

Financial Review 2024

For the Year Ended December 31, 2024

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CONSOLIDATED ELEVEN-YEAR SUMMARY

AGC Inc. and Consolidated Subsidiaries
For the years ended December 31

	Note	(Unit: Millions of yen)			
		2024/12	2023/12	2022/12	2021/12
Operating Results					
Net sales		¥2,067,603	¥2,019,254	¥2,035,874	¥1,697,383
Operating profit		125,835	128,779	183,942	206,168
Profit (loss) before tax		(50,050)	122,775	58,512	210,045
Profit (loss) for the year attributable to owners of the parent		(94,042)	65,798	(3,152)	123,840
Segment Information					
Sales to external customers	2				
Architectural Glass Operations		¥ 435,575	¥ 474,646	¥ 482,714	¥ 732,230
Automotive Operations		498,568	499,392	417,639	–
Electronics Operations		362,752	311,964	304,918	303,049
Chemicals Operations		589,727	569,652	655,013	629,487
Life Science Operations		137,326	123,933	138,146	–
Ceramics/Other Operations		43,652	39,665	37,442	32,615
Financial Position					
Total assets		¥2,889,665	¥2,932,991	¥2,814,029	¥2,666,031
Total current assets		1,001,270	1,041,878	1,063,009	915,271
Property, plant and equipment		1,550,862	1,457,950	1,350,769	1,323,868
Total current liabilities		708,771	717,298	669,999	599,408
Total equity/Total net assets		1,671,697	1,654,338	1,585,590	1,481,380
Non-controlling interests in consolidated subsidiaries		235,909	207,258	195,335	167,219
Per Share Data (Yen)					
Basic—EPS	3	¥ (443.71)	¥ 304.73	¥ (14.22)	¥ 559.11
Diluted—EPS	4	(443.71)	304.01	(14.22)	557.10
Cash dividends		210.00	210.00	210.00	210.00
Equity/Net assets	6	6,773.86	6,831.89	6,271.35	5,930.27
Other Data					
Return on equity (ROE)	7	–6.5%	4.6%	–0.2%	10.2%
Interest-bearing debt	8	¥ 649,739	¥ 695,009	¥ 650,242	¥ 603,194
Depreciation and amortization		181,273	175,346	185,656	166,756
Capital expenditures		257,458	231,715	236,553	216,503
Research and development expenses		61,823	57,342	52,252	49,444
Number of shares issued and outstanding (Thousands of shares)	9	217,434	217,434	227,441	227,441
Number of employees		53,687	56,724	57,609	55,999

Notes: 1. The Company maintains its accounting records in Japanese yen. The U.S. dollar amounts included in this consolidated eleven-year summary represent the arithmetical results of translating Japanese yen to U.S. dollars on the basis of ¥158.18=US\$1.00, the approximate exchange rate as of December 31, 2024. The inclusion of such U.S. dollar amounts is solely for convenience and is not intended to imply that Japanese yen amounts have been or could be converted, realized or settled in U.S. dollars at ¥158.18=US\$1.00 or at any other rate.

2. From the fiscal year ended December 31, 2023, the Company has five reportable segments: Architectural Glass, Automotive, Electronics, Chemicals and Life Science. Segment information for the previous fiscal year is disclosed based on classification of reportable segments for the fiscal year ended December 31, 2023.

3. Based on profit for the year attributable to owners of the parent. Effective July 1, 2017, the Company consolidated its common shares at a ratio of five shares to one share. Basic earnings per share is calculated on the assumption that the consolidation of shares has been conducted at the beginning of the preceding fiscal year.

4. Based on profit for the year attributable to owners of the parent. Effective July 1, 2017, the Company consolidated its common shares at a ratio of five shares to one share. Diluted earnings per share is calculated on the assumption that the consolidation of shares has been conducted at the beginning of the preceding fiscal year.

(Unit: Thousands
of U.S. dollars)
2024/12

(Unit: Millions of yen)							
2020/12	2019/12	2018/12	2017/12	2016/12	2015/12	2014/12	
¥1,412,306	¥1,518,039	¥1,522,904	¥1,463,532	¥1,282,570	¥1,326,293	¥1,348,308	\$13,071,204
75,780	101,624	120,555	119,646	96,292	71,172	62,131	795,518
57,121	76,213	128,404	114,424	67,563	84,522	41,163	(316,412)
32,715	44,434	89,593	69,225	47,438	42,906	15,913	(594,525)
¥ 648,394	¥ 740,920	¥ 756,160	¥ 733,953	¥ 679,071	¥ 691,411	¥ 684,607	\$ 2,753,667
-	-	-	-	-	-	-	3,151,903
283,025	265,215	250,285	260,626	257,069	286,858	317,378	2,293,286
449,739	474,417	482,097	435,145	314,392	315,636	314,694	3,728,202
-	-	-	-	-	-	-	868,163
31,145	37,485	34,361	33,807	32,037	32,388	31,628	275,964
¥2,534,458	¥2,335,415	¥2,235,776	¥2,228,560	¥1,981,451	¥1,991,262	¥2,077,338	\$18,268,207
860,962	742,612	733,196	722,522	673,436	637,546	627,178	6,329,941
1,246,885	1,177,691	1,108,934	1,060,601	937,869	982,296	1,066,193	9,804,413
563,898	482,490	463,098	455,288	377,490	346,157	355,999	4,480,788
1,243,039	1,282,636	1,253,604	1,289,895	1,168,743	1,163,767	1,180,490	10,568,321
127,897	125,538	116,399	105,860	73,305	69,594	67,364	1,491,396
¥ 147.84	¥ 200.85	¥ 399.51	¥ 302.12	¥ 205.14	¥ 37.12	¥ 13.77	\$ (2.81)
147.24	199.95	397.58	300.65	204.26	36.97	13.58	(2.81)
120.00	120.00	115.00	(Note 5)	18.00	18.00	18.00	1.33
5,038.52	5,229.58	5,141.43	5,239.70	4,736.59	946.48	963.04	42.82
2.9%	3.9%	7.7%	6.1%	4.3%	3.9%	1.4%	-6.5%
¥ 787,960	¥ 602,843	¥ 541,780	¥ 489,085	¥ 433,968	¥ 468,733	¥ 499,257	\$ 4,107,593
143,716	143,361	121,668	128,226	121,803	137,381	137,199	1,145,994
241,348	207,661	230,598	165,095	126,025	125,103	118,169	1,627,628
46,444	47,450	45,755	43,912	39,212	38,927	44,758	390,842
227,441	227,441	227,441	235,177	1,186,705	1,186,705	1,186,705	217,434
56,179	55,598	54,101	53,224	50,963	50,852	51,114	53,687

5. Effective July 1, 2017, the Company consolidated its common shares at a ratio of five shares to one share. For fiscal year 2017, the interim dividends per share were ¥10.00 which was before taking into account the consolidation of shares, and the scheduled year-end dividends per share were ¥55.00 which was after taking into account the consolidation of shares.

6. Based on equity attributable to owners of the parent. Effective July 1, 2017, the Company consolidated its common shares at a ratio of five shares to one share. Equity attributable to owners of the parent per share is calculated on the assumption that the consolidation of shares has been conducted at the beginning of the preceding fiscal year.

7. Return on equity attributable to owners of the parent.

8. Interest-bearing debt comprises short-term bank loans, long-term bank loans due within one year, commercial paper, bonds, long-term bank loans, and lease obligations.

9. Effective July 1, 2017, the Company consolidated its common shares at a ratio of five shares to one share. The number of shares issued and outstanding is calculated on the assumption that the consolidation of shares has been conducted at the beginning of the current fiscal year.

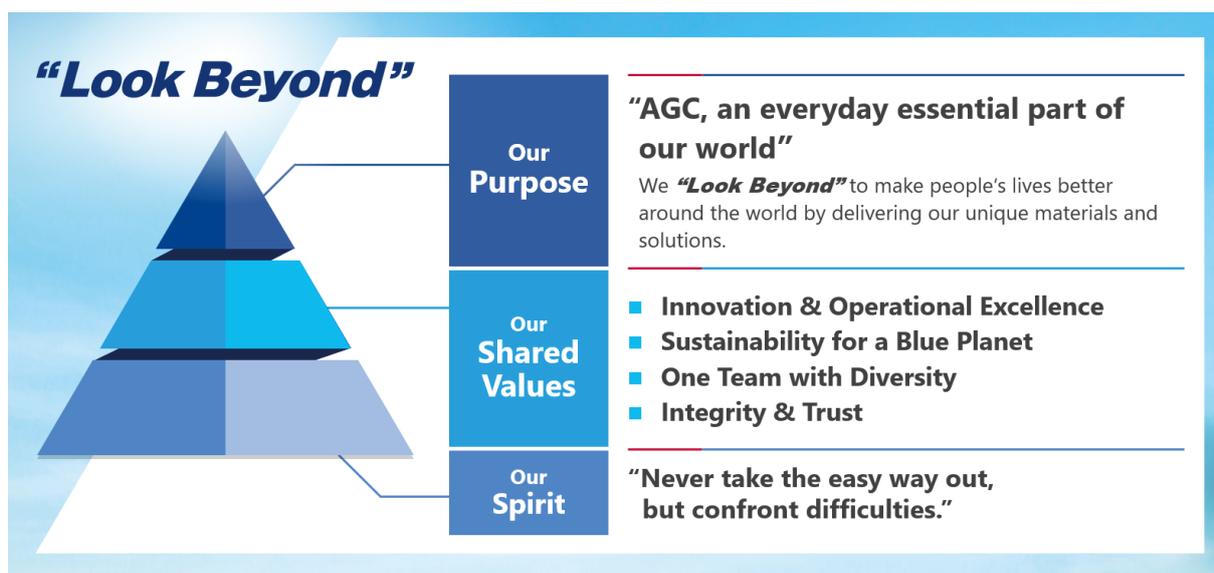
MANAGEMENT'S DISCUSSION AND ANALYSIS

The discussion and analysis herein of sales and operating profit are based on reportable segment information. Sales for reportable segments include all inter-segment transactions.

Management Policy, Business Environment and Issues to Be Addressed

■ Basic Management Policy

The AGC Group's business and social activities are founded on its corporate philosophy **"Look Beyond."** In this Group Vision, the AGC Group has set forth Our Mission: AGC, an everyday essential part of our world—making people's lives better around the world every day by offering unique materials and solutions, which expresses the value that the Group should offer to the world, and represents the reason why the AGC Group exists.



In order to continue to be an everyday essential part of our world, the AGC Group is committed to transforming itself and has made changes required in each time period. To accelerate the Group's corporate transformation, in 2016, the AGC Group defined its existing businesses as core businesses and new businesses in growth areas as strategic businesses in the pursuit of its ambidextrous strategy. In 2021, the AGC Group formulated its long-term management strategy, "Vision 2030," and declared that it would further accelerate its corporate transformation by clarifying the direction of its business portfolio transformation as Corporate transformation Chapter 2.



■ Progress of Medium-term Management Plan *AGC plus-2026*

The AGC Group is working to maximize corporate value by accelerating corporate transformation in order to realize its long-term management strategy “Vision 2030.” We have positioned the 3 years from 2024 as “Corporate Transformation Chapter 2: Phase 2,” and in February 2024 we formulated our medium-term management plan *AGC plus-2026*, ending in 2026.

In *AGC plus-2026*, we set financial KPIs for 2026. However, the overall economic environment surrounding the AGC Group is expected to remain severe due to factors such as the economic slowdown in Europe, and China. In addition, our Life Science business is forecast to experience a significant shortfall in its sales volume as compared to the initial plan. Accordingly, we have revised down our financial KPIs for 2026, the final year of *AGC plus-2026*, as follows.

	FY2026 Financial KPIs	
	FY2026 Target (Feb 2024)	FY2026 Target (Feb 2025)
OP	230.0 billion yen	180.0 billion yen
Strategic Business OP	130.0 billion yen	100.0 billion yen
EBITDA	440.0 billion yen	380.0 billion yen
ROE	8% or higher	7% or higher
D/E	0.5 or less	

■ Towards Achievement of Profitability that Exceeds Cost of Shareholders’ Equity

As mentioned above, we have revised down our financial KPIs for 2026. However, we will maintain the financial KPIs set out in our long-term management strategy, “Vision 2030” (operating profit: ¥300 billion or more, strategic business operating profit: 60% or more, ROE: stably 10% or higher, D/E ratio: 0.5 or less). To achieve profitability that exceeds cost of shareholders’ equity, we aim to achieve ROE of 8% or higher as early as possible from 2027 by steadily implementing initiatives based on the strategy of *AGC plus-2026*.

■ *AGC plus-2026* Strategy (announced in February 2024)

The basic strategy of *AGC plus-2026* is as follows.

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

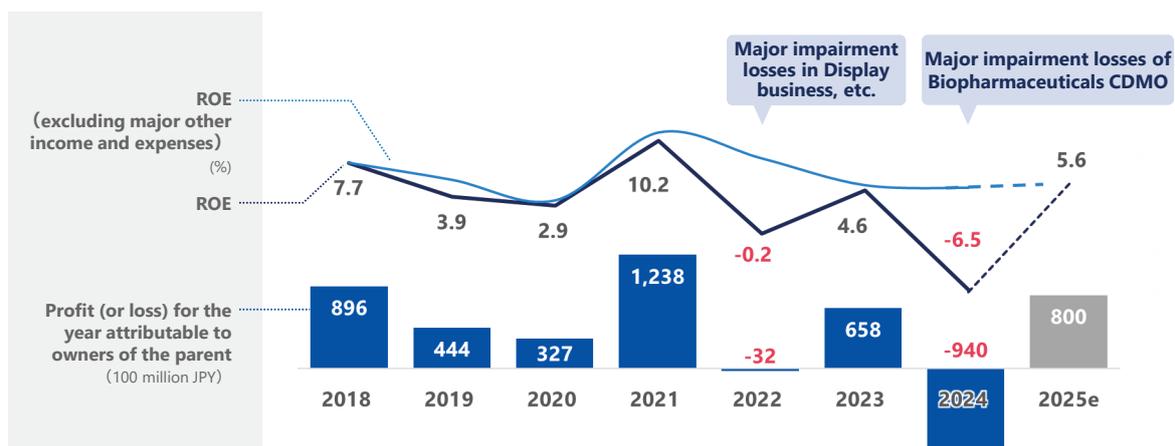
By pursuing the AGC Group’s “ambidextrous strategy,” we aim to build a business portfolio that is resilient to market fluctuations and has high asset efficiency, growth potential, and carbon efficiency.

■ Recognition of the Current Situation

In terms of "Vision 2030," our core businesses aim to increase the competitiveness of each business and build a strong, long-term, stable earnings base, while our strategic businesses aim to leverage our strengths to create and expand highly profitable businesses that will become the future pillars of the AGC Group. However, some of the Group's businesses are facing issues that need improvements, resulting in the downward revision of the financial KPIs for 2026. Also, the impairment losses incurred in the display business in 2022 and the biopharmaceutical CDMO business in 2024, as well as the losses from the sale of shares associated with the transfer of the Russian business in 2024 have caused the low ROE and the below 1x PBR to continue.

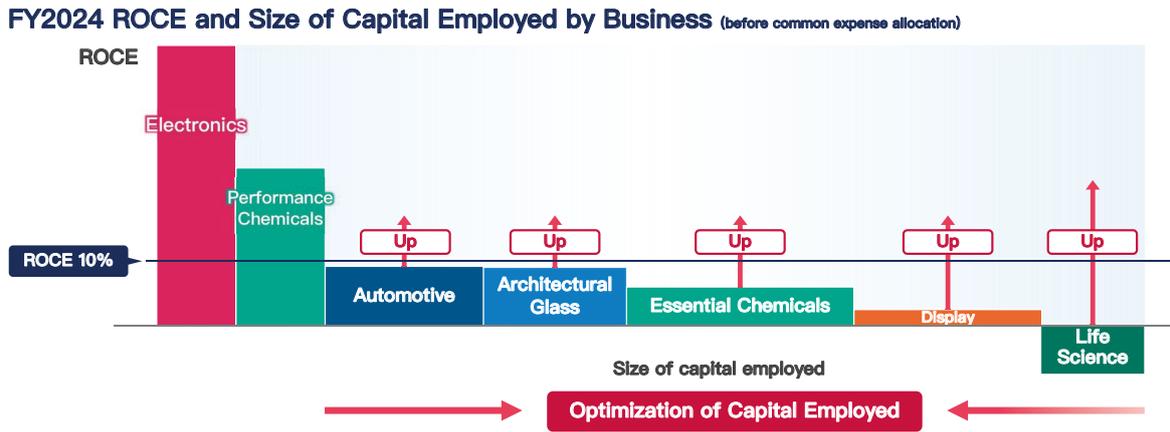
	Core Business	Strategic Business
Vision	Long-term, stable sources of earnings	Creation and expansion of highly profitable businesses
Current Situation	 Display Smooth profitability improvement through structural reforms	 Life Science Biopharmaceuticals CDMO profitability improving
	 Essential Chemicals 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 ROE >



< Current ROCE >

The AGC Group manages its business using ROCE* in order to improve ROE. The low profitability of businesses with large asset scales is lowering the ROCE of the entire Group and we recognize that improving the profitability and asset efficiency of these businesses is an urgent issue.

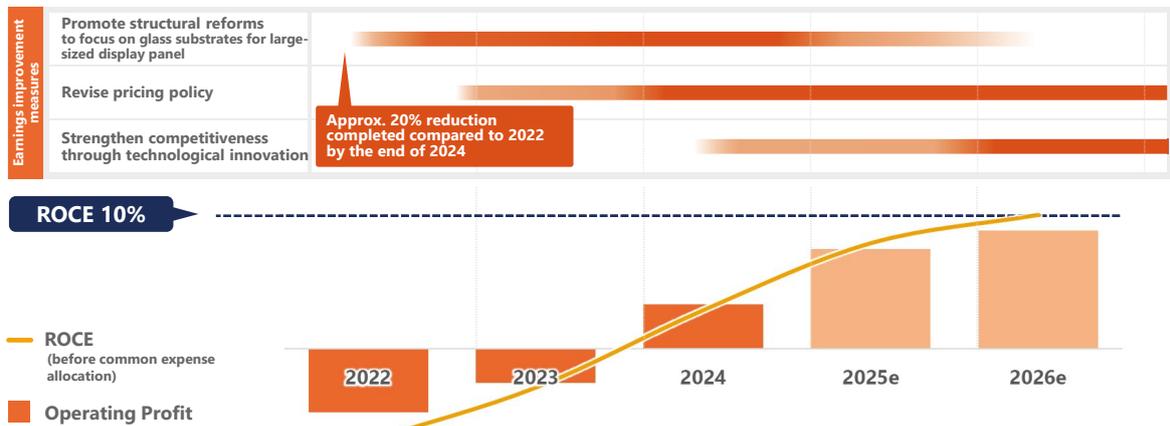


* ROCE (Return on Capital Employed) = (Operating Profit for the Current Fiscal Year) / (Operating Assets at the End of the Current Fiscal Year)

■ Initiatives for Each Business

< Display Business >

We are making progress as planned toward achieving a ROCE of 10% by 2026 by promoting structural reforms to set a focus on glass substrates for large-sized display panels, reviewing pricing policies, and enhancing competitiveness through technological innovation.



