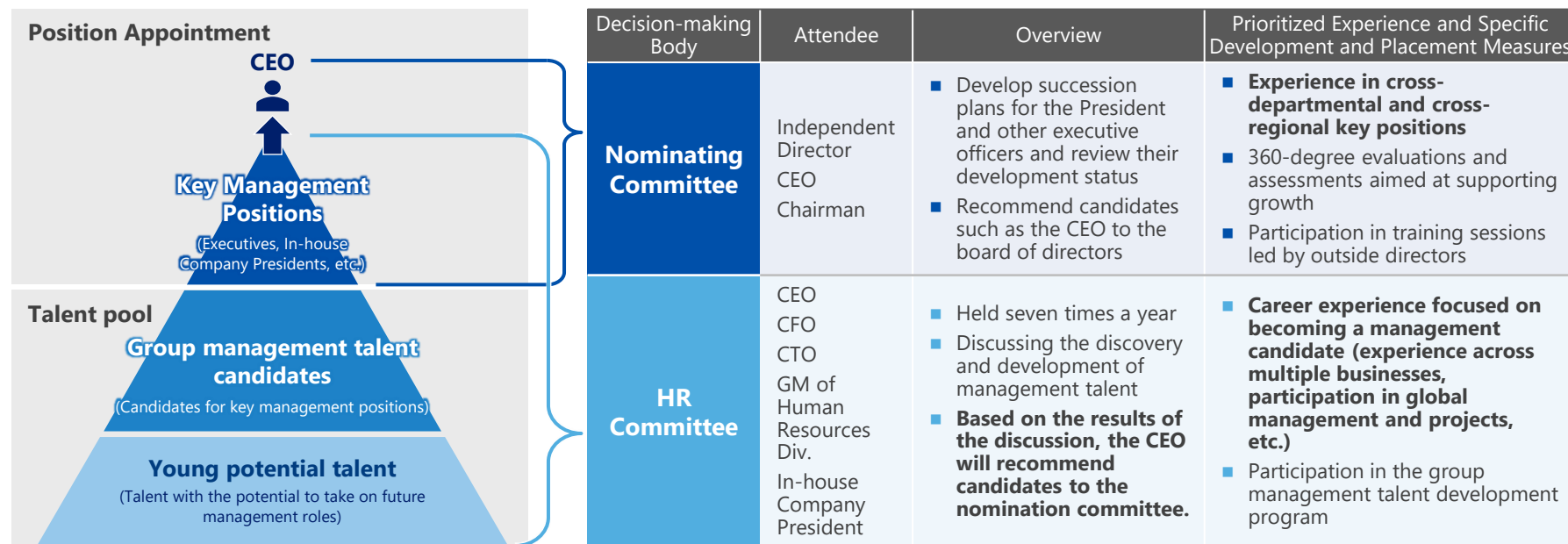
- Initiatives based on “AGC People: Driving our Growth!” accelerate the realization of the Medium-term Management Plan
- Establish concrete measures and quantitative numerical targets for effect measurement, steady execution and monitoring



# Management Talent: Identification, Development and Retention

- Identify next-generation management talent with a long-term perspective and implement systematic development and placement