< Essential Chemicals Business >

We aim to improve profitability by capturing robust demand in Southeast Asia by increasing Production capacity in Thailand and by leveraging our high market share to implementing a supply chain strategy.

Supply & Demand Balance and Price Outlook in Southeast Asia

- Demand expands at an average of 4% per annum, leaving the region to continue importing chlor-alkali products.
- Caustic soda demand is increasing for use in alumina and nickel refining.
- PVC price will remain at a low level due to sluggish Chinese economy.

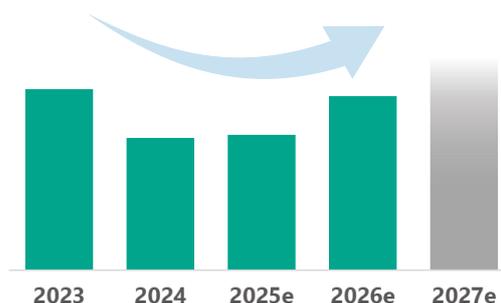
Market share* in Southeast Asia (after expansion)



*Market share based on production capacity: Australia/NZ excluded from the region for caustic soda, while included for PVC.

Operating Profit Outlook for Essential Chemicals

- The expanded facility in Thailand to start operation in 2025.
- Expected to contribute to profits from 2026 onwards.



< Life Science Business >

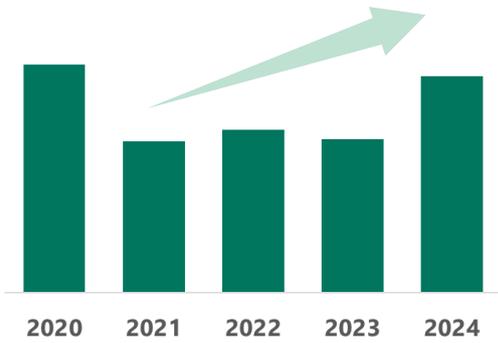
The situation is improving as a result of the implementation of profitability improvement measures at our biopharmaceutical CDMO business bases in the United States and Europe, and we will ensure that the increasing number of our proposals will lead to orders and recover profitability.

[Measures to Improve Profits]

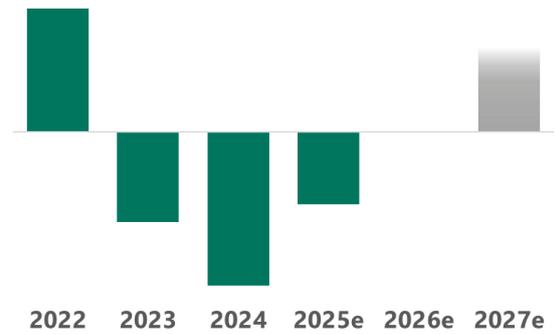
Regions	Sites	Modalities	Previous Situations	Progress of Measures	Effects
U.S.	Seattle	Microbial/ Mammalian cell	1 Substantial underachievement in sales volume	<ul style="list-style-type: none"> ✓ Headcount reduction completed ✓ Improved operations and 3 FDA approvals obtained 	<p>1.7 billion JPY per year fixed cost reduction (1 billion JPY in 2024)</p> <p>Positive impact on future sales and order-taking activities</p>
	Longmont	Gene and Cell Therapy	2 Orders fell short of expectations driven by slow market growth of gene and cell therapy market	<ul style="list-style-type: none"> ✓ Idled production 	<p>2.5 billion JPY per year fixed cost reduction (effective from 2025)</p>
	Boulder	Mammalian cell	3 Delay in start-up of a new line	<ul style="list-style-type: none"> ✓ Commercial production already started 	<p>Gradual increase in utilization. Improved profitability, to return to profit in 2027</p>
Europe	Copenhagen	Microbial/ Mammalian cell	4 Expansion delayed due to construction labor shortage	<ul style="list-style-type: none"> ✓ Expanded facilities already in operation 	<p>Smooth increase in contracts</p>

[Performance Outlook for Life Science Segment]

Proposal to Customers (value)* in Biopharmaceuticals CDMO



Operating Profit Outlook for Life Science Segment

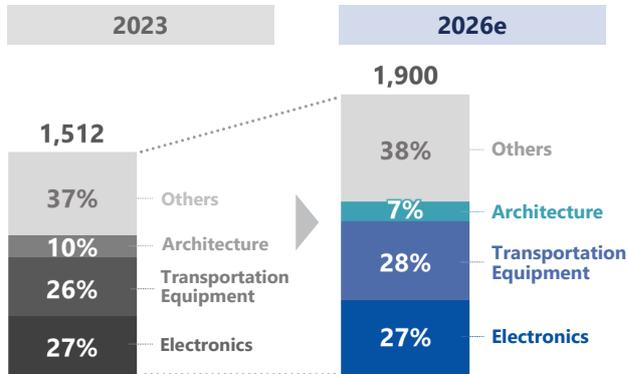


* A leading indicator of sales. Sales will be recorded after a certain period of time (usually 1-2 years) after signature of contracts.

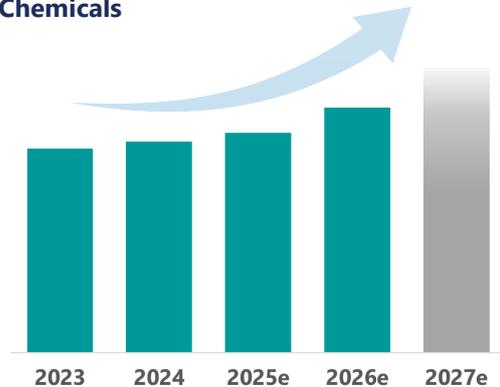
< Performance Chemicals Business >

We will expand sales by capacity expansion in response to increased demand for semiconductor-related products and transportation equipment.

Sales and Breakdown Outlook*by Application



Operating Profit outlook for Performance Chemicals



*Performance Chemicals as in strategic business

< Electronics Business >

We achieved our 2025 target of ¥40 billion in Net Sales for EUV mask blanks in 2024, one year ahead of our plan. The semiconductor-related market will continue to grow, driven by AI demand, and we will expand product sales in the high-end market. The optoelectronics business is expected to slow down its growth due to the saturation of the smartphone market and will reach a plateau. However, we expect to see growth over the medium term as we launch further high-functionality products.

Market Trends and Strategies

Semiconductor-related materials

Market Trend Market is expanding due to increased demand for cutting-edge semiconductors for AI etc.

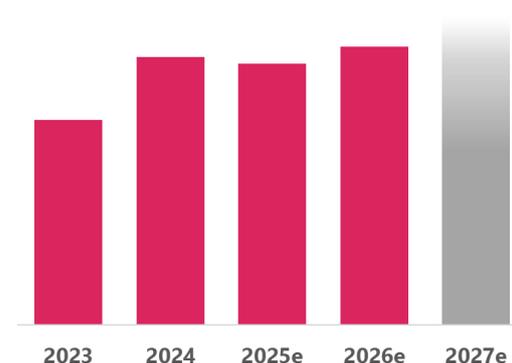
Strategy Expand sales to high-end market

Optoelectronics

Market Trend Growth slows due to saturation of smartphone market

Strategy Launch differentiated products combining high-performance and composite technologies

Operating Profit Outlook for Electronics



■ Group-wide Initiatives

In addition to the above-mentioned initiatives for each business, we will improve our earnings structure by implementing pricing policies, cost reduction, and timely structural improvement measures. We will continue to pursue our “ambidextrous strategy” and accelerate portfolio transformation with the aim of building a business portfolio that is resilient to market fluctuations and has high asset efficiency, growth potential, and carbon efficiency.

1

Profit structure improvement

① Pricing Policy

Implement Value-based Pricing Group-wide

② Cost Reduction

- Reduce cost by reducing investments and improving productivity
- Launch a Group-wide cost reduction project led by the CFO

③ Timely implementation of structural improvement measures

2

Portfolio Transformation

- Continue to pursue a business portfolio that is resilient to market fluctuations, has high asset efficiency, growth potential and carbon efficiency by promoting ambidextrous strategy

< CAPEX and EBITDA >

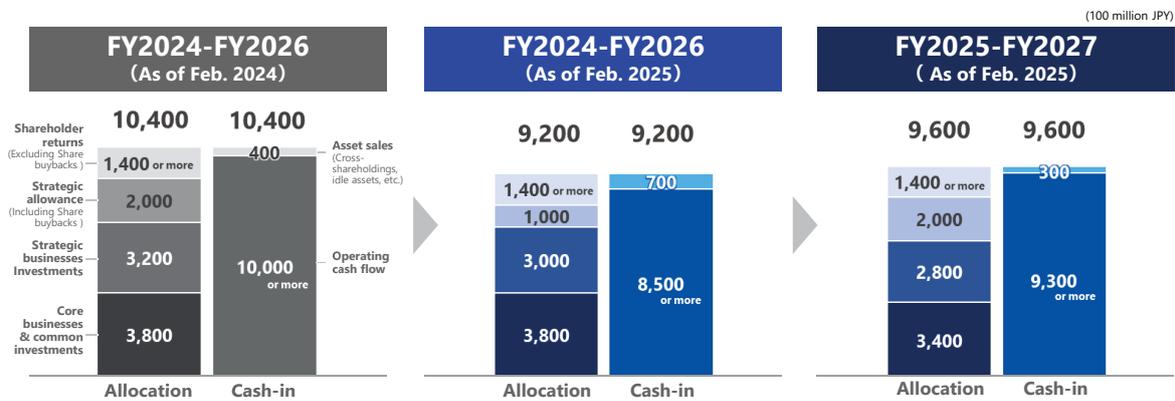
The large-scale investments to expand production capacity will be completed in 2025, and going forward, the effects of these investments will be seen. From 2026 onward, we will focus on cash generation with reduced investments in preparation for future growth.

Capex and EBITDA Outlook (100 million JPY)



< Capital Allocation Policy >

For 2024-2026, cash inflows are expected to decrease due to a worsening business environment, which will reduce our resources and shrink our strategic budget to ¥100 billion. However, for 2025-2027, we will secure a strategic budget of ¥200 billion through a recovery in business performance and reduced investments. As for the strategic framework, we will comprehensively determine the optimal capital allocation, including the acquisition of treasury stock, taking into account investment projects and cash position.



< Shareholder Returns >

As for shareholder returns, the Company will continue to pay stable dividends with a capital dividend ratio of approximately 3% as a guideline, and we will maintain the dividend per share for 2025 at the 2024 level.

Dividend per share (JPY)											
	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024e	FY2025e
Special dividend							50				
Year-end dividend	45	45	55	60	60	60	80	105	105	105	105
Interim dividend	45	45	50	55	60	60	80	105	105	105	105
Share buyback (100 million JPY)	–	100	150	200	–	–	–	–	500	–	TBD
Consolidated total return ratio	48%	65%	56%	51%	60%	81%	38%	–	144%	–	56%
Consolidated 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											

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

■ Summary

These are the AGC Group's strategies and future initiatives aimed at achieving profitability that exceeds our cost of shareholders' equity. We will maintain our "Vision 2030" and aim to achieve an ROE of 8% or higher as early as possible in 2027 onwards.



The AGC Group will steadily implement the medium-term management plan **AGC plus-2026** by evolving its "ambidextrous strategy" toward the "Vision 2030," thereby adding various value to all stakeholders, including customers, business partners, employees, investors, and future generations.

Scope of Consolidation

Number of consolidated subsidiaries: 186

Major subsidiaries:

AGC Techno Glass Co., Ltd., Ise Chemicals Corporation, AGC Glass Europe, AGC Flat Glass North America, Inc.

Currency Fluctuations

The Japanese yen weakened against the U.S. dollar and the euro during fiscal year 2024. The year-end yen-U.S. dollar rate was ¥158.18=US\$1.00, compared with ¥141.83=US\$1.00 in fiscal year 2023, and the year-end yen-euro rate was ¥164.92=€1.00, compared with ¥157.12=€1.00 in the previous fiscal year.

Overview of the Period Ended December 31, 2024

Overview

The AGC Group formulated the long-term management strategy “Vision 2030” in February 2021. Under the strategy, the Group aims to enhance corporate value by transforming the business portfolio into an optimal one, with the “core business” as a long-term, stable revenue base and the “strategic business” as a high growth field. In February 2024, to ensure the realization of the long-term management strategy “Vision 2030,” the Group formulated a medium-term management plan **AGC plus-2026** covering 2024 to 2026 to follow the previous medium-term management plan **AGC plus-2023**. The key strategies under the plan are evolution of “ambidextrous strategy” to exploit core businesses and explore strategic businesses, acceleration of sustainability management and DX (digital transformation), and strengthening of the management foundations.

In accordance with this strategy, during the fiscal year ended December 31, 2024, the AGC Group decided to construct a new production facility in Japan for fluorinated ion-exchange membranes suitable for producing green hydrogen. At the same time, the Group is steadily shifting toward the optimal business portfolio, such as by completing the transfer of its architectural glass and automotive businesses in Russia.

As for strategic businesses, shipments of photomask blanks for EUV lithography and other products in the electronics business were strong. As for core businesses, in the display business, both shipments and sales prices for glass substrates for TFT-LCD increased. In the architectural glass business, sales prices fell in Europe, and there was also a decrease in revenue due to the transfer of the Russian business. Shipments of automotive glass by the Group decreased due to a decline in automobile production volume, particularly in Japan. Furthermore, in the essential chemicals business, sales prices of caustic soda and polyvinyl chloride resins declined.

As a result, net sales amounted to ¥2,067.6 billion, up ¥48.3 billion, or a 2.4% increase year on year. Operating profit decreased by ¥2.9 billion, or 2.3%, to ¥125.8 billion, due to the aforementioned factors causing a decline in sales and deterioration in cost efficiency in the Automotive and Life Science segments. Profit before tax decreased by ¥172.8 billion to a loss of ¥50.1 billion (profit before tax for the previous year was ¥122.8 billion). This decline reflects recording of other expenses including a loss on the sale of shares of subsidiaries and associates in line with the transfer of the Russian business and impairment losses in Life Science (biopharmaceutical CDMO). Profit for the year attributable to owners of the parent decreased by ¥159.8 billion to a loss of ¥94 billion (profit attributable to owners of the parent for the previous year was ¥65.8 billion).

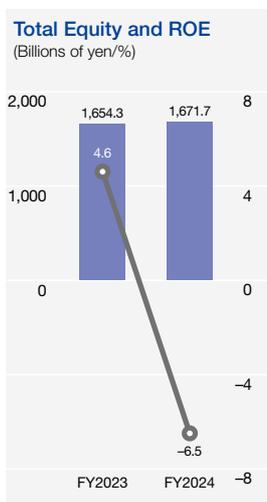
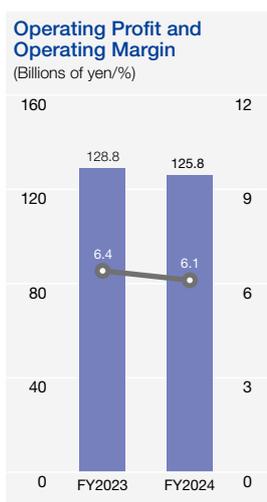
Consolidated Net Sales, Profit and Expenses

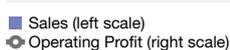
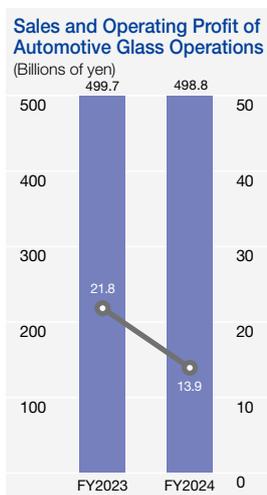
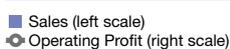
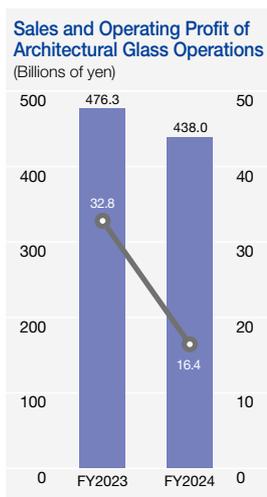
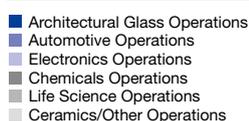
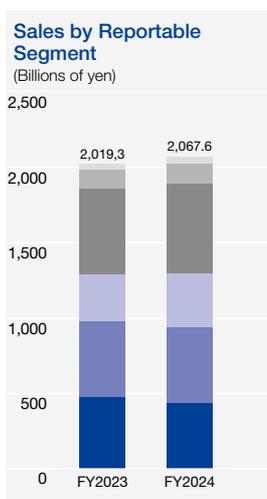
Consolidated net sales were ¥2,067.6 billion in fiscal year 2024.

Cost of sales increased by ¥30.7 billion or 2.0% to ¥1,568.6 billion from the previous fiscal year. The cost-to-sales ratio stood at 75.9%.

Cost of Sales and SG&A Expenses

	(Unit: Millions of yen)	
	FY2023	FY2024
Cost of sales	¥1,537,897	¥1,568,552
Cost-to-sales ratio	76.2%	75.9%
Gross profit	481,356	499,050
SG&A expenses	354,559	375,676
SG&A expenses as a percentage of net sales	17.6%	18.2%





Operating profit, the net result of gross profit minus selling, general and administrative (SG&A) expenses and share of profit of associates and joint ventures accounted for using equity method, was ¥125.8 billion, down ¥2.9 billion or 2.3% year on year. The operating margin decreased from 6.4% to 6.1%.

Other expenses were ¥187.7 billion, compared with ¥20.0 billion in fiscal year 2023. Impairment losses of ¥124.8 billion, losses on sale of shares of subsidiaries and associates of ¥36.5 billion, and expenses for restructuring programs of ¥10.6 billion were recorded. In addition, the Group recorded a foreign exchange gain, net of ¥10.4 billion, compared to a ¥8.6 billion foreign exchange gain in the previous fiscal year.

Profit before tax decreased by ¥172.8 billion, or a 140.8% decrease, to a loss of ¥50.1 billion.

Consequently, profit for the year attributable to owners of the parent was a loss of ¥94.0 billion, down ¥159.8 billion from ¥65.8 billion in the previous fiscal year. Basic earnings per share decreased from ¥304.73 to a loss of ¥443.73. ROE decreased by 11.2 percentage points to -6.5%.

Profit

	(Unit: Millions of yen)	
	FY2023	FY2024
Operating profit	¥128,779	¥125,835
Operating margin	6.4%	6.1%
Profit (loss) before tax	122,775	(50,050)
Profit (loss) for the year attributable to owners of the parent	65,798	(94,042)
Percentage of net sales	3.3%	-4.5%
Per share data (Yen)		
— Net income—basic	304.73	(443.71)
— Net income—diluted	304.01	(443.71)
Return on equity (ROE)	4.6%	-6.5%

Performance by Reportable Segment

a. Architectural Glass

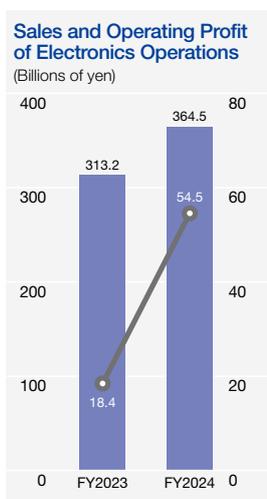
In Europe & Americas, net sales decreased year on year due to a lower sales price in Europe compounded by a decline in sales following the transfer of the Russian business, despite the positive impact of foreign exchange rates. In Asia, net sales remained at the same level as the previous fiscal year due to the positive impact of foreign exchange rates, despite decrease in shipments.

As a result, net sales of Architectural Glass segment for the fiscal year were ¥438 billion, down ¥38.3 billion, or an 8.0% decrease, from the previous fiscal year. Operating profit decreased by ¥16.4 billion (50.0%), to ¥16.4 billion, due to the aforementioned factors, despite a decline in raw material and fuel prices.

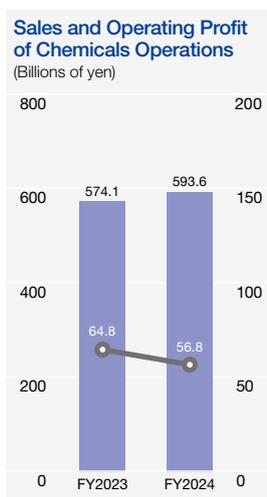
b. Automotive

Net sales remained at the same level as the previous fiscal year due to the positive impact of foreign exchange rates and other factors, despite a decrease in Group's shipments as the automobile production decreased mainly in Japan and Europe.

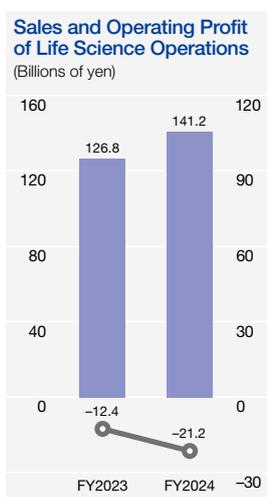
As a result, net sales of the Automotive segment for the fiscal year were ¥498.8 billion, down ¥0.9 billion, or a 0.2% decrease, from the previous fiscal year. Operating profit decreased by ¥7.9 billion (36.1%) to ¥13.9 billion due to a deterioration in manufacturing costs, mainly due to production and shipping issues in the US.



■ Sales (left scale)
● Operating Profit (right scale)



■ Sales (left scale)
● Operating Profit (right scale)



■ Sales (left scale)
● Operating Profit (right scale)

c. Electronics

Display net sales increased year on year thanks to an increase in shipments of glass substrates for TFT-LCD and revise pricing policy. Electronic Materials net sales increased year on year due to an increase in shipments of photomask blanks for EUV lithography and other semiconductor-related materials and higher shipments of optoelectronic materials as well as the impact of foreign exchange rates.

As a result, net sales of the Electronics segment for the fiscal year were ¥364.5 billion, up ¥51.4 billion, or 16.4% increase, from the previous fiscal year. Operating profit increased by ¥36.1 billion (196.8%), to ¥54.5 billion.

d. Chemicals

Essential Chemicals net sales were on par with the previous year owing to lower sales prices for caustic soda and PVC, despite the positive impact of foreign exchange rates. Performance Chemicals net sales rose year on year thanks to the impact of higher sales prices and foreign exchange rates.

As a result, net sales of Chemicals segment for the fiscal year were ¥593.6 billion, up ¥19.5 billion, or a 3.4% increase, from the previous fiscal year. Operating profit decreased by ¥8.0 billion (12.4%) to ¥56.8 billion due to factors such as a decline in sales prices for Essential Chemicals and reduced operations due to production issues.

e. Life Science

Despite a decrease in revenue due to the disappearance of special demand for COVID-19-related products, net sales increased due to the positive impact of foreign exchange rates, one-off revenues associated with the settlement of contracted projects, and an increase in contracted projects.

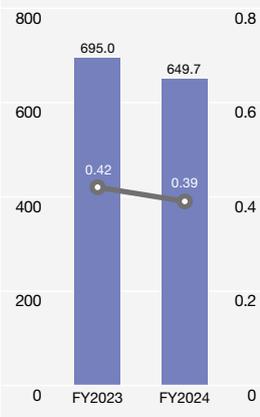
As a result, net sales of Life Science segment for the fiscal year were ¥141.2 billion, up ¥14.4 billion, or an 11.4% increase, from the previous fiscal year. Operating profit decreased by ¥8.8 billion, to a loss of ¥21.2 billion, owing to factors including upfront expenses associated with capacity expansion for the biopharmaceuticals CDMO.

Sales and Operating Profit by Reportable Segment

	(Unit: Millions of yen)	
	FY2023	FY2024
Architectural Glass Operations		
Sales	¥476,295	¥437,987
Operating profit	32,763	16,367
Operating margin	6.9%	3.7%
Automotive Operations		
Sales	499,708	498,794
Operating profit	21,786	13,917
Operating margin	4.4%	2.8%
Electronics Operations		
Sales	313,168	364,545
Operating profit	18,352	54,473
Operating margin	5.9%	14.9%
Chemicals Operations		
Sales	574,119	593,615
Operating profit	64,769	56,764
Operating margin	11.3%	9.6%
Life Science Operations		
Sales	126,815	141,218
Operating profit	(12,378)	(21,158)
Operating margin	-9.8%	-15.0%

Interest-Bearing Debt and Debt-to-Equity Ratio

(Billions of yen/Times)

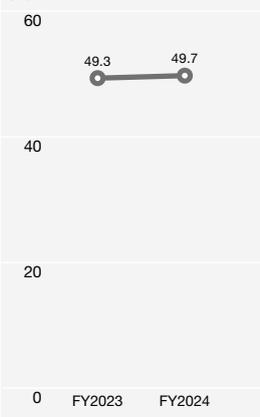


■ Interest-Bearing Debt (left scale)
● Debt-to-Equity Ratio (right scale)

* Debt-to-Equity Ratio = Interest-Bearing Debt/Total Equity

Equity Attributable to Owners of the Parent Ratio

(%)



Assets, Liabilities and Equity

We continue to adhere to a policy of maintaining appropriate liquidity, securing the funds necessary to conduct our operations and ensuring the soundness of our balance sheet. With the aim of facilitating the stable procurement of long-term funds, we have obtained an A- rating from Standard & Poor's, an A2 rating from Moody's Investors Service and an AA rating from Rating and Investment Information, Inc.

Total assets as of the end of the fiscal year were ¥2,889.7 billion, down ¥43.3 billion from the end of the previous fiscal year. This was mainly due to decreases in goodwill, cash and cash equivalents and intangible assets while property, plant and equipment increased.

Total liabilities as of the end of the fiscal year were ¥1,218.0 billion, down ¥60.7 billion from the end of the previous fiscal year. This was mainly due to a decrease in interest-bearing debt.

Total equity as of the end of the fiscal year was ¥1,671.7 billion, up ¥17.4 billion from the end of the previous fiscal year. This was mainly due to increases in exchange differences on translation of foreign operations and non-controlling interests while retained earnings decreased.

As a consequence of the above, the equity attributable to owners of the parent ratio for fiscal year 2024 increased by 0.3 percentage points from 49.3% to 49.7%. Equity attributable to owners of the parent per share decreased from the previous fiscal year to ¥6,773.86.

Summary of Assets, Liabilities and Equity

(Unit: Millions of yen)

	FY2023	FY2024
Total assets	¥2,932,991	¥2,889,665
Total current assets	1,041,878	1,001,270
Inventories	454,056	454,143
Property, plant and equipment	1,457,950	1,550,862
Total current liabilities	717,298	708,771
Interest-bearing debt	695,009	649,739
Total equity	1,654,338	1,671,697
Equity attributable to owners of the parent ratio	49.3%	49.7%
Equity attributable to owners of the parent per share (Yen)	6,831.89	6,773.86
Debt-to-equity ratio (Times)	0.42	0.39

Cash Flows

The free cash flow for the fiscal year, which is the sum of cash flows from operating activities and investing activities, was ¥89.2 billion (positive ¥32.8 billion in the previous fiscal year) mainly due to operating profit and proceeds from sale of other financial assets. On the other hand, there were repayment of interest-bearing debt and payment of dividends in cash flows from financing activities. Cash & cash equivalents as of the end of the period (net cash) decreased by ¥38.1 billion or 26.1% from the end of the previous fiscal year to ¥108.0 billion.

■ Cash Flows from Operating Activities

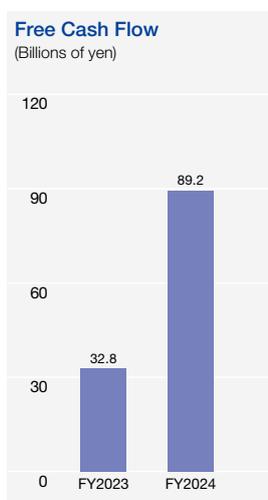
Net cash from operating activities for the fiscal year was ¥284.8 billion, up ¥72.3 billion or 34.0% from the previous fiscal year.

■ Cash Flows from Investing Activities

Net cash used in investing activities for the fiscal year was ¥195.6 billion, up ¥15.8 billion or 8.8% from the previous fiscal year. This expenditure was mainly due to purchase of property, plant and equipment.

■ Cash Flows from Financing Activities

Net cash used in financing activities for the fiscal year was ¥131.9 billion, up ¥23.9 billion or 22.2% from the previous fiscal year. This expenditure was mainly due to repayment of interest-bearing debt and payment of dividends.



Summary of Cash Flow Statements

	(Unit: Millions of yen)	
	FY2023	FY2024
Net cash from operating activities	¥ 212,546	¥ 284,815
Profit (loss) before tax	122,775	(50,050)
Depreciation and amortization	175,346	181,273
Net cash from investing activities	(179,790)	(195,583)
Purchase of property, plant and equipment and intangible assets	(213,531)	(242,359)
Free cash flow	32,755	89,232
Net cash from financing activities	(108,021)	(131,949)
Effect of exchange rate changes on cash and cash equivalents . . .	11,610	5,350
Net changes in cash and cash equivalents resulting from transfer to assets held for sale	—	(707)
Net increase (decrease) in cash and cash equivalents	(63,654)	(38,073)
Cash and cash equivalents at beginning of year	209,716	146,061
Cash and cash equivalents at end of year	146,061	107,988

Business Risks

For the purpose of managing risks in accordance with their characteristics, the AGC Group has grouped its risks into the following seven categories, as shown in the table below.

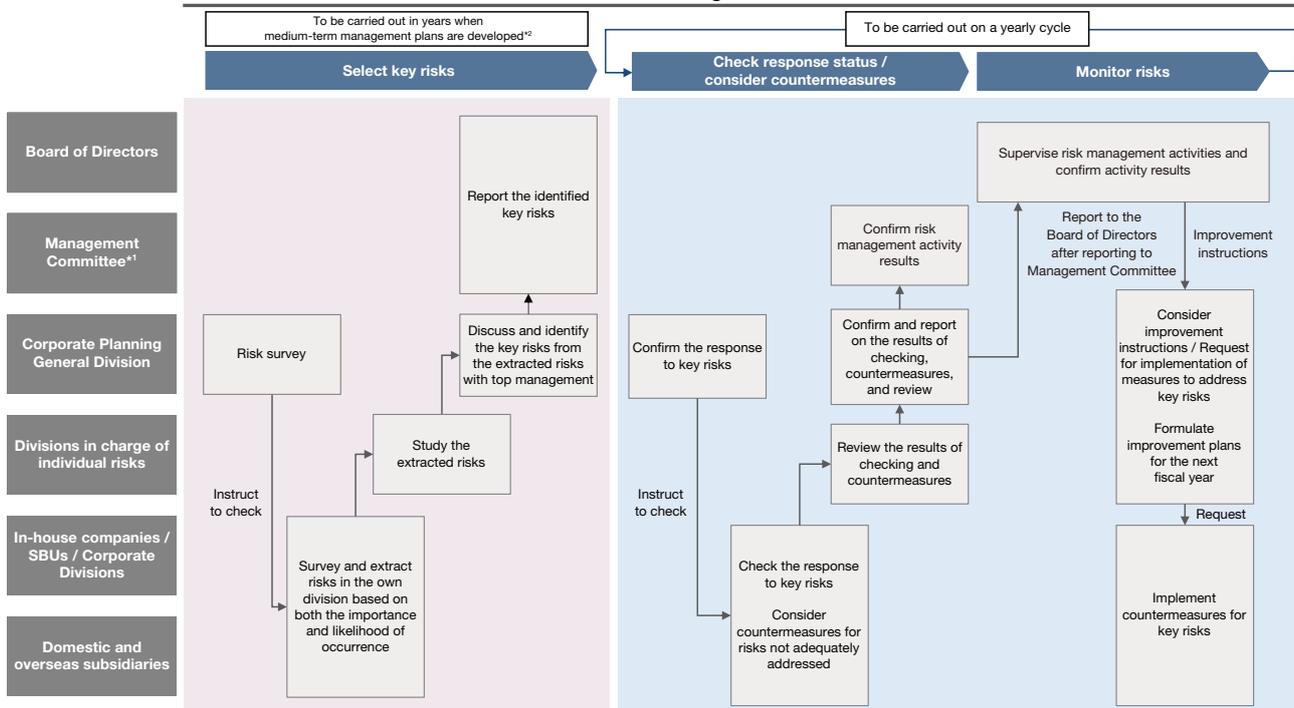
Category	Examples of risk
Strategy	Various individual risks related to business management, such as changes in market environment, competitive advantage, new business exploration and investment, and geopolitical and country risks
Operation	Procurement risks due to supply chain issues Business suspension and compensation risks due to violation of environment and safety-related laws and occupational accidents Risks associated with violations of laws, ordinances and regulations regarding product quality and customer requirements
Compliance	Risks of administrative sanctions and business suspension arising from antitrust law, bribery, and security trade control Risk of loss of trust due to intentional tampering with quality and environmental data Risk of loss of trust due to improper accounting or window dressing
Sustainability	Risk of erosion of trust and suspension of transactions due to the inability to deal with requests regarding climate change, respect for human rights, and related issues
Natural disasters and infectious diseases	Business interruption risk due to natural disasters such as large-scale earthquake and storm damage, outbreak of an unknown virus, or pandemic
Cybersecurity and information security	Risk of information leak or business interruption due to cyberattack Risk of information leak due to reasons other than cyberattack
Financial	Risk related to the reliability of financial reporting, as well as financing and fund procurement

In risk management, the Group has identified as key risks those risks that are expected to have a significant impact on the Group when they occur, considering the magnitude of the impact and the likelihood of occurrence, and is closely monitoring them.

In the Strategy category, in-house companies, SBUs, and corporate divisions analyze risks and examine countermeasures for each business and project. If necessary, such risks are deliberated on by the Management Committee and the Board of Directors. Key risks are revised every year in order to respond rapidly to changes in the market environment and the factors that may impact risks.

For risks other than those in the Strategy category, the corporate division in charge of each risk establishes guidelines and related policies, as well as undertakes related activities such as familiarization, training, and auditing. In addition, the entire AGC Group conducts self-inspections, and the results are monitored by the Management Committee and the Board of Directors. Key risks are added when needed. Concurrently, key risks are revised in years when medium-term management plans are formulated, considering the magnitude of the risks' impact and likelihood of occurrence.

Risk Management Process



¹ Including business strategy meetings and other meetings similar to Management Committee meetings ² Revisions will be made as needed in accordance with changes in the business environment and other factors.

<Response to risks that have emerged>

In preparation for unforeseen events that could have a significant impact both on the operating results and financial condition of the AGC Group in accordance with the relevant internal rules, the Group has established a crisis management report line to report on critical information speedily and surely to the CEO, and to further distribute and share the information among officers and employees concerned under the “Bad News First” concept. In addition, the Group has a system where a Group task force can be set up immediately at the discretion of the President & CEO to ensure that a prompt and appropriate initial response can be taken.

Business risks

Risks associated with the Group’s operations and other risks that may materially influence investors’ decisions are stated in this section. However, this section does not include all possible risks relating to the Group; there may exist additional risks not stated below. Any such risks are also likely to influence investors’ decisions. Forward-looking statements in this section are based on information available as of March 28, 2025.

<Strategic risks>

(1) Geopolitical risk / country risk

The Group, in addition to its operations in Japan, has overseas operations, including exports and imports of products and manufacturing abroad. As risks associated with these global business activities, the Group is considered to face geopolitical and country risks including deteriorating political and economic conditions, the imposition of regulations on exports and imports and foreign investments, unexpected changes in laws and regulations, the worsening of public security, economic sanctions between countries, and the occurrence of social turmoil or other disruptions due to terrorist attacks, war, infectious diseases or other factors in the countries and regions where the Group operates. For its part, the Group carefully monitors factors such as political and economic conditions and regulatory trends in each country and region and strives to mount effective responses appropriate to the situation.

However, the occurrence of these events may hinder the Group’s overseas operations and have a serious effect on its performance and financial position.

(2) Changes in the market environment

Demand for the Group's products is impacted by market trends in industries such as construction and building materials, automobiles, electronics and displays, chemicals, and pharmaceuticals and agrochemicals. The Group's products are supplied throughout the world, for example in Asia, the United States and Europe, as well as in Japan, and sales are therefore influenced by local economic conditions. Although the Group is working hard to build an earnings structure that is resilient to changes in the business environment by improving productivity and reducing fixed and variable costs, through falling sales volumes and prices, its performance and financial position are susceptible to declining demand from the industries as well as economic downturns in the regions where its products are primarily sold.