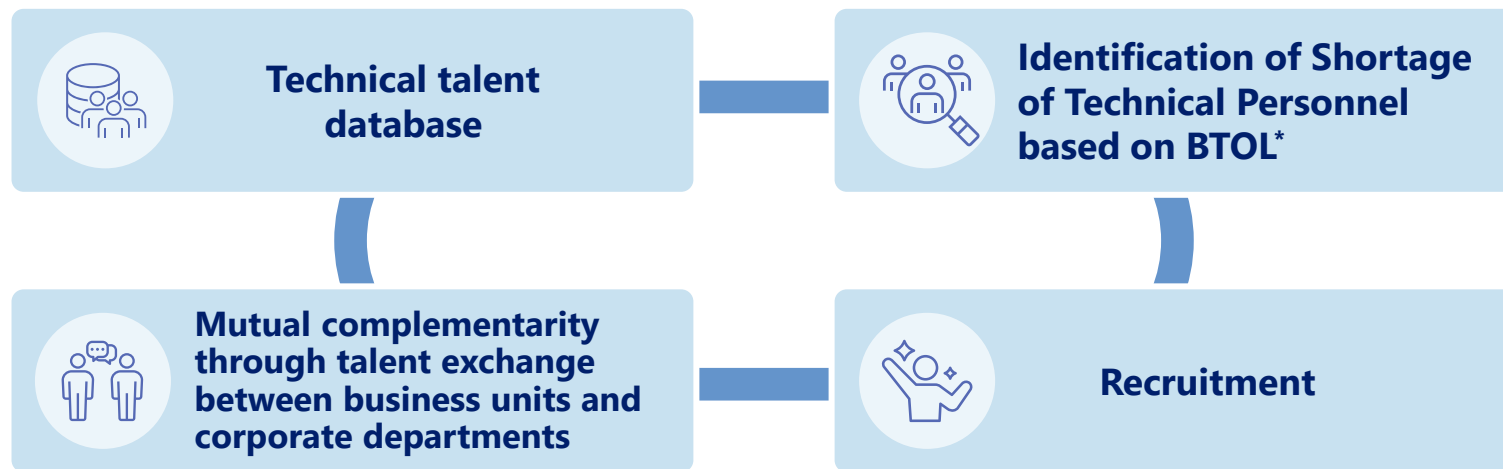
## Decision-making Body for Personnel Placement in Key Management Positions



# Optimization of the Talent Portfolio

- Identify optimal talent and pinpoint internal skill gaps, then enhance business competitiveness through strategic placement and recruitment based on these findings.

## Optimizing the Talent Portfolio (Example: Technical Talent)

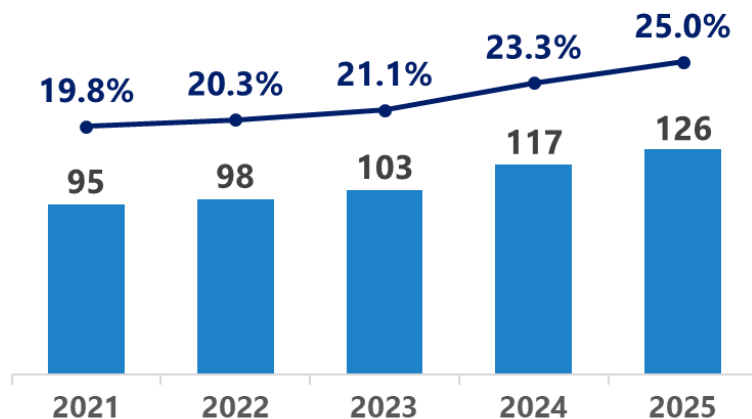




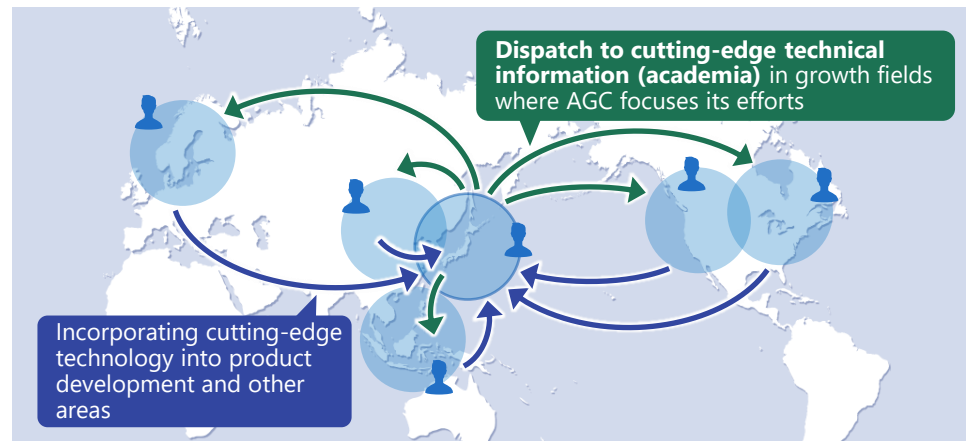
# Securing and Utilizing Technical Talent

- 30%\*<sup>1</sup> of members in the Technology Division hold a Ph.D.
- Ph.D. holders participate in the world's most advanced research networks, contributing to the creation of next-generation businesses and the establishment of competitive advantages in growth areas.

## Ph.D. holders in the Technology Division\*<sup>2</sup>



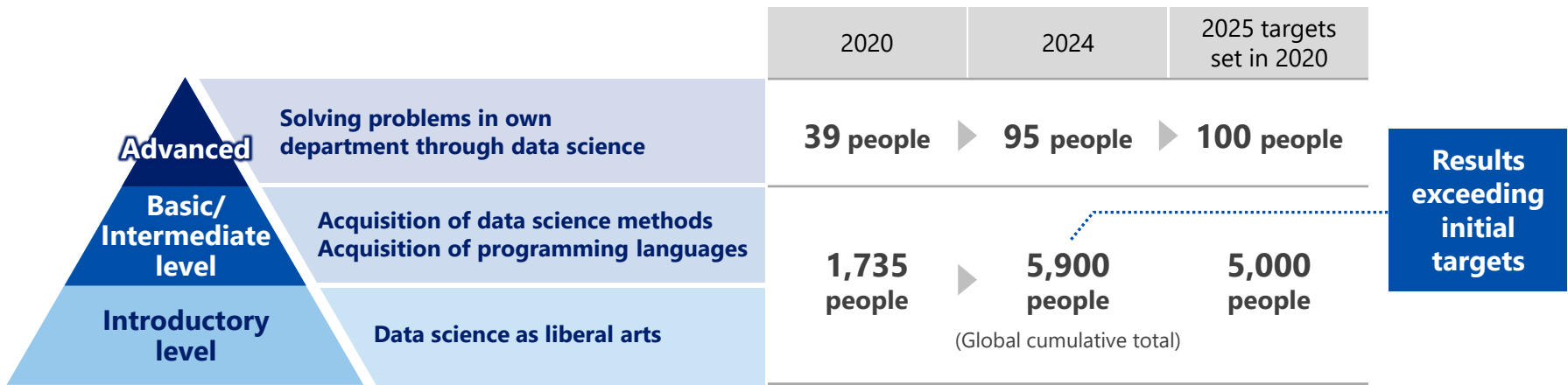
## Academic placement of Ph.D. holders and collection of cutting-edge technologies



- To enhance competitiveness through accelerated DX, we are introducing a multi-layered curriculum across the entire group to cultivate “dual-skilled talent” who combine business knowledge with digital skills, systematically developing DX personnel.

Data Scientist Training Program *“Data Science Plus”*

We are cultivating *“dual-skilled personnel”* who combine business knowledge in material development, production, sales, and logistics with advanced data analysis skills.



**1** Corporate Overview

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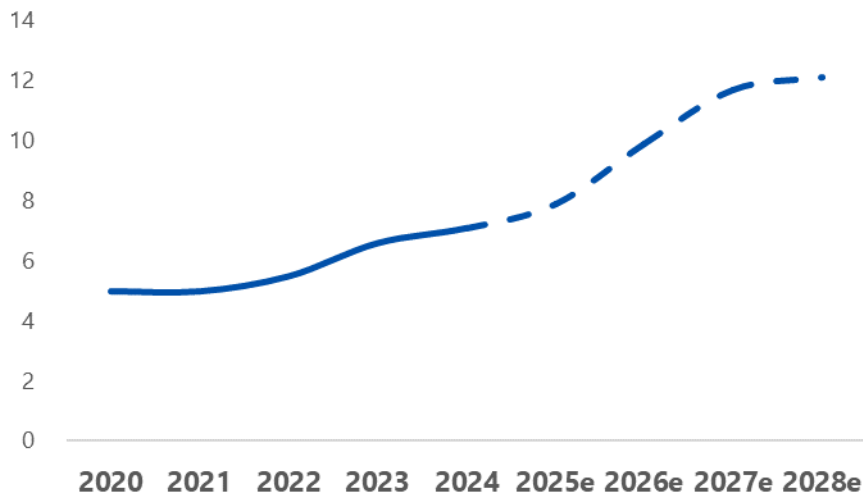
**4** **Appendix**