1) Architectural Glass

In the Architectural Glass segment, the Group has established development and production bases in Japan/Asia, Europe and the Americas and supplies products throughout the world. Demand for architectural glass is correlated with construction investment, which varies with economic conditions in each region and country. Accordingly, earnings in this business could be impacted by fluctuations in demand for architectural glass.

2) Automotive

In the Automotive segment, demand for automotive glass is influenced by automobile sales volume, which is correlated with factors such as economic fluctuations in each region and country. Accordingly, earnings in this business could be impacted by fluctuations in demand for automotive glass.

3) Electronics

Products in the display business are used in LCD TVs, smartphones, and tablets, etc. In the LCD glass substrate business, changes in the market shares of panel manufacturers, which are the Group's customers, shifts in market trends, and other developments are expected to occur. The Group has been working to expand sales based on its customer portfolio. Nonetheless, customer and market trends could have an impact on the profitability of the display business. In the electronic materials business, the Group's main customers are companies involved in industries such as semiconductors and optoelectronics. The performance of these customers depends on market trends in areas such as semiconductors, smartphones, communications infrastructure and industrial equipment. For this reason, earnings in the electronic materials business could be influenced by the impact of these trends.

4) Chemicals

In chlor-alkali products, the Group has established production bases primarily in Japan and Southeast Asia, where progress is being made on infrastructure development, and is expanding its business. Demand for these products is mainly correlated with economic growth rates and capacity utilization in core industries in each region and country. Accordingly, earnings in this business could be impacted by fluctuations in demand for chlor-alkali products. In the fluorochemicals & specialty business, the Group's main customers are companies involved in transportation equipment, semiconductor and construction industries. Accordingly, earnings in the fluorochemicals & specialty business could be impacted by market trends in these industries.

5) Life Science

In the life science business, the Group is greatly impacted by business conditions and the development status of new products in the pharmaceuticals and agrochemicals industries. Accordingly, earnings in the life science business could be impacted by these trends.

(3) Risks related to competitive advantage

In every business in which the Group operates, there are competitors supplying products similar to those of the Group. Accordingly, to maintain its competitive edge relative to those competitors, the Group is striving to identify the needs of markets and customers, and to meet requests for quality, price, delivery and other factors, as well as develop new technologies and acquire intellectual property.

However, should the Group fail to appropriately respond to changes in those customer needs, develops new technologies too slowly, or intellectual property-related lawsuits and other legal proceedings occur, growth could be hampered and profitability could decline. This may significantly impact the AGC Group's performance and financial position.

Currently, the Group is involved in some intellectual property-related lawsuits and other legal proceedings. If these lawsuits and legal proceedings result in a disadvantageous outcome for the Group, its performance and financial position may be significantly impacted.

(4) Risks related to new business exploration and investment

The Group strives to explore new businesses, with the aim of ensuring short- and medium-term growth and enhancing profitability. The Group accomplishes this goal through investment-driven acquisitions of technologies and businesses. When engaging in new business exploration and investment, the Group strives to identify risks by undertaking profitability analysis and due diligence, considering a range of risks. However, if the environment changes or unforeseen risk factors materialize during the business development phase, the Group's growth and profitability might be hindered. This has the potential to significantly affect the Group's performance and financial position.

<Operation risk>

(1) Supply chain

In cases where manufacturing is outsourced to subcontractors, the Group endeavors to secure multiple subcontractors from the perspective of business continuity.

However, given that some of the Group's products cannot be replaced by alternatives, should production cease temporarily or for an extended period because of serious production disruptions and similar situations at the Group or the Group's manufacturing subcontractors, the Group's performance and financial position could be seriously affected.

Additionally, as part of the Group's production activities, the Group uses certain special raw materials, supplies and other resources for which suppliers are limited. The Group considers alternative materials and strives to promote the purchasing of such raw materials, supplies, and other resources from multiple suppliers.

However, if the supply of these materials tightens or is delayed, or price fluctuations occur, the Group's performance and financial position may be greatly affected.

(2) Environment, safety, and quality

The Group is making every effort to ensure that products are of the highest quality, according to their individual characteristics.

Despite these efforts, the possibility remains that quality problems may occur because of unanticipated factors, prompting a major recall, for example. If the Group is pursued for product liability, this could have a significant impact on its performance and financial position.

Additionally, the Group complies with all applicable laws and regulations related to the environment, while striving to protect the global environment by mitigating environmental impacts associated with business operations through such means as setting and implementing voluntary control standards that are more stringent than legal and regulatory benchmarks.

Nevertheless, as an environmental regulation risk, the Group could find itself involved in unintended environmental pollution or other such incidents as a result of emissions from the Group's manufacturing processes, chemical substances contained in its products, or other such causes. Such a scenario could result in a deterioration in the Group's social credibility, restrictions on business activity, incurring expenses, and other consequences, which could affect the Group's profit and loss. Moreover, revised or strengthened regulations in each country or region may require the Group to bear additional costs or capital investment, or such regulations may hinder product development, production, sales, services and other business activities. In such a scenario, the Group's profit and loss could be affected.

In the Chemicals segment, the Group manufactures and sells various fluorine-related products. Chemical substances that contain carbon and fluorine atoms (perfluoroalkyl compounds or polyfluoroalkyl compounds) are broadly and collectively referred to as PFAS. Although there are approximately 12,000 types of PFAS, only a few types of PFAS are currently targeted by the Stockholm Convention due to concerns about their negative impacts on the environment and human health. The three subgroups of PFAS currently listed under the Stockholm Convention as industrial Persistent Organic Pollutants (POPs) are PFHxS, PFOA, and PFOS. Of these, the Group has never engaged in the production and sale of PFOS and PFHxS. Moreover, the Group ceased the production and sale of PFOA, prior to its listing under the Stockholm Convention. Although each PFAS substance has distinct characteristics and different properties, the European Union and some states in the United States are proposing to regulate all PFAS collectively without distinguishing the various PFAS substances. Considering the significant role of fluorine-related products in many industries, the Group is making efforts, such as submitting public comments to the agency of European Union, to ensure that PFAS will be regulated to the appropriate extent by taking into account the properties of each PFAS substance based on sufficient scientific findings, even if certain restrictions are enforced on PFAS. The scope and details of regulations regarding PFAS are not finalized yet; however, the regulations which may be introduced could affect the Group's performance.

Furthermore, the Group endeavors to prevent occupational accidents and other accidents involving equipment and facilities such as production machinery, through the establishment and operation of a systematic management system for the environment, industrial safety and security, and occupational safety and health, along with efforts to promote and ensure machinery safety and to manage inspections, maintenance and repairs.

However, unforeseeable events such as a severe occupational accident, serious fire, explosion or leakage incident may occur. In such a case, the Group's profit and loss could be affected.

<Compliance risks>

(1) Government regulations

In the countries and regions where it operates, the Group is subject to the local government approval and authorization of investments, regulations on exports and imports, and laws and regulations governing commercial transactions, labor, patents, taxation, foreign exchange, and other issues. The Group closely monitors trends in amendments to relevant laws and regulations and strives to gather information. Despite these efforts, amendments to relevant laws and regulations may significantly influence the Group's performance and financial position.

(2) Litigation and legal procedures

There is always a risk that lawsuits and other legal proceedings may be taken against the Group with respect to its operations at home and abroad. Currently, the Group is involved in some lawsuits and other legal proceedings. If these lawsuits and proceedings result in an unfavorable outcome for the Group, its performance and financial position may be significantly impacted.

In the United States, multiple lawsuits have been filed by individuals, local governments, and others against fluorine-based fire-fighting foam manufacturers and fluorine chemical manufacturers, including the Group, alleging environmental and health impacts caused by products, such as fire-fighting foams, that contain PFAS. If the outcomes turn out unfavorable for the Group, its performance and financial position may be affected. The Group is appropriately addressing these lawsuits with the assistance of outside legal counsel.

<Sustainability risks>

As stated in "Approaches and Initiatives Related to Sustainability," the Group identifies and manages key risks and major opportunities related to long-term social issues (material issues).

However, if the Group fails to meet the requirements of customers and other stakeholders regarding the five key risks listed below, the Group's performance and financial position could be significantly impacted.

(1) Responding to climate change issues

Since the Paris Agreement was reached in 2015, the trend toward decarbonization has been accelerating, and energy-related policies, and laws and regulations are expected to become stricter, while social demands for companies to achieve net zero greenhouse gas emissions are increasing. With this risk in mind, the Group has set its vision for 2050 to "aim for net zero emissions from our own business activities (Scope 1, 2)." Concurrently, it has established a goal to "contribute to the realization of net zero carbon worldwide through our products and technologies." To realize its vision for 2050, the Group will strive to implement measures to reduce greenhouse gases according to the sources of emissions, such as the development of manufacturing technologies and facilities with low greenhouse gas emissions. At the same time, the Group will take this item as a major opportunity to expand sales of products that save or generate energy throughout their life cycle, and to build business models that contribute to the spread of renewable energy.

However, if carbon pricing such as a carbon tax which has begun to be implemented in some areas is required to be implemented on a full scale, the cost burden required to comply with these regulations and other rules may have an impact on the Group's profit and loss. Additionally, the Group may potentially be subject to opportunity loss due to deterioration of its reputation or social credibility if it is unable to address increasingly stringent regulations in each country and geographical region for conforming to regulations on greenhouse gas emissions and otherwise addressing climate change; it is unable to achieve targets for reducing greenhouse gas emissions in alignment with the Paris Agreement; or it is unable to address mounting stakeholder demands for the Group to contribute to decarbonization through its business activities.

(2) Effective use of resources

Stricter regulations on the use of depletable resources such as rare earth materials and increased demand for water resources due to the progress of urbanization are expected to have an impact on manufacturing activities. At the same time, social demand for waste reduction and recycling is increasing as the recycling-oriented economy accelerates. The Group is striving to utilize recycled raw materials and materials, as well as reduce the amount of landfill disposal. It considers this item as a major opportunity to expand sales of products that contribute to the purification of groundwater and rainwater in water-scarce areas, develop products and manufacturing processes that use less depletable resources, and expand sales of products that are highly recyclable and reusable.

However, if the trend toward developing standards and legislation for recycling-oriented economic systems advance faster than anticipated, the Group may be unable to adequately meet demand for waste reduction and recycling. Such a scenario could lead to opportunity losses in the market.

(3) Supply chain considering society and the environment

As supply chains become more globalized and complex, it may be expected that illegal employment issues, such as forced labor and child labor, will occur at suppliers and subcontractors, as well as operational stoppages, regulatory violations, and related issues due to stricter environmental regulations. With this risk in mind, the Group has established the AGC Group Human Rights Policy and the AGC Group Purchasing Policy, which stipulates sustainable procurement and other measures to reduce environmental impact. Moreover, the Group will work to add value to the entire supply chain. It announced the Declaration of Partnership Building, which aims to build co-existence and co-prosperity with suppliers through collaboration that transcends existing business relationships and corporate scale. The Group will strive to manage suppliers with an emphasis on respect for human rights and environmental protection.

(4) Ensuring fair and equal employment and workplace safety

There is a growing need for compliance in employment and respect for workers' rights, as well as a need for safety measures at manufacturing sites due to the increasing number of inexperienced and elderly workers. With this risk in mind, the Group will strive to improve employee engagement and prevent the occurrence of serious and lost-time injuries.

(5) Relationship with local communities and environmental considerations

There is growing interest in the expansion of living areas and the maintenance of the surrounding biodiversity due to the spread of urbanization around the world, as well as a growing awareness of the need to improve quality of life (QOL) as living standards improve in emerging countries. With this risk in mind, the Group will strive to reduce water consumption, conserve biodiversity, and eliminate environmental accidents, as well as build good relationships with the areas where its work sites are located.

<Risk of natural disasters and infectious diseases>

In preparation for the occurrence of natural disasters, infectious diseases or other such events, the Group has assessed the risks concerning earthquakes, high winds, flooding, infectious diseases, and other such events at its major bases, and has drawn up business continuity plans for bases that are exposed to significant hazards.

Despite these efforts, the Group faces the risk of unforeseen events such as the interruption of business activities, damage to production facilities, suspension of product shipments due to severed transportation networks, as a result of natural disasters such as major earthquakes, typhoons, and floods as well as unknown infectious diseases that may exceed what is anticipated by the business continuity plans. If production is suspended temporarily or for an extended period in the Group or the Group's supply chain as a result of the occurrence of such unforeseen events, the supply of products to customers may be disrupted given that alternative production is not possible for certain products, and this could have an impact on the Group's performance and financial position.

<Cybersecurity and information security risk>

Information security threats continue to increase as a result of temporary operational stoppages or the leakage of information assets caused by cyberattacks, or natural disasters, unauthorized access, and other unforeseen situations. The Group strives to protect its information assets, such as IT systems, manufacturing systems, and data. Moreover, the Group implements measures to prevent security incidents and measures to minimize the impact of such incidents when they occur.

However, if important operations are interrupted or confidential data is leaked and so forth due to a cyberattack, natural disaster, unauthorized access, or other such unforeseen situation, this may have a significant impact on the Group's performance and financial position.

<Financial risks>

(1) Rising raw material and fuel prices

If there are fluctuations in the prices of electricity, fuel gas, heavy oil or raw materials used in the Group's production activities, the Group's performance and financial position could be affected. The Group hedges the risk of price fluctuations for certain raw materials and fuel through instruments such as commodity contracts. Nevertheless, the Group may be unable to completely eliminate the impact of rising raw material and fuel prices.

(2) Exchange rate fluctuations

The Group manufactures and sells products worldwide, and converts transaction accounts in local currencies, including sales, costs, and assets, into Japanese yen when preparing its consolidated financial statements. Even if the values of these items remain unchanged in local currency terms, they may change when converted into Japanese yen depending on exchange rates.

The Group also manufactures products at its facilities worldwide, including Japan, and exports the products to a number of countries. The Group generally procures raw materials and sells products in the local currency of each country/region, but there are some product sales and material purchases denominated in foreign currencies. Accordingly, fluctuations in exchange rates influence the prices of materials the Group procures and the pricing for its products. The Group implements measures such as hedge transactions to address short-term exchange rate fluctuations, along with striving to reduce risk through steps such as conducting production from production bases located globally. Despite these efforts, the Group's performance and financial position could be impacted heavily as a result of large movements in exchange rates.

(3) Retirement benefit obligations

The Group calculates costs for employee retirement benefits and obligations based on actuarial assumptions of the returns on pension funds and a specific discount rate. If the actuarial assumptions and results diverge substantially because of deterioration in the market environment for pension fund management, future costs for retirement benefits will increase, and this may seriously impact the Group's performance and financial position.

(4) Impairment of non-financial assets

Non-financial assets including property, plant and equipment, goodwill and intangible assets reported on the Group's consolidated statements of financial position may become subject to impairment loss if a recoverable amount of any such asset has fallen below the carrying amount due to lower profitability, changes in fair value, or other such circumstances going forward. Such a scenario could significantly affect the Group's performance and financial position.

In particular, for AGC Biologics, Inc., which engages in contract development and manufacturing of biopharmaceutical active ingredients and gene and cell therapeutics and is included in the Life Science segment, operating profit has deteriorated mainly due to a delayed recovery in demand in the market for biopharmaceutical active ingredients and gene and cell therapeutics from a decrease in capital inflows to biotech ventures. Other indications of impairment have also been confirmed for the cash generating unit to which the relevant non-financial assets belong owing to a significant decrease in future order and facility utilization prospects. The Group performed an impairment test at the end of the second quarter of the fiscal year ended December 31, 2024. As a result, since the recoverable amount calculated based on value in use was less than the carrying amount of the cash-generating unit, the Group recognized an impairment loss of ¥70,410 million. In addition, for AGC Biologics A/S, which engages in contract development and manufacturing of biopharmaceutical active ingredients and is included in the Life Science segment, operating profit has deteriorated owing primarily to a delayed recovery in demand in the market for biopharmaceutical active ingredients from a decrease in capital inflows to biotech startups as well as delays in the launch of new lines and increased operating costs, and such increased operating costs are expected to continue in the future. There are indications of impairment for the cash-generating unit to which the relevant non-financial assets belong. The Group performed an impairment test at the end of the second quarter of the fiscal year ended December 31, 2024. As a result, since the recoverable amount calculated based on the value in use was less than the carrying amount of the cash-generating unit, the Group recognized an impairment loss of ¥28,904 million. Furthermore, in the fiscal year 2024, for AGC Biologics S.p.A., which engages in contract development and manufacturing of gene and cell therapeutics and is included in the Life Science segment, operating profit has deteriorated mainly due to a delayed recovery in demand in the market for gene and cell therapeutics. Other indications of impairment have also been confirmed for the cash generating unit to which the relevant non-financial assets belong owing to a decrease in future order prospects. The Group performed an impairment test at the end of the second quarter of the fiscal year ended December 31, 2024. As a result, since the recoverable amount calculated based on the value in use was less than the carrying amount of the cash-generating unit, the Group recognized an impairment loss of ¥18,980 million.

The Group has performed impairment tests as of the end of the fiscal year ended December 31, 2024. As a result, since the recoverable amount of each cash-generating unit calculated based on the value in use was above the carrying amount of each cash-generating unit, the Group did not recognize additional impairment losses. However, it may be impacted in the future by economic and other conditions in the market.

Approaches and Initiatives Related to Sustainability

The AGC Group’s approaches and initiatives related to sustainability are as described below.

Any forward-looking statements in this report are based on judgments made by the Group as of March 28, 2025.

■ Common to Sustainability

(a) Governance

The Sustainability Committee has been established to deliberate and decide on basic policies and measures related to sustainability. The Board of Directors makes decisions on particularly important matters. The Sustainability Committee meets four times a year, chaired by the CEO and is attended by the CFO, CTO, Audit & Supervisory Board Members, and general managers of each division. The details of the meetings are reported to the Board of Directors twice a year. The Sustainability Division, which belongs to the Corporate Planning General Division, acts as the secretariat of the Sustainability Committee and leads the formulation and execution of sustainability management strategies for the entire AGC Group.

(b) Strategy

The Group identifies long-term social issues (materialities*) as major opportunities and major risks that might have an impact on the long-term direction of business and corporate value. Based on these major opportunities and risks, we have set long-term management strategies, business strategies, and sustainability targets and KPIs.

* The AGC Group’s materialities: Addressing climate change; Using resources effectively; Developing social infrastructure; Achieving safe, comfortable mobility; Addressing food crises; Building an info-oriented, IoT-society; Facilitating better health and longevity; Creating socially and environmentally conscious supply chains; Ensuring fair and equal employment and workplace safety; Considering relationships with local communities and the environment

In the previous medium-term management plan, **AGC plus-2023**, we focused on building a structure for the promotion of sustainability management. In the new medium-term management plan, **AGC plus-2026**, which started in fiscal 2024, we have set as one of our main strategies “Deepening of sustainability management” to further incorporate a sustainability perspective into our daily business operations.

The long-term management strategy “Vision 2030,” announced in February 2021, set forth the five social values that Group wants to create, in addition to financial targets, and clearly states that it will contribute to the realization of a sustainable society. Under **AGC plus-2026**, in order to further promote the understanding of these social values among internal and external stakeholders, including employees, we refocused the five social values and redefined them into three social values to be created by AGC’s products and technologies and thus clarified the content of our contribution to society. Since its founding, the Group has created a great deal of social value through the expansion of domains such as the Glass Business, which contributes to energy conservation and comfortable living through the circulation of resources, and its Chemicals Business, which produces a variety of products that are essential as social infrastructure. We will continue to create a virtuous circle of further social value creation by capturing materiality opportunities and improving corporate value through the pursuit of social and economic value through our business activities.

* Three social values

 <p>Blue planet Realization of a sustainable global environment</p>	<p>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.</p>
 <p>Innovation Creation of an innovative future society</p>	<p>We contribute to the creation of innovative future society by providing materials and solutions that support the world’s most advanced technologies.</p>
 <p>Well-being Contribution to safe and secure living</p>	<p>We contribute to safe, secure, comfortable, and healthy lives by providing products necessary for daily life, infrastructure, and healthcare in a more stable manner.</p>

(c) Risk management

The Group has set sustainability-related targets and KPIs with the aim of addressing major materiality-related risks. Under the supervision of the Board of Directors, the Sustainability Committee decides on policies for addressing issues and deliberates on future measures based on the progress of targets.

(d) Metrics and targets

The AGC Group has established sustainability KPIs and is monitoring the implementation of the “Deepening of sustainability management” set forth in the medium-term management plan **AGC plus-2026**, namely, the incorporation of a sustainability perspective into overall management and the implementation of human capital management.

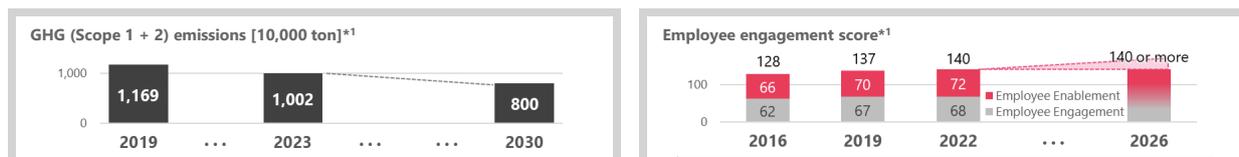
As KPIs for measuring the sustainability of our management foundation, we have set targets for reducing environmental impact (GHG emissions reduction targets*¹), which is an important issue in our business activities, and for the employee engagement score*², which measures the promotion of human capital management.

In addition, as KPIs for measuring business growth from a sustainability perspective, we have set and are monitoring metrics to measure the expansion of businesses that create the three types of social value that the AGC Group wants to create.

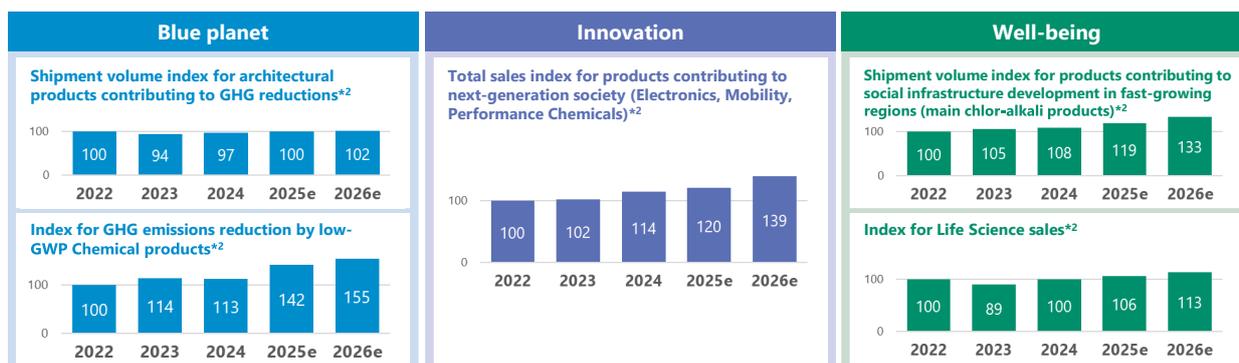
*1 Please refer to Business Risks, Responding to climate change issues.

*2 Please refer to Approaches and Initiatives Related to Sustainability, Human capital and diversity.

(KPIs for measuring the sustainability of the management foundation)



(KPIs for measuring business growth from a sustainability perspective)



■ Addressing climate change

The AGC Group recognizes climate change as a major factor in determining corporate value and business strategy. The Company endorses the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) established by the Financial Stability Board in 2019, and properly discloses information on its analysis of climate change risks and opportunities.

(a) Governance

To consider management strategies and respond to risks based on internal and external changes brought about by climate change issues, timely discussions are held in the Environmental Response Meeting (the Climate Change Response Meeting was realigned in 2024) and its task forces. These were established by a resolution of the Sustainability Committee and are chaired by the General Manager of the EHSQ General Division and the General Manager of the Sustainability Division in the Corporate Planning Division. These meetings bring together corporate divisions with expertise in global and cross-business data management, technology innovation, energy management, and supply chain management to work with the business divisions who take action to reduce GHG emissions in a global and cross-business manner.

(b) Strategy

The AGC Group is evaluating future risks and opportunities using multiple scenarios related to climate change (e.g., 1.5°C and 4°C scenarios) based on the TCFD recommendations. We have further specified the risks and opportunities related to each business, comprehensively organized the key impact factors under different climate change scenarios, and assessed their effects on our businesses and regions of operation.

■ Analysis of Major Impacts on Business and Responses Considering Climate Scenarios

Type	Risks & opportunities	Scenarios	Potential financial impacts	Responses
Transition risks	Increase in carbon prices	Developed countries: US\$140/t-CO ₂ Emerging countries: US\$90/t-CO ₂ (2030/NZE (1.5°C) ^{*1}) ^{*2}	Up to US\$1,041 million/year [*] Assuming emissions remain at 2023 levels (Scope 1 & 2) [*] Considers possible introduction of carbon pricing in each country and region by 2030 consolidated basis / NZE (1.5°C)	<ul style="list-style-type: none"> • Transitioning to alternative fuels, oxygen combustion, and electrification of float glass melting furnaces • Reducing electricity consumption intensity and integrating renewable energy into chlor-alkali electrolysis facilities • Incorporating internal carbon pricing into investment decisions • Assess and optimize the business portfolio based on scenario analysis and carbon efficiency
Physical risks	Sudden disasters (Floods)	2050/RCP8.5 (4°C) ^{*3}	Up to ¥360 million/year (18 sites in Japan)	<ul style="list-style-type: none"> • Installation of flood surge prevention equipment
Opportunities	Building renovation market	2030/APS (below 2°C) ^{*4}	Renovation rates in Europe to double by 2030	<ul style="list-style-type: none"> • Sales of high-performance window glass with superior heat insulation and recyclability • Sales of Building-Integrated Photovoltaics (BIPV)
	Market for next-generation coolants and solvents	2030/APS (below 2°C)	Low-GWP coolant market expected to expand 2x in size by around 2030	<ul style="list-style-type: none"> • Sales of next-generation coolants and solvents
	Hydrogen market	2030/NZE (1.5°C)	Expansion of cumulative water electrolyzer installation capacity (from 5.2GW to 558GW)	<ul style="list-style-type: none"> • Sales of materials for hydrogen production and utilization

^{*1} Net Zero Emissions (NZE) Scenario

^{*2} The NZE scenario-based calculations represent the highest risk for financial impact assessment across multiple scenarios.

^{*3} Representative Concentration Pathways (RCP), as published in the IPCC Fifth Assessment Report.

^{*4} Announced Pledges Scenario (APS)

We analyze the major risks and opportunities identified through risk and opportunity assessments that are common and significant across the entire Group or multiple businesses, and then formulate our management strategy and business planning.

As risks associated with rising temperatures, a rise in carbon prices has been identified as a transition risk and an increase in sudden disasters such as floods and storm surges as physical risks. To mitigate the impact of these transition risks, we are promoting companywide business portfolio transformation, investments to reduce Scope 1 and 2 emissions, and the operation of an internal carbon pricing system that contributes to incentives for the development of technologies to reduce emissions. As for physical risks, we assess the impact of the intensification of sudden disasters on the entire value chain and use the results to implement countermeasures.

On the other hand, there are many important opportunities arising from the realization of the decarbonized society. The AGC Group organizes market projections and other information from reliable third-party organizations and uses this information for formulating business plans within the Group. Our products that meet new market needs include heat-insulating window glass for buildings, which excels in durability and recyclability with consideration given to resource recycling, and next generation coolants and solvents with extremely low global warming potential (GWP) coefficients.

Risks and opportunities arising from climate change and their analysis are reviewed periodically.

(c) Risk management

Significant climate-related risks that may occur in the short to medium term are selected and managed under the framework of Integrated Risk Management in accordance with the AGC Group Integrated Risk Management Basic Policies. We aim to improve our management levels through annual self-checks conducted throughout the entire Group, and the results are monitored by management and directors. These major risks are updated as necessary to comply to changes in laws and regulations and social demands, and a full re-evaluation and review is conducted every three years.

With regard to long-term climate change-related risks, we aim to minimize risks and reinforce our competitiveness by continuing to evaluate the appropriateness of our strategies through scenario analyses and deliberations of the Sustainability Committee.

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

(d) Metrics and targets

As a metric used to assess climate change risks and opportunities, AGC sets and manages GHG emissions reduction targets as KPIs. Furthermore, with the aim of achieving net-zero*¹ carbon by 2050, AGC has set a milestone target of reducing GHG emissions by 30% by 2030 compared with the 2019 levels*^{1*2}. Additionally, for Scope 3 emissions, we have set a target to reduce emissions by 30% by 2030 compared to 2019 levels, focusing on Categories 1, 10, 11, and 12, which account for approximately 70% of our Scope 3 emissions.*² We have also established an engagement goal to encourage suppliers accounting for 30% of Scope 3 Category 1 and Category 3 emissions to obtain Science Based Targets certification by 2027.

*1 Scope 1 and Scope 2

*2 The electricity emission coefficient for 2030 is based on the figures determined using the Sustainable Development Scenarios published by the IEA.

To achieve net-zero carbon emissions, we plan emission reduction measures based on the characteristics of each business and aim to achieve them. In Scope 1, we will respond by transitioning to clean fuels such as ammonia and hydrogen in float glass melting furnaces, reducing emissions from raw materials by recycling glass cullet, recycling CO₂ from furnaces, and using biomass fuels in our own power generation facilities in the chemicals business. In Scope 2, we will address reductions by purchasing electricity from renewable energy sources and switching to energy-efficient electrolysis facilities. For Scope 3, we aim to reduce emissions across the entire value chain, not only through our own initiatives to reduce emissions, but also by encouraging suppliers to reduce their emissions.

Please refer to the AGC Sustainability Data Book 2024 for details on our initiatives to achieve net-zero carbon.

https://www.agc.com/sustainability/pdf/agc_sus_jp_2024.pdf

https://www.agc.com/en/sustainability/pdf/agc_sus_en_2024.pdf

[Actual GHG emissions in 2023]

Scope 1, 2, and 3 Emissions

(Thousand t-CO₂-e)

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

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

■ Human capital and diversity

—Approaches to Human Capital and Diversity—

The AGC Group must achieve its own sustainability to contribute to the sustainability of the world. We believe human capital is the foundation of this. Since its founding, the AGC Group has valued its human capital and encouraged taking on challenges in accordance with its founding spirit of “Never take the easy way out, but confront difficulties.” and has built its competitive advantage through the corporate culture it has developed in the process.

The AGC Group refined and updated its Group Vision “**Look Beyond**” to become the Group Philosophy “**Look Beyond**” effective January 1, 2025. Since its founding, the AGC Group has contributed to society by delivering unique materials and solutions that support the evolution and advancement of industry and society. In light of the further progress of business diversification and globalization, as well as changes in the values of society and working people, the AGC Group will strive to realize its Vision under a new Group Philosophy.

Within this philosophy, the AGC Group considers diversity to be a source of long-term competitiveness. “One Team with Diversity” has been set as one of Our Shared Values in the Group Philosophy “**Look Beyond.**” Under this mindset, we value different perspectives, seek diverse capabilities and personalities of individuals of all backgrounds and beliefs, and by leveraging each other’s strengths, we aim to create value as One Team.

(a) Governance

The AGC Group believes that, in fulfillment of its Group Philosophy “**Look Beyond,**” it is essential for it to operate as a company that respects human rights and has established the AGC Group Human Rights Policy. In the AGC Group, we work to reduce risks by conducting regular human rights due diligence in addressing prominent human rights issues such as worker safety and health and discrimination and harassment in the workplace and employment. The Group’s Sustainability Committee, chaired by the CEO, makes decisions on important matters, and such decisions are reported, discussed, and supervised by the Board of Directors.

To develop Group leadership talent, we organically link leadership talent development systems at the Group and global levels as well as at each business division and regional level. The Nominating Committee and the HR Committee—comprising the CEO, CFO, and CTO, General Manager of the Human Resources Division, and Presidents of in-house companies—are involved in this process, and outside directors give lectures at training programs. The management team thus directly participates in identifying and developing the next-generation of leadership talent.

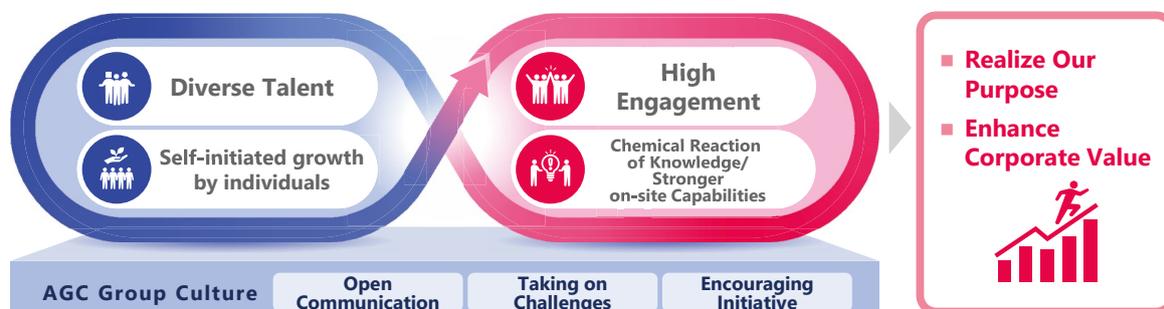
In addition, diversity (One Team with Diversity) is one of the four values of “**Look Beyond**”—and is the foundation of the AGC Group as well as a source of competitive advantage. To create an environment in which diverse people can maximize their individual abilities, the Diversity Council, chaired by the CEO, convenes twice a year to facilitate cross-departmental information sharing and discussions. Concrete initiatives are driven through four key approaches: fostering a supportive culture, recruitment, human resource development, and creating a conducive workplace environment.

(b) Strategy

The AGC Group is promoting human capital management under the banner of “AGC People: Driving our Growth!” to realize sustainable corporate growth with the aim of realizing “Vision 2030.” We further cultivate and embed a corporate culture that values open communication, taking on challenges, and encouraging initiative thus empowering diverse talent to leverage their strengths and individuality while supporting their self-initiated learning and growth. Furthermore, the collective growth of each individual creates a highly engaged and resilient organization that leverages both internal and external collaboration to drive a chemical reaction of knowledge and stronger on-site capabilities. This in turn enhances our corporate value and enables us to fulfill our Purpose. Based on the Group Philosophy “**Look Beyond**” and “AGC People: Driving our Growth!” initiative, we will foster a positive corporate culture, promote diversity, proactively hiring external talent, and develop core human capital to continue advancing as a true global company.

As for the improvement of the internal environment, we have established the motto, “No production without assurance of safety” under the AGC Group Occupational Health and Safety Policy and are committed to sharing and demonstrating this with all workers of the AGC Group. Also, we have formulated the AGC Health Declaration and will maintain and improve the health of employees so that we can continue creating value worldwide.

AGC People: Driving our Growth!



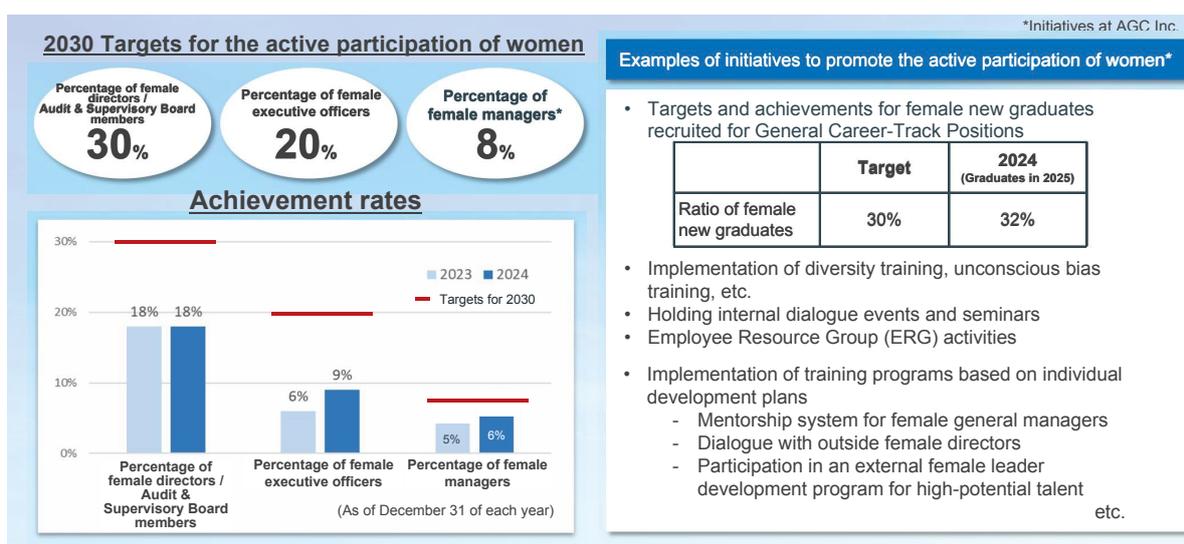
(c) Metrics and targets

The AGC Group uses the following metrics for its policies on human resource development, including ensuring the diversity of human resources, and on improving the internal environment. Targets and results related to these indicators are as follows.