- Accelerate innovation by leveraging diverse technical talent and providing opportunities for them to maximize their capabilities.

## Promotional Effects Expected from Diversity in Technical Talent

<b>Product Innovation</b>	New development or improvement of the product itself
<b>Process Innovation</b>	Develop and improve new methods for developing, manufacturing, and selling products
<b>Employee Motivation</b>	Enhancing employee motivation

## Percentage of Women in Management Positions Among Technical Personnel (Japan)(%)



# Net Zero Carbon Target (FY2050)

- Mid- to long-term GHG emissions reduction targets was set in 2021, making steady progress



**FY2030  
milestone**  
(from the 2019 figure)

**Scope 1**

**GHG emissions**  
(Scope 1+2 emissions)

**30% reduction**

**Scope 2**

**GHG emissions per unit of sales**  
(Scope 1+2 emissions/sales)

**50% reduction**

**Scope 3**

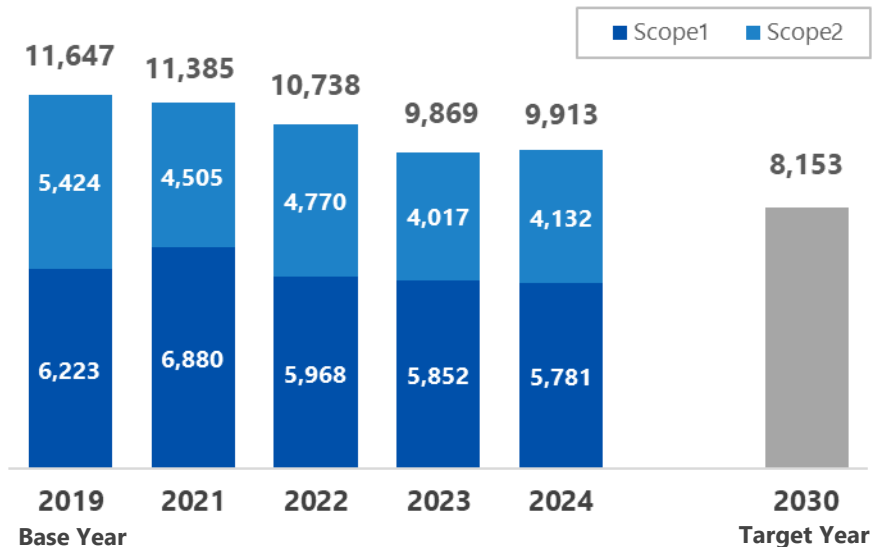
**GHG emissions**  
(Total of Scope 3 emissions in categories 1, 10, 11, and 12)

**30% reduction**

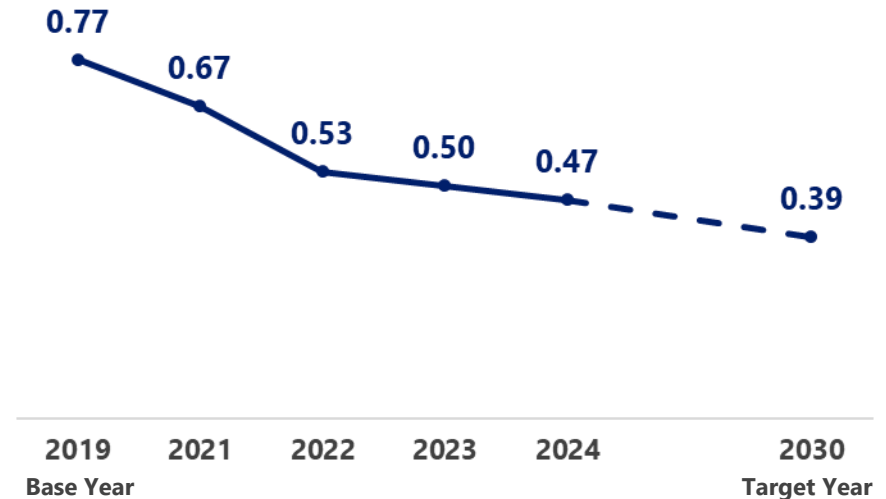
# GHG Emissions Reduction (Scope1+2)