(i) Encouraging the active participation of women and proactively hiring external talent

As targets for the active participation of women, AGC aims for women to account for 30% of its officers (directors and Audit & Supervisory Board members), 20% of its executive officers, 8% of its managers (AGC on a non-consolidated basis), and 30% of new graduate hires (AGC on a non-consolidated basis) by 2030. With the aim of achieving the targets, we carry out various measures such as development programs based on individual development plans. We will also promote diversity measures to achieve our targets to create an environment where diverse people can maximize their individual abilities.

In addition, the Company proactively hires external talent, mainly in strategic businesses, such as those who meet business needs and engineers who will advance future development themes. At present, approximately half of AGC Inc.'s mid-career hires are career-track employees, contributing to the enhancement of diversity in the organization.



(ii) Activities to improve engagement

The AGC Group is engaging in a variety of activities aimed at continuously improving employee engagement, based on the belief that such engagement is essential to fostering a positive corporate culture and maintaining and developing a competitive advantage.

Since 2005, the AGC Group has conducted engagement surveys every three years targeting Group company employees both inside and outside Japan. As the core of our engagement improvement activities is abundant dialogue, we promote meetings in small groups at each workplace based on the survey results and implement necessary measures in each department and workplace. For managers, we provide a guidebook for facilitating dialogue and support activities to foster a better organizational culture through dialogue in their own teams that is based on the results of the engagement surveys.

In addition, we have identified five elements as effective approaches to improving engagement: communication and dialogue, opportunities for growth, diversity and inclusion, leadership, and recognition and praise. We promote mutual learning by introducing good examples of engagement improvement activities along with interviews with employees on the AGC Group website.

Employee Engagement Survey Results



(iii) Promotion of safety and health activities

The AGC Group is pushing ahead with health and safety activities based on the concept of an occupational health and safety management system (OHSMS).

As a Groupwide initiative, we introduced a global system in 2021 to collect and share disaster-related information across all locations, including business partners at each site. We work to prevent disasters and mitigate recurrence by collating and analyzing past disaster data. We have also established occupational health and safety targets to be achieved by 2025 to prevent accidents and are working to achieve them.

AGC Group: Occupational Safety Targets and Results

Priority items (KPI)	Scope	Target	2022	2023	2024
Number of fatalities (persons)	AGC Group employees (including business partners)	0	0	1	1
Number of fatalities and injuries caused by serious accidents, including partial loss of bodily functions*1		0	1	0	0
Lost time injury frequency rate (LTIFR)*2		0.38 (2030)	0.83	0.68	0.62

*1 Injuries caused by serious accidents, including partial loss of bodily functions, refer to those classified as Grade 1 to Grade 7 of the physical disability classification system established by the Ministry of Health, Labour and Welfare of Japan.

*2 LTIFR expresses the frequency of occupational accidents resulting in death or where a doctor instructs the affected person to take at least one day of leave per one million working hours.

(iv) Promotion of health and productivity management

The AGC Group promotes health and productivity management so that all employees can continue to maximize their abilities. We believe that the maintenance and promotion of physical and mental health is a fundamental element of our goal of becoming “AGC People: Driving our Growth!” as it improves employee vitality and work productivity.

As part of AGC Inc.’s initiatives, we have developed a Health and Productivity Management Strategy Map based on the AGC Health Declaration to guide our health maintenance and promotion initiatives. We also formulate concrete health measure implementation policies, regularly assess their effectiveness, and monitor employees’ awareness and behavioral changes.

Ideal state for health and productivity management: Toward achieving management goals (Strategy map)



Health Measure Implementation Policies

1	Early detection of disease and taking action for improvement	<ul style="list-style-type: none"> Support for individual employees after health checkups and implementation of organizational initiatives
2	Approach to mental health	<ul style="list-style-type: none"> Mental health measures to improve employee motivation and organizational capabilities
3	Improving lifestyles to prevent serious diseases	<ul style="list-style-type: none"> Approaches to the smoking habit that is linked to various serious diseases

From 2025 **Next step**

Controlling one's biological age independently
Approaches to habits that maintain a healthy body in an era of long careers and longevity

Research and Development Activities

The AGC Group has established the following goal as its long-term management strategy “Vision 2030”: “By providing differentiated materials and solutions, AGC strives to help realize a sustainable society and become an excellent company that grows and evolves continuously.” Additionally, the Group’s medium-term management plan **AGC plus-2026** was formulated to ensure the achievement of this goal. Under this plan, the Group has set forth the following strategies: strengthening core businesses and driving strategic businesses through the ambidextrous strategy, deepening of sustainability management, and promotion of value creation DX.

With this in mind, the Group is implementing a technology development strategy based on three pillars: ambidextrous development, open innovation, and digital transformation (DX). Guided by this strategy, the Group has been ambitiously tackling key issues, namely strengthening core businesses and driving strategic businesses, and realizing a sustainable society.

● Ambidextrous development

“Right-handed” development refers to a development approach in which the Group works closely with customers and meets their needs through (1) the innovation of existing production technologies and basic technologies, and (2) the development of new products together with its customers. It is a forecasting approach in which improvement measures are accumulated based on current issues. This type of technology development focuses on strengthening existing core businesses by improving productivity and developing new products.

“Left-handed” development, by contrast, refers to (3) redefining existing production and basic technologies and pioneering new markets. It is a backcasting approach that seeks to overcome major future changes by anticipating those changes and creating new businesses. This type of technology development paves the way for creating new businesses in strategic business areas such as Mobility, Electronics, and Life Science.

These two types of technology development are both crucial. The Group will grow and evolve by enhancing the competitiveness of existing businesses through “right-handed” development, while creating the future through “left-handed” development. Balancing these two approaches is essential for advancing ambidextrous development.

● Open innovation

In recent years, social changes have accelerated and social issues have grown more complex. As customer needs are also becoming more sophisticated and diverse, it has become difficult for AGC to solve certain issues solely through its own development activities. This has made collaborative activities through open innovation with external partners increasingly important.

AGC is promoting open innovation on two axes. The first axis involves developing innovative technologies and technologies outside of AGC’s fields of expertise through collaboration with universities and other academic institutions, as well as startups. AGC is tackling complex research challenges by conducting joint research with partners such as the University of Tokyo, the Institute of Science Tokyo, and Nagoya University.

The second axis of open innovation is to develop new products in collaboration with leading companies that are also AGC’s customers by using the new technologies and solutions gained from the first axis of open innovation. An example in recent years is AGC’s joint development with NTT DOCOMO, INC., a major telecommunications company. In urban areas, securing physical locations for mobile communications antennas has become a challenge. To address this, AGC developed the WAVEATTOCH® glass antenna, which can be attached to the interior side of an existing window, thereby turning building windows in urban centers into antennas.

In 2020, a new research and development building was constructed at the AGC Yokohama Technical Center (YTC), integrating development functions that were previously dispersed in two locations. This created a system that seamlessly connects the development of materials, processes, and facility technology. Additionally, AGC established a space for collaboration called “AO (AGC Open Square)” in the new research and development building. This new space serves as a hub for accelerating open innovation. AO provides a place for collaboration with external partners based on the concepts of “connect,” “create,” and “materialize.”

Furthermore, AGC has sent employees on assignment to North America, Europe, China, and Southeast Asia, where they are actively gathering information from overseas universities, research institutions and other partners, while searching for startups with technologies that can be expected to create synergies with the AGC Group.

● Digital transformation (DX)

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

In this way, AGC has created an integrated development environment encompassing all stages from data entry to data analysis in order to support development activities in fields ranging from glass and chemicals to biotechnology. This environment has enhanced AGC's understanding of phenomena and properties across all development stages, which has accelerated the increase in the efficiency of its R&D activities.

The amount of research and development expenses for the entire AGC Group was ¥61,823 million during the fiscal year ended December 31, 2024. The research and development themes, research achievements, and research and development expenses for each business division during the fiscal year ended December 31, 2024 were as follows.

(1) Corporate divisions

Corporate divisions are responsible for two types of research and development: (1) long-term, fundamental research and development aimed at strengthening and expanding the technology platform, and (2) research and development focused on creating new businesses. In addition, corporate divisions develop and coordinate the establishment of the companywide research and development system in line with the strategy described above. The research and development themes undertaken by corporate divisions include the development of shared platform technologies such as advanced analysis technologies, and the development of material technologies that contribute to both existing and new businesses.

The research and development expenses of corporate divisions amounted to ¥21,261 million for the fiscal year ended December 31, 2024.

(2) Architectural Glass

The R&D division of this business conducts product design, new technology development, and production technology development related to float glass. Additionally, the division develops technologies for highly energy-efficient architectural glass.

Research and development expenses for this business division amounted to ¥4,445 million for the fiscal year ended December 31, 2024.

(3) Automotive

The R&D division of this business conducts product design, new technology development, and production technology development related to automotive glass.

Research and development expenses for this business division amounted to ¥6,457 million for the fiscal year ended December 31, 2024.

(4) Electronics

The R&D division of this business is focused on developing production technologies for processes such as glass melting, forming, polishing, and inspection. Furthermore, in other areas, the division has a wide range of research and development themes, primarily developing new products, technologies, and production technologies related to materials for semiconductor manufacturing equipment, display-related materials, and optoelectronic materials.

Research and development expenses for this business division amounted to ¥12,723 million for the fiscal year ended December 31, 2024.

(5) Chemicals

The R&D division of this business develops new products and technologies harnessing basic technologies such as fluorine chemistry, polymer chemistry, inorganic chemistry, and electrochemistry. Notably, the division focuses on the development of environmentally friendly products and processes.

Research and development expenses for this business division amounted to ¥11,561 million for the fiscal year ended December 31, 2024.

(6) Life Science

The R&D division of this business develops new life science-related products and technologies in fields such as pharmaceutical and agro-chemical intermediates and active ingredients as well as biotechnology.

Research and development expenses for this business division amounted to ¥1,124 million for the fiscal year ended December 31, 2024.

(7) Ceramics/Others

Research and development expenses for business divisions other than those listed above amounted to ¥4,250 million for the fiscal year ended December 31, 2024.

Fees for Audit and Non-audit Services by the Independent Auditor and Other Its Network Firms

Details of fees for the Independent Auditor

	(Unit: Millions of yen)			
	FY2023 (as of December 31, 2023)		FY2024 (as of December 31, 2024)	
	Fees based on audit and attestation services	Fees based on non-audit services	Fees based on audit and attestation services	Fees based on non-audit services
The Company	¥163	¥2	¥165	¥15
Consolidated subsidiaries	80	5	83	5
Total	¥243	¥7	¥248	¥21

Non-audit services provided to the Company and its consolidated subsidiaries consisted of agreed upon tasks in the fiscal year ended December 31, 2023, and sustainability disclosure support services, etc., in the fiscal year ended December 31, 2024.

Details of fees for organizations belonging to the same network as the Independent Auditor (KPMG)

	(Unit: Millions of yen)			
	FY2023 (as of December 31, 2023)		FY2024 (as of December 31, 2024)	
	Fees based on audit and attestation services	Fees based on non-audit services	Fees based on audit and attestation services	Fees based on non-audit services
The Company	¥ —	¥ 14	¥ —	¥ 34
Consolidated subsidiaries	715	203	841	354
Total	¥715	¥217	¥841	¥388

Fees for non-audit services paid by the Company and its consolidated subsidiaries to KPMG member firms belonging to the same network as the certified public accountants and other staff members performing audit services included services related to foreign tax filings.

1 FINANCIAL STATEMENTS (IFRS)

Consolidated Financial Statements (IFRS)

i) Consolidated Statements of Financial Position

		(Unit: Millions of yen)	
		FY2023	FY2024
		(as of December 31, 2023)	(as of December 31, 2024)
	Note		
ASSETS			
Current assets			
Cash and cash equivalents	5, 26	¥ 146,061	¥ 107,988
Trade receivables	6, 26	338,850	332,442
Inventories	7	454,056	454,143
Other receivables	6, 26	60,530	58,221
Income taxes receivable		18,098	16,556
Other current assets	26	24,280	25,103
(Subtotal)		1,041,878	994,455
Assets held for sale		—	6,815
Total current assets		1,041,878	1,001,270
Non-current assets			
Property, plant and equipment	8, 10, 11	1,457,950	1,550,862
Goodwill	9, 11	101,130	49,774
Intangible assets	9, 11	72,093	52,291
Investments accounted for using equity method	12	27,633	30,521
Other financial assets	26	83,269	68,798
Deferred tax assets	13	39,677	39,019
Other non-current assets		109,357	97,127
Total non-current assets		1,891,112	1,888,395
Total assets		¥2,932,991	¥2,889,665

		(Unit: Millions of yen)	
		FY2023	FY2024
		(as of December 31, 2023)	(as of December 31, 2024)
	Note		
LIABILITIES AND EQUITY			
LIABILITIES			
Current liabilities			
Trade payables	14, 26	¥ 206,566	¥ 201,803
Short-term interest-bearing debt	15, 26	121,637	129,940
Long-term interest-bearing debt due within one year	15, 26	127,810	109,921
Other payables	14, 26	216,240	214,523
Income taxes payable		14,051	21,376
Provisions	16	1,997	1,361
Other current liabilities	26	28,994	21,183
(Subtotal)		717,298	700,110
Liabilities associated with assets held for sale		—	8,661
Total current liabilities		717,298	708,771
Non-current liabilities			
Long-term interest-bearing debt	15, 26	445,561	409,876
Deferred tax liabilities	13	37,869	22,865
Post-employment benefit liabilities	17	50,026	51,370
Provisions	16	10,973	12,883
Other non-current liabilities	26	16,922	12,199
Total non-current liabilities		561,354	509,196
Total liabilities		1,278,652	1,217,967
EQUITY			
Share capital	19	90,873	90,873
Capital surplus	19	97,056	95,781
Retained earnings	19	872,547	744,766
Treasury shares	19	(27,338)	(26,767)
Other components of equity	19	413,941	531,134
Total equity attributable to owners of the parent		1,447,080	1,435,787
Non-controlling interests		207,258	235,909
Total equity		1,654,338	1,671,697
Total liabilities and equity		¥2,932,991	¥2,889,665

**ii) Consolidated Statements of Profit or Loss and Consolidated Statements of Comprehensive Income
(Consolidated Statements of Profit or Loss)**

		(Unit: Millions of yen)	
		FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
	Note		
Net sales	21	¥ 2,019,254	¥ 2,067,603
Cost of sales	22	(1,537,897)	(1,568,552)
Gross profit		481,356	499,050
Selling, general and administrative expenses	22	(354,559)	(375,676)
Share of profit of associates and joint ventures accounted for using equity method	12	1,981	2,461
Operating profit		128,779	125,835
Other income	22	19,535	17,233
Other expenses	22	(20,036)	(187,747)
Business profit (loss)		128,277	(44,678)
Finance income	23	13,735	11,986
Finance costs	23	(19,237)	(17,358)
Net finance income (costs)		(5,502)	(5,372)
Profit (loss) before tax		122,775	(50,050)
Income tax expenses	24	(40,291)	(27,873)
Profit (loss) for the year		¥ 82,484	¥ (77,924)
Attributable to owners of the parent		¥ 65,798	¥ (94,042)
Attributable to non-controlling interests		16,685	16,118
Earnings per share			
Basic earnings (loss) per share (Yen)	25	¥ 304.73	¥ (443.71)
Diluted earnings (loss) per share (Yen)	25	304.01	(443.71)

(Consolidated Statements of Comprehensive Income)

		(Unit: Millions of yen)	
		FY2023	FY2024
		(Jan. 1 through Dec. 31, 2023)	(Jan. 1 through Dec. 31, 2024)
	Note		
Profit (loss) for the year		¥ 82,484	¥ (77,924)
Other comprehensive income			
Components of other comprehensive income that will not be reclassified to profit or loss, net of tax			
Remeasurements of defined benefit plans	20	19,979	(5,682)
Net change in revaluation of financial assets measured at FVTOCI ^(Note)	20	9,809	4,430
Share of other comprehensive income of associates and joint ventures accounted for using equity method	12, 20	(6)	(8)
Total		29,783	(1,259)
Components of other comprehensive income that will be reclassified to profit or loss, net of tax			
Cash flow hedges	20	(8,366)	5,518
Exchange differences on translation of foreign operations	20	77,733	144,577
Total		69,366	150,095
Other comprehensive income, net of tax		99,150	148,836
Total comprehensive income for the year		¥181,634	¥ 70,911
Attributable to owners of the parent		¥152,463	¥ 34,199
Attributable to non-controlling interests		29,170	36,711

Note: FVTOCI: Fair Value Through Other Comprehensive Income

iii) Consolidated Statements of Changes in Equity

		(Unit: Millions of yen)					
		Equity attributable to owners of the parent				Other components of equity	
						Remeasurements of defined benefit plans	Net change in revaluation of financial assets measured at FVTOC ^(Note)
FY2023 (Jan. 1 through Dec. 31, 2023)	Note	Share capital	Capital surplus	Retained earnings	Treasury shares		
Balance as of January 1, 2023		¥90,873	¥97,094	¥889,827	¥(26,586)	¥ 9,405	¥ 27,294
Changes in equity							
Comprehensive income							
Profit for the year		—	—	65,798	—	—	—
Other comprehensive income	20	—	—	—	—	20,331	9,792
Total comprehensive income for the year		—	—	65,798	—	20,331	9,792
Transactions with owners							
Dividends	19	—	—	(45,982)	—	—	—
Acquisition of treasury shares	19	—	—	—	(50,021)	—	—
Disposal of treasury shares	19	—	—	(257)	661	—	—
Cancellation of treasury shares	19	—	—	(48,608)	48,608	—	—
Changes in ownership interests in subsidiaries that do not result in loss of control		—	(108)	—	—	—	—
Transfer from other components of equity to retained earnings		—	—	11,769	—	—	(11,769)
Share-based payment transactions	18	—	82	—	—	—	—
Others (business combinations and others)		—	(12)	—	—	—	—
Total transactions with owners		—	(37)	(83,078)	(752)	—	(11,769)
Balance as of December 31, 2023		¥90,873	¥97,056	¥872,547	¥(27,338)	¥29,737	¥ 25,317