- Scope 1 and Scope 2 GHG emissions in 2024 decreased by 15% and 39%, respectively, compared to the base year of 2019.

## Scope1+2 GHG Emissions (Market-based, 1,000 t-CO<sub>2</sub>)



## Scope1+2 GHG Emissions per Unit of Sales (Market-based, 1,000 t-CO<sub>2</sub>)



# Future Investment Plans for Addressing Overall Climate Change

- Investing more than 80 billion yen over three years from 2024 to 2026 to address climate change

## Cumulative investments plan related to climate change response

Investment to expand sales of products that contribute to reducing GHG emissions

**30.0 billion yen or more**



Energy saving



Next-generation energy



Low GHG emissions

etc.

Investments aimed at reducing AGC Group GHG emissions

**50.0 billion yen or more**



GHG emissions reduction in float glass furnaces



Conversion of power sources to renewable energy

etc.

# Sustainability KPIs

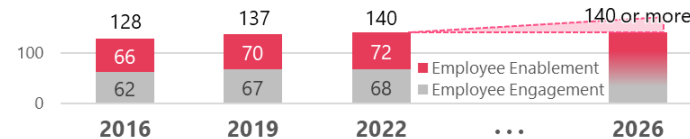
- We will achieve sustainable growth by improving sustainability KPIs through business activities.