Note: FVTOCI: Fair Value Through Other Comprehensive Income

		(Unit: Millions of yen)					
		Equity attributable to owners of the parent				Other components of equity	
FY2023 (Jan. 1 through Dec. 31, 2023)	Note	Cash flow hedges	Exchange differences of foreign operations	Total	Total	Non-controlling interests	Total equity
Balance as of January 1, 2023		¥ 2,321	¥300,024	¥339,046	¥1,390,254	¥195,335	¥1,585,590
Changes in equity							
Comprehensive income							
Profit for the year		—	—	—	65,798	16,685	82,484
Other comprehensive income	20	(8,489)	65,029	86,664	86,664	12,485	99,150
Total comprehensive income for the year		(8,489)	65,029	86,664	152,463	29,170	181,634
Transactions with owners							
Dividends	19	—	—	—	(45,982)	(16,097)	(62,080)
Acquisition of treasury shares	19	—	—	—	(50,021)	—	(50,021)
Disposal of treasury shares	19	—	—	—	404	—	404
Cancellation of treasury shares	19	—	—	—	—	—	—
Changes in ownership interests in subsidiaries that do not result in loss of control		—	—	—	(108)	(1,150)	(1,258)
Transfer from other components of equity to retained earnings		—	—	(11,769)	—	—	—
Share-based payment transactions	18	—	—	—	82	—	82
Others (business combinations and others)		—	—	—	(12)	—	(12)
Total transactions with owners		—	—	(11,769)	(95,638)	(17,248)	(112,886)
Balance as of December 31, 2023		¥(6,167)	¥365,053	¥413,941	¥1,447,080	¥207,258	¥1,654,338

		(Unit: Millions of yen)					
		Equity attributable to owners of the parent					
		Other components of equity					
		Net change in revaluation of financial assets measured at FVTOC ^(Note)					
FY2024 (Jan. 1 through Dec. 31, 2024)	Note	Share capital	Capital surplus	Retained earnings	Treasury shares	Remeasurements of defined benefit plans	FVTOC ^(Note)
Balance as of January 1, 2024		¥90,873	¥97,056	¥872,547	¥(27,338)	¥29,737	¥ 25,317
Changes in equity							
Comprehensive income							
Profit (loss) for the year		—	—	(94,042)	—	—	—
Other comprehensive income	20	—	—	—	—	(5,815)	4,418
Total comprehensive income for the year		—	—	(94,042)	—	(5,815)	4,418
Transactions with owners							
Dividends	19	—	—	(44,567)	—	—	—
Acquisition of treasury shares	19	—	—	—	(1,263)	—	—
Disposal of treasury shares	19	—	—	(220)	1,833	—	—
Changes in ownership interests in subsidiaries that do not result in loss of control		—	5	—	—	—	—
Transfer from other components of equity to retained earnings		—	—	11,048	—	—	(11,048)
Share-based payment transactions	18	—	(1,269)	—	—	—	—
Others (business combinations and others)		—	(10)	—	—	—	—
Total transactions with owners		—	(1,275)	(33,739)	570	—	(11,048)
Balance as of December 31, 2024		¥90,873	¥95,781	¥744,766	¥(26,767)	¥23,921	¥ 18,687

Note: FVTOCI: Fair Value Through Other Comprehensive Income

		(Unit: Millions of yen)					
		Equity attributable to owners of the parent					
		Other components of equity					
		Exchange differences on translation of foreign operations					
FY2024 (Jan. 1 through Dec. 31, 2024)	Note	Cash flow hedges	Total	Total	Non-controlling interests	Total equity	
Balance as of January 1, 2024		¥(6,167)	¥365,053	¥413,941	¥1,447,080	¥207,258	¥1,654,338
Changes in equity							
Comprehensive income							
Profit (loss) for the year		—	—	—	(94,042)	16,118	(77,924)
Other comprehensive income	20	5,670	123,969	128,242	128,242	20,593	148,836
Total comprehensive income for the year		5,670	123,969	128,242	34,199	36,711	70,911
Transactions with owners							
Dividends	19	—	—	—	(44,567)	(8,035)	(52,602)
Acquisition of treasury shares	19	—	—	—	(1,263)	—	(1,263)
Disposal of treasury shares	19	—	—	—	1,612	—	1,612
Changes in ownership interests in subsidiaries that do not result in loss of control		—	—	—	5	(25)	(19)
Transfer from other components of equity to retained earnings		—	—	(11,048)	—	—	—
Share-based payment transactions	18	—	—	—	(1,269)	—	(1,269)
Others (business combinations and others)		—	—	—	(10)	—	(10)
Total transactions with owners		—	—	(11,048)	(45,492)	(8,060)	(53,552)
Balance as of December 31, 2024		¥ (497)	¥489,023	¥531,134	¥1,435,787	¥235,909	¥1,671,697

iv) Consolidated Statements of Cash Flows

		(Unit: Millions of yen)	
		FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
	Note		
Cash flows from operating activities			
Profit (loss) before tax		¥ 122,775	¥ (50,050)
Depreciation and amortization		175,346	181,273
Impairment losses		605	124,774
Interest and dividend income		(13,728)	(11,473)
Interest expenses		17,842	16,619
Share of loss (profit) of associates and joint ventures accounted for using equity method		(1,981)	(2,461)
Loss (gain) on sale or disposal of fixed assets		4,153	4,273
Decrease (increase) in trade receivables		(8,708)	13,850
Decrease (increase) in inventories		(88)	7,939
Increase (decrease) in trade payables		(19,154)	(12,368)
Others		9,594	49,777
Subtotal		286,656	322,153
Interest and dividends received		14,192	13,732
Interest paid		(17,726)	(16,893)
Income taxes refund (paid)	24	(70,575)	(34,177)
Cash flows from operating activities		212,546	284,815
Cash flows from investing activities			
Purchase of property, plant and equipment, and intangible assets		(213,531)	(242,359)
Proceeds from sale of property, plant and equipment		3,265	4,141
Purchase of other financial assets		(2,264)	(636)
Proceeds from sale and redemption of other financial assets		35,026	24,663
Purchase of subsidiaries and associates or other businesses		—	(887)
Proceeds from sale of shares of subsidiaries and associates or other businesses		1,786	22,121
Others		(4,073)	(2,627)
Cash flows from investing activities		(179,790)	(195,583)
Cash flows from financing activities			
Changes in short-term interest-bearing debt	15	47,307	3,495
Proceeds from borrowing or issuing long-term interest-bearing debt	15	99,636	95,645
Repayment or redemption of long-term interest-bearing debt	15	(137,645)	(178,152)
Payments for acquisition of interests in subsidiaries from non-controlling interests		(5,136)	(12)
Proceeds from non-controlling interests		518	526
Acquisition of treasury shares	19	(50,021)	(1,262)
Dividends paid	19	(45,982)	(44,567)
Dividends paid to non-controlling interests		(16,904)	(8,477)
Others		208	855
Cash flows from financing activities		(108,021)	(131,949)
Effect of exchange rate changes on cash and cash equivalents		11,610	5,350
Net changes in cash and cash equivalents resulting from transfer to assets held for sale		—	(707)
Net increase (decrease) in cash and cash equivalents		(63,654)	(38,073)
Cash and cash equivalents at the beginning of the year	5	209,716	146,061
Cash and cash equivalents at the end of the year	5	¥ 146,061	¥ 107,988

2 NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1: Reporting entity

AGC Inc. (the “Company”) is a company domiciled in Japan. The consolidated financial statements of the Company as of and for the fiscal year ended December 31, 2024 comprise the Company and its subsidiaries (the “Group”), and interests in associates and jointly controlled entities, etc. (the “Group entities”).

The Group is engaged in business activities primarily in the areas of Architectural Glass Operations, Automotive Operations, Electronics Operations, Chemicals Operations, and Life Science Operations. Please see Note 4 “Segment information” for details on the Group’s businesses.

Note 2: Basis of preparations

(1) Statement of compliance with IFRS

The Group’s consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”), based on the stipulations of Article 312 of the Ordinance on Consolidated Financial Statements. The Group’s consolidated financial statements satisfy all of the requirements for a “Specified Company” prescribed by Article 1-2 of the Ordinance on Consolidated Financial Statements.

On March 28, 2025, the consolidated financial statements were approved by President & CEO Yoshinori Hirai and Representative Director & CFO Shinji Miyaji.

(2) Basis of measurement

The consolidated financial statements have been prepared on a historical cost basis, except for the following significant items on the consolidated statements of financial position:

- Derivative financial instruments are measured at fair value.
- Equity instruments are measured at fair value.
- Contingent consideration liabilities are measured at fair value.
- Defined benefit pension plan assets and liabilities are measured at the present value of defined benefit obligations less the fair value of the plan assets.

(3) Presentation currency

The consolidated financial statements are presented in Japanese yen, which is also the Company’s functional currency. The currency unit is millions of yen, with figures less than one million yen rounded down.

(4) Use of estimates and judgments

The preparation of consolidated financial statements in accordance with IFRS requires management to make judgments, estimates and assumptions that affect the adoption of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results could differ from these estimates.

The estimates and their underlying assumptions are reviewed continuously. Changes in accounting estimates are recognized prospectively.

The following notes include information about the judgements made in applying accounting policies that have the most significant effect on the amounts in the financial statements, and uncertainty of assumptions and estimates as of December 31, 2024 that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities in the fiscal year ending December 31, 2025.

- Estimates of useful lives and residual values of property, plant and equipment and intangible assets (See Note 3 “Material accounting policies” (6) (7), Note 8 “Property, plant and equipment” and Note 9 “Goodwill and intangible assets”)
- Calculation of the value in use and the fair value less costs of disposal in cash-generating units, the smallest unit of measurement for impairment of property, plant and equipment, goodwill and intangible assets (See Note 3 “Material accounting policies” (9) and Note 11 “Impairment of non-financial assets”)
- The recoverability of deferred tax assets (See Note 3 “Material accounting policies” (16) and Note 13 “Deferred tax assets and liabilities”)
- Actuarial assumptions for defined benefit pension plans (See Note 3 “Material accounting policies” (11) and Note 17 “Employee benefits”)

(5) Changes in accounting policies

The material accounting policies adopted for the Group's consolidated financial statements are the same as those for the consolidated financial statements for the fiscal year ended December 31, 2023, with the exception of the items described below.

The following are the accounting standards applied by the Group from the fiscal year 2024, in compliance with each transitional provision. The effect of the application of the following standards on the Group's consolidated financial statements is immaterial.

IFRS	Title	Summaries of new IFRS and amendments
IFRS 16 (amended in September 2022)	Leases	Leases Liability in a Sale and Leaseback
IAS 1 (amended in July 2020)	Presentation of Financial Statements	Classification of Liabilities as Current or Non-current
IAS 1 (amended in October 2022)	Presentation of Financial Statements	Non-current Liabilities with Covenants
IAS 7 (amended in May 2023)	Statement of Cash Flows	Supplier Finance Arrangements
IFRS 7 (amended in May 2023)	Financial Instruments: Disclosures	Supplier Finance Arrangements

Note 3: Material accounting policies

(1) Basis of consolidation

i) Business combinations

Business combinations are accounted for using the acquisition method when control is obtained. The Group recognizes goodwill as any excess of the aggregate of the consideration transferred, the amount of any non-controlling interest and, in the case of a business combination achieved in stages, the acquisition-date fair value of the equity interest of the acquiree previously held by the acquirer, over the net of the acquisition-date amounts of the identifiable assets acquired from the acquiree and the liabilities assumed.

If the consideration transferred is lower than the latter net amount, the Group immediately recognizes the difference as profit or loss.

Impairment test of goodwill is conducted annually, regardless of any indication of impairment. (See (9) "Impairment of non-financial assets").

Business combinations of entities under common control are accounted for based on carrying amounts. These business combinations are those in which all the combining entities or businesses are ultimately controlled by the same party or parties both before and after the business combination, and that control is not transitory.

ii) Subsidiaries

Subsidiaries are entities controlled by the Group. A subsidiary is controlled when the Group is exposed or has rights to variable returns from its involvement with the investee, and has the ability to use power over the investee to affect those returns. The accounting policies of subsidiaries have been adjusted in order to ensure conformity with the accounting policies adopted by the Group, as necessary.

iii) Non-controlling interests

The components of profit or loss and other comprehensive income are attributed to owners of the parent and non-controlling interests. Of transactions giving rise to a change in the interest between the Company and the non-controlling interests of a subsidiary, for transactions that do not result in a loss of control, changes in the non-controlling interests in the subsidiary and the net amount of consideration paid (or received) are recognized directly in equity, and are not recognized as goodwill or as profit or loss.

iv) Investments in associates and joint ventures

An associate is an entity over which the Group has significant influence over its financial and operating policies, but does not exercise control of it. Significant influence is presumed to exist when the Group holds 20% or more of the voting rights in another entity. Considering not only the ratio of the voting rights, but also other elements, such as participation in management, an associate is included if the Group can exercise significant influence.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement.

Investments in associates and joint ventures are recognized at cost initially on acquisition and are subsequently accounted for using the equity method (hereinafter "Investments accounted for using equity method"). Any differences between the investment on the investment date and the corresponding equity of the investee are included in the carrying amount of the investment as goodwill. The consolidated financial statements reflect the investments in associates and joint ventures' share of profit or loss and other comprehensive income of the investee from the date on which the Group obtains significant influence until the end of the reporting period. In the event that the Group's burden of loss exceeds the investment in the investee, the carrying amount of the Group's share is reduced to zero. Except for when the Group incurs obligations or makes payments on behalf of the equity-accounted investee, the Group shall recognize no further loss.

Goodwill that forms part of the carrying amount of investments in associates and joint ventures is not separately recognized, and therefore is not tested for impairment separately. Instead, whenever there is any objective evidence that an investment in an associate or joint venture may be impaired, the entire carrying amount of the investment is tested for impairment as a single asset.

v) Transactions eliminated on consolidation

All intergroup balances, transactions and unrealized gains and losses arising from intragroup transactions are eliminated in preparing the consolidated financial statements.

Unrealized losses are eliminated only to the extent that there is no evidence of impairment.

(2) Foreign currency

i) Foreign currency transactions

Foreign currency transactions are translated into functional currencies of the individual Group entities by applying the rates of exchange prevailing at the dates of transactions. Monetary assets and liabilities denominated in foreign currencies are translated into the respective functional currencies at the prevailing exchange rates at the reporting date. Foreign exchange differences on translation are recognized as profit or loss. Exchange differences for any gains or losses on the assets and liabilities recognized in other comprehensive income are recognized in other comprehensive income.

Non-monetary assets and liabilities measured in terms of historical cost in foreign currencies are translated at the exchange rate at the date of the transaction.

ii) Foreign operations

Assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on the acquisition of foreign operations, are translated into functional currency at the exchange rates prevailing at the reporting date. Income and expenses of foreign operations are translated into functional currency at the average exchange rate for the period.

(3) Financial instruments

The Group recognizes financial instruments on the contract date when the Group becomes a party to the contractual provisions of the instrument.

The Group derecognizes a financial asset in the following circumstances:

- When the contractual rights to receive the cash flows from the financial asset expire; or
- When the contractual rights to receive the cash flows from the financial asset in transactions in which substantially all the risks and rewards of ownership of the financial asset are transferred to another entity.

In regard to transferred financial assets, the Group recognizes any retained interest of the transferred financial asset as a separate asset or liability.

Financial assets and financial liabilities are offset and presented as a net amount on the consolidated statements of financial position only when the Group has a legally enforceable right to set off the recognized amounts and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

i) Non-derivative financial assets

The Group holds non-derivative financial assets that are classified into financial assets measured at amortized cost, financial assets measured at fair value through other comprehensive income and financial assets measured at fair value through profit or loss.

Financial assets measured at amortized cost

Financial assets are classified as financial assets measured at amortized cost if the following two conditions are met:

- The foregoing financial assets are held within a Group business model whose objective is to hold the assets in order to collect contractual cash flows from the assets; and
- The contractual terms of the foregoing financial assets give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The foregoing financial assets are initially recognized at fair value plus directly attributable transaction costs except for trade receivables, etc., that do not contain a significant financing component. The trade receivables, etc., that do not contain a significant financial component are initially recognized plus transaction cost. After initial recognition, the financial assets are measured at amortized cost using the effective interest method.

Financial assets measured at fair value through other comprehensive income

The Group designates equity instruments as financial assets measured at fair value through other comprehensive income when an irrevocable election has been made on initial recognition to measure the gains and losses arising from changes in the fair value of such instruments in other comprehensive income.

When the foregoing financial assets measured at fair value through other comprehensive income are derecognized through sale, etc., the cumulative gains or losses are reclassified from other components of equity to retained earnings.

Financial assets measured at fair value through profit or loss

The Group measures financial assets at fair value and recognizes any changes in the fair value of such assets as profit or loss, unless the foregoing financial assets are classified as financial assets measured at amortized cost or financial assets measured at fair value through other comprehensive income.

Impairment of financial assets

At the end of each reporting period, the Group evaluates whether the credit risk on financial assets has increased significantly since the initial recognition. If the credit risk of a financial asset has increased significantly, the allowance for such financial assets is measured at an amount equal to the lifetime expected credit losses. If the credit risk has not increased significantly, the allowance for such financial assets is measured at an amount equal to the 12-month expected credit losses.

However, with regards to trade receivables and contract asset that do not contain a significant financing component, the allowance is always measured at an amount equal to the lifetime expected credit losses. In estimating the allowance, expected credit losses of certain financial assets are measured on a collective basis such as every past due date.

The Group determines if credit risk has increased significantly by evaluating changes in default risk after initial recognition with reference to factors including significant downgrading of ratings, stopping transaction due to delayed receivable, and other indications of insolvency. If it is more than 90 days past due, the Group determines that default is occurred.

In measuring credit losses, the Group uses reasonable and supportable information on the past events, current conditions and forecasts on future economic conditions, which is available without undue cost or effort at the reporting date.

The Group assesses a credit-impairment based on objective evidence such as a borrower's significant financial difficulty, etc. When it is reasonably determined that all or part of the financial assets are not collectable, the carrying amount of financial assets is directly written off.

ii) Non-derivative financial liabilities

The Group recognizes non-derivative financial liabilities that are classified into financial liabilities measured at amortized cost and contingent consideration liabilities.

Financial liabilities measured at amortized cost

The Group recognizes the following as financial liabilities measured at amortized cost: trade payables, other payables, and interest-bearing debts (borrowings, commercial paper, corporate bonds, and bonds with subscription rights to shares (excluding share subscription rights)), among other items.