## Sustainability KPIs

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

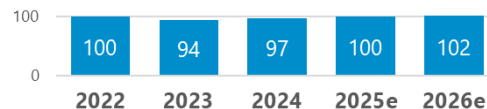


Employee engagement score\*<sup>1</sup>

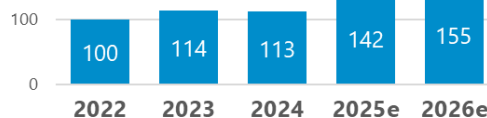


### Blue planet

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>



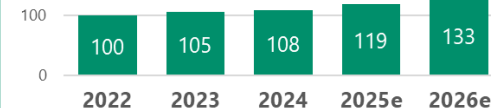
### Innovation

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

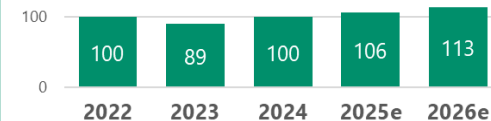


### Well-being

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>

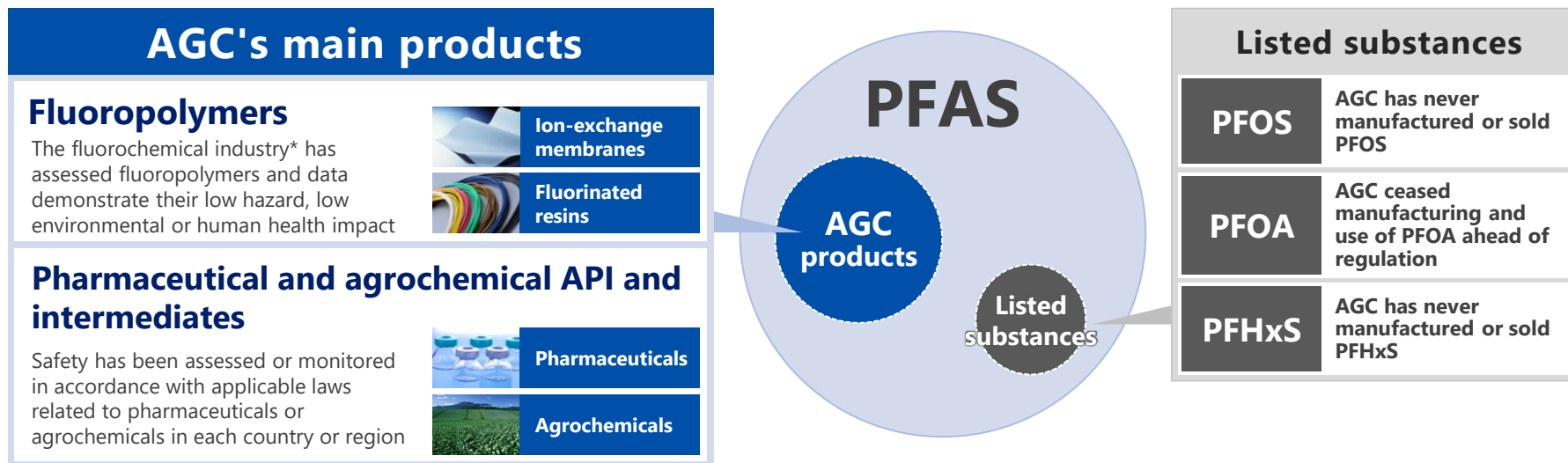


\*<sup>1</sup> Items reflected in executive remuneration. However, for GHG emissions, GHG emissions per unit of GHG emissions sales are used in the calculation of executive remuneration.

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



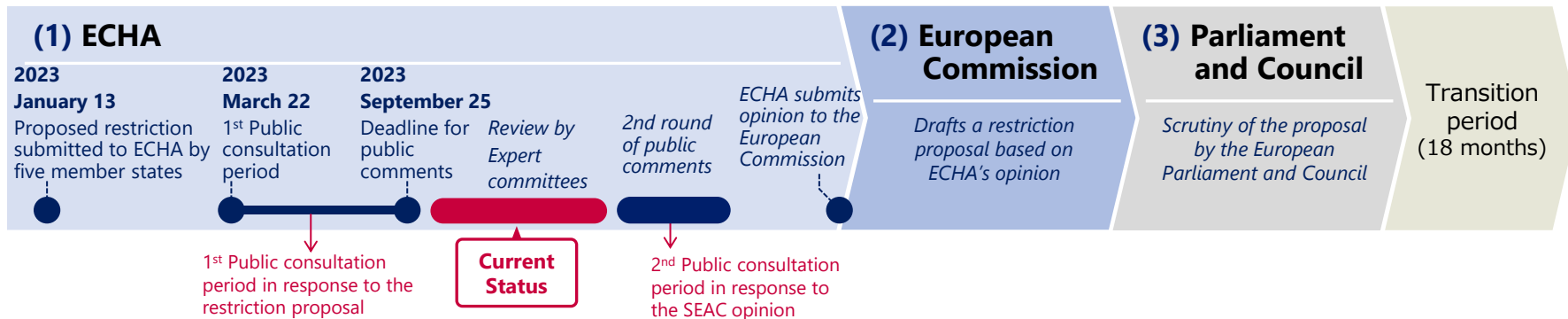
- Of the PFAS (umbrella term for approximately 12,000 types of fluorine compounds), three substances are listed as Persistent Organic Pollutants under the Stockholm Convention. AGC does not manufacture or use any of these listed substances.
- To fulfill its corporate social responsibility, AGC Group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



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

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

- (1) After two rounds of public consultations by ECHA, the expert committees submit their final opinion
- (2) The European Commission prepares a draft regulation referring to the final opinion submitted, and the REACH Committee, consisting of Member States, deliberates on and adopts the draft.
- (3) The adopted legislation enters into force after being scrutinized by the European Parliament and Council



**END**



Your Dreams, Our Challenge