The foregoing financial liabilities are initially recognized at fair value less directly attributable transaction costs. After initial recognition, non-derivative financial liabilities are measured at amortized cost using the effective interest method.

The Group derecognizes financial liabilities when the obligation specified in the contract is exempted, cancelled or expired.

Contingent consideration liabilities

The Group recognizes contingent consideration liabilities in business combinations as financial liabilities measured at fair value through profit or loss. The foregoing financial liabilities are measured at fair value, with changes recognized in profit or loss.

iii) Bonds with subscription rights to shares

The Group classifies proceeds from the issue of bonds with subscription rights to shares into a liability component and an equity component based on the issuing conditions.

Upon initial recognition, the liability component of bonds with subscription rights to shares is initially recognized at the fair value of similar liabilities without equity conversion options. The equity component is initially recognized as the total fair value of the bonds with subscription rights to shares less the fair value of the liability component. The transaction cost related to the issue of the bonds with subscription rights to shares is prorated according to the ratio of the initial carrying amounts of the liability and equity components on initial recognition, and deducted from the amounts of the liability and equity components.

After initial recognition, the liability component of the bonds with subscription rights to shares is measured at amortized cost using the effective interest method. The equity component of the bonds with subscription rights to shares is not remeasured.

iv) Derivative financial instruments (including hedge accounting)

The Group holds derivative financial instruments to hedge mainly foreign currency exchange risk, interest rate risk, and commodity price risk.

The Group initially recognizes derivative financial instruments at fair value, with the related transaction costs recognized in profit or loss when incurred. After initial recognition, derivative financial instruments are measured at fair value, with changes in fair value accounted for as follows, depending on whether or not derivatives qualify for hedge accounting:

(Derivatives not qualifying for hedge accounting)

Changes in the fair value of derivative financial instruments which do not qualify for hedge accounting are recognized in profit or loss.

(Derivatives qualifying for hedge accounting)

When applying hedge accounting, at the inception of hedges, the Group formally designates and documents hedging relationships to which hedge accounting is applied and the objectives and strategies of risk management for undertaking hedges.

At the inception of hedges, the Group evaluates whether or not the hedging instrument can be predicted to be effective. Thereafter, the Group continuously evaluates whether the derivative is highly effective in offsetting changes in future cash flows from the hedged items.

The Group applies cash flow hedges by designating qualified derivative financial instruments as hedging instruments. Cash flow hedges are designed to hedge exposure to variations in cash flows that are attributable to a particular risk associated with recognized assets or liabilities or highly probable forecast transactions which will affect profit or loss.

The effective portion of gains or losses on hedging instruments is recognized in other comprehensive income. The amounts recognized in other comprehensive income are reclassified to profit or loss in the consolidated reporting periods when the cash flows of the hedged items affect profit or loss. The ineffective portion of changes in the fair value of hedging instruments is recognized in profit or loss.

Hedge accounting is discontinued prospectively when: the hedging instrument expires or is sold, terminated, or exercised; the hedge no longer meets the criteria for hedge accounting; a forecast transaction is no longer expected to occur; or the hedging designation is revoked. A hedge designation may not be voluntarily revoked unless there is a change in the risk management objective. Therefore, if a hedging relationship ceases to meet the hedge effectiveness requirement relating to the hedge ratio, but the risk management objective for that designated hedging relationship remains the same, the Group adjusts the hedge ratio of the hedging relationship so that it meets the hedge effectiveness requirement again.

v) **Equity**

Ordinary shares

Ordinary shares are classified as equity. Incremental costs (net of tax) directly attributable to the issue of ordinary shares or stock options are deducted from equity.

Treasury shares

If the Company purchases treasury shares, the consideration paid, including net of directly attributable transaction costs and tax, is recognized as a deduction from equity. If the Company disposes of treasury shares, any gains or losses arising from the disposal of treasury shares are recognized in equity.

(4) Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, bank deposits available for withdrawal on demand, and short-term investments due within three months or less, which are readily convertible into cash and subject to insignificant risk of changes in value.

(5) Inventories

Inventories are measured at the lower of cost and net realizable value. The cost of inventories is measured based on the moving average method, and includes costs of purchase and costs of conversion (including fixed and variable manufacturing overheads). Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

(6) Property, plant and equipment

i) **Recognition and measurement**

Property, plant and equipment is presented at cost less accumulated depreciation and accumulated impairment losses.

Cost of property, plant and equipment includes any costs directly attributable to the acquisition of the asset. The cost of self-constructed assets includes material costs, direct labor costs, direct costs attributable to bringing the asset to the location and conditions necessary for its intended use, and the cost of dismantling, removing, and restoring the asset, as well as borrowing costs that satisfy the requirements for being capitalized.

After acquisition of property, plant and equipment, the Group recognizes costs as the carrying amount of an asset only if it is probable that future economic benefits associated with the item will flow to the Group and the cost can be measured reliably.

Differences between the carrying amount and the consideration received for the disposal of property, plant and equipment are recognized in profit or loss.

ii) **Depreciation**

Depreciation of property, plant and equipment excluding non-depreciable property, plant and equipment, such as land, is computed under the straight-line method over the estimated useful lives of each item and the depreciable amount which is the cost of the asset less its residual value.

The estimated useful lives of major property, plant and equipment are as follows:

- Buildings and structures: 10 to 50 years
- Machinery, equipment and vehicles: 4 to 15 years
- Tools, fixtures and fittings: 2 to 15 years

The depreciation methods, estimated useful lives and residual values are reviewed at the end of each reporting period, and changed when necessary.

Due to changes in the business environment and other factors, it may be necessary to revise useful lives and residual values, which may have a significant impact on the amounts of property, plant and equipment in the consolidated financial statements in the fiscal year ending December 31, 2025.

(7) Goodwill and intangible assets

i) **Goodwill**

Goodwill may be recognized on the acquisition of a subsidiary. The measurement of goodwill on initial recognition is shown in (1) i) "Business combinations."

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. Measurement of goodwill impairment is shown in (9) "Impairment of non-financial assets."

ii) **Research and development expenses**

Expenditure related to research activities to obtain new scientific or technical knowledge and understanding are recognized as an expense when incurred.

Expenditure on development activities is capitalized as an intangible asset if it is reliably measurable, products or processes are technically and commercially feasible, it is probable to generate future economic benefits, and the Group has an intention and adequate resources to complete those assets and use or sell them. Other expenditure is recognized as an expense when incurred.

Capitalized development expenditure is presented at cost less any accumulated amortization and accumulated impairment losses.

iii) **Intangible assets other than goodwill acquired through business combinations**

Intangible assets acquired through business combinations and recognized separately from goodwill are initially measured at fair value as of the acquisition date. After initial recognition, the foregoing intangible assets are presented at cost less any accumulated amortization and accumulated impairment losses.

iv) **Other intangible assets**

Other intangible assets are initially recognized at cost. After initial recognition, intangible assets with finite useful lives are presented at cost less any accumulated amortization and accumulated impairment losses. Intangible assets with indefinite useful lives are presented at cost less any accumulated impairment losses.

v) **Amortization**

Amortization of intangible assets with finite useful lives is recognized as an expense under the straight-line method over their estimated useful lives from the date when the assets are available for use. The estimated useful lives of major intangible assets with finite useful lives are as follows:

- Patents and trademarks: 5 to 10 years
- Software: 5 years
- Customer relationships: 7 to 30 years

The amortization methods and useful lives are reviewed at the end of each reporting period and changed when necessary.

Due to changes in the business environment and other factors, it may be necessary to revise useful lives which may have a significant impact on the amounts of intangible assets in the consolidated financial statements in the fiscal year ending December 31, 2025.

(8) Leases

The Group, in accordance with IFRS 16, has determined whether a contract is, or contains, a lease, at the inception of the contract. A contract is determined to be a lease or contain a lease, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for a consideration.

When a contract is determined to be a lease or contain a lease, the Group initially recognizes a right-of-use asset and a lease liability at the commencement date of the contract. A lease liability is initially measured at the discounted present value of unpaid lease payments at the commencement date of the contract. The right-of-use asset is initially measured at cost, which comprises the amount of the initial measurement of the lease liability, any initial direct costs incurred and prepaid lease payments, etc. The right-of-use asset is regularly depreciated over the economic life or the lease term of the underlying asset, whichever is shorter, from the commencement date of the contract. The Group does not recognize right-of-use assets and lease liabilities for leases with a lease term of 12 months or less or when the underlying assets are of low value, and recognizes lease payments as an expense on a straight-line basis over the lease term. In the consolidated statement of financial position, the right-of-use assets are included in Property, plant and equipment, and lease liabilities are included in Long-term debt due within one year or Long-term debt.

(9) Impairment of non-financial assets

At the end of each reporting period, the Group assesses the carrying amounts of non-financial assets, excluding inventories and deferred tax assets, to determine whether there is any indication of impairment of each asset or the cash-generating unit to which the asset belongs. If any such indication exists, impairment of each asset or each cash-generating unit is tested. Goodwill is tested annually, regardless of any indication of impairment.

Assets that are not individually tested are integrated into the smallest identifiable group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets (cash-generating unit). When testing for impairment of goodwill, the goodwill is allocated to a group of cash-generating units which are not larger than an operating segment and represent the lowest level at which the goodwill is monitored for internal management purposes.

The recoverable amount of an asset or a group of cash-generating units is the higher of its fair value less costs of disposal or its value in use. In calculating an asset's value in use, estimated future cash flows are discounted to the present value using a pre-tax discount rate that reflects the time value of money and the risks specific to the asset. The fair value less costs of disposal is calculated using techniques such as the market approach and the cost approach.

If the carrying amount of an asset or a cash-generating unit exceeds the recoverable amount, an impairment loss is recognized. The impairment loss recognized with respect to a cash-generating unit is allocated first to reduce the carrying amount of any goodwill allocated to the cash-generating unit, and then to the other assets of the unit on a pro-rata basis based on the carrying amount of each asset in the unit.

An impairment loss on other non-financial assets recognized in prior periods is reversed if there are indications of the possibility of reversing such an impairment loss and if the recoverable amount exceeds the carrying amount as a result of an estimation of the recoverable amount. An impairment loss is reversed up to the carrying amount that would have been determined if there had been no impairment loss recognized for the asset in prior fiscal years and depreciation or amortization had been continuously recognized up to the reversal. An impairment loss for goodwill is not reversed in subsequent periods.

(10) Non-current assets held for sale

The Group classifies an asset or asset group which is expected to be recovered through a sale transaction rather than through continuous use as a non-current asset or disposal group held for sale when the following conditions are met: it is highly probable that the asset or asset group will be sold within one year, the asset or asset group is available for immediate sale in its present condition, and there is assurance of a plan to sell the asset or asset group. In such cases, the non-current asset is not depreciated or amortized and is measured at the lower of its carrying amount and its fair value less costs to sell.

(11) Employee benefits

Employee benefits include post-employment benefit plans, short-term employee benefits, and share-based payments. Post-employment benefit plans comprise defined benefit plans and defined contribution plans.

i) Defined benefit plans

Obligations for defined benefit plans are recognized as the present value of defined benefit obligations less the fair value of any plan assets. If the defined benefit plans have a surplus, the net defined benefit assets are limited to the present value of any future economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans.

The present value of the defined benefit obligation and service cost, etc. are calculated based on actuarial assumptions. Actuarial assumptions require estimates and judgments about various variables such as discount rates.

The present value of defined benefit obligations is calculated annually by qualified actuaries using the projected unit credit method. The discount rates are based on the market yields of high quality corporate bonds at the end of each reporting period that have terms consistent with the discount period, which is established as the estimated term of the post-employment benefit obligations through to the estimated dates for payments of future benefits in every fiscal year.

Actuarial gains and losses are recognized immediately in other comprehensive income when incurred, while past service costs and gains or losses on settlement are recognized in profit or loss.

Actuarial assumptions may be affected by consequences of uncertain economic conditions changes in the future or by the revision or promulgation of related laws and regulations. If a revision becomes necessary, it may have a significant impact on the amount of defined benefit pension plan assets and liabilities in the consolidated financial statements in the fiscal year ending December 31, 2025.

ii) Defined contribution plans

Expenses related to post-employment benefits for defined contribution plans are expensed as the related services are provided.

iii) Short-term employee benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are recognized as expenses as the related service is provided.

For bonus payments, a liability is recognized for the amount expected to be paid under short-term cash bonuses if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

iv) Share-based payments

The Company provided the Group's directors, executive officers, and other employees with stock options, which grant the holder the right to purchase the Company's stock until the fiscal year ended December 31, 2017. The fair value of stock options at the grant date is recognized in profit or loss over the vesting period from the grant date, with a corresponding increase in equity.

The Group has elected to adopt the exemptions of IFRS 1 First-time Adoption of International Financial Reporting Standards ("IFRS 1"). Accordingly, the Group has elected not to retrospectively apply IFRS 2 Share-based Payment ("IFRS 2") to stock options granted after November 7, 2002 that vested before the transition date to IFRS.

The Company has employed a framework referred to as the Board Incentive Plan Trust (hereinafter referred to as the "BIP Trust") as equity-settled share-based payment arrangement granted to directors and executive officers (excluding non-residents of Japan). The shares of the Company held by the BIP Trust are recognized as treasury shares. The Company recognizes the consideration in profit or loss measured at the grant-date fair value of its shares, with corresponding increase in equity over the vesting period of the awards.

(12) Provisions

A provision is recognized when the Group has a reasonably estimable legal or constructive obligation as a result of a past event, and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation. Where the effect of the time value of money is material, the estimated future cash flows are discounted to the present value using a pre-tax rate that reflects the time value of money and the risks specific to the liability. The unwinding of the discount is recognized as finance costs.

The Group has established a provision for restructuring costs arising from restructuring actions to improve the business structure and the reorganization of certain operations. Such costs are recognized when they can be reasonably estimated and include an expansion in the severance compensation program.

(13) Revenue

The Group recognizes revenue based on the following five-step model.

- Step 1: Identify the contract with a customer
- Step 2: Identify the performance obligations in the contract
- Step 3: Determine the transaction price
- Step 4: Allocate the transaction price to the performance obligations in the contract
- Step 5: Recognize revenue when the entity satisfies a performance obligation

The Group sells a range of products including architectural glass, automotive glass, glass substrates for displays, electronic materials, essential chemicals, performance chemicals, and life science products. For the sales of these products, revenue is recognized upon delivery of these products as its performance obligation is satisfied when customers obtain control over these products at the time of delivery. For revenue associated with construction works such as the installation of architectural glass, and contract development and manufacturing services for biological active pharmaceutical ingredient (API), revenue is recognized according to the progress toward completion of the performance obligation. Progress toward completion is measured by the input method based on the costs incurred, etc. Also, revenue is measured based on the consideration specified in contracts with customers, less discounts, rebates, returned products, and other items.

(14) Operating profit and business profit

“Operating profit” in the Group’s consolidated statements of profit or loss is an indicator that facilitates continuous comparisons and evaluations of the Group’s business performance. Main items of “other income” and “other expenses” are foreign exchange gains and losses, gains on sale of non-current assets, losses on disposal of non-current assets, impairment losses and expenses for restructuring programs. “Business profit” includes all income and expenses before finance income, finance costs and income tax expenses.

(15) Finance income and finance costs

Finance income mainly comprises interest income, dividend income and gains on hedging instruments that are not recognized in other comprehensive income. Interest income is recognized as incurred using the effective interest method. Dividend income is recognized as of the date when the Group’s right to receive payment is established.

Finance costs mainly comprise interest expenses and losses on hedging instruments that are not recognized in other comprehensive income.

(16) Income tax

Income tax comprises current income tax and deferred income tax. These are recognized in profit or loss, except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

Current income tax is measured at the amount that is expected to be paid to or refunded from the taxation authorities using the tax rates enacted or substantively enacted at the end of the reporting period.

Deferred income tax is recognized on temporary differences between the carrying amounts of assets and liabilities for accounting purposes and their tax basis, using the tax rates that are expected to apply to the period when the temporary differences will reverse, based on tax laws that have been enacted or substantively enacted by the end of the reporting period. Deferred tax assets are recognized for all deductible temporary differences, and the carry forward of unused tax losses and unused tax credits to the extent that it is probable that future taxable profit will be available against which they can be utilized. Deferred tax assets are reviewed at the end of each reporting period and are recognized only to the extent that it is probable that the tax benefits can be realized.

However, deferred tax assets are not recognized if a temporary difference arising from initial recognition of an asset or liability in a transaction that is not a business combination affects neither accounting profit nor taxable profit at the time of the transaction and does not generate the same amounts of taxable temporary difference and deductible temporary difference at the time of the transaction.

Deductible temporary differences associated with investments in subsidiaries, associates and interests in joint arrangements are recognized only to the extent of the following circumstances:

- The temporary difference will reverse in the foreseeable future; and
- Taxable profit will be available against which the temporary difference can be utilized.

Deferred tax liabilities are recognized for all taxable temporary differences, in principle.

However, deferred tax liabilities are not recognized in the following circumstances:

- On the initial recognition of goodwill.
- It arises from the initial recognition of an asset or liability in a transaction that is not a business combination, affects neither accounting profit nor taxable profit at the time of the transaction, and does not generate the same amounts of taxable temporary difference and deductible temporary difference at the time of the transaction.
- There are taxable temporary differences associated with investments in subsidiaries, associates and interests in joint arrangements to the extent that the parent company is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred tax assets and deferred tax liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and in either of the following circumstances:

- Income taxes are levied by the same taxation authority on the same taxable entity; or
- Different taxable entities intend either to settle current tax assets and liabilities on a net basis, or to realize the current tax assets and settle the current tax liabilities simultaneously.

Estimates of future taxable income may be affected by a decline in profitability and other factors, which may have a significant impact on the amount of deferred tax assets in the consolidated financial statements in the fiscal year ending December 31, 2025.

(17) Earnings per share

Basic earnings per share is calculated by dividing profit for the year attributable to owners of the parent by the weighted average number of ordinary shares outstanding during the period, adjusted by the number of treasury shares during the period.

Diluted earnings per share is calculated by adjusting the effects of all dilutive potential ordinary shares.

(18) New standards and interpretations not yet adopted

New standards, interpretations, and amendments to standards and interpretations that have not been adopted in the fiscal year ended December 31, 2024, and which the Group has yet to apply to the preparation of the consolidated financial statements, are mainly as follows.

The potential impacts on the consolidated financial statements by the application of standards and interpretations are currently being evaluated and cannot be estimated as of the date of the report.

IFRS	Title	Effective date (annual periods beginning on or after)	Adoption by the Group (annual periods ending)	Summaries of new IFRS and amendments
IFRS 7 (amended in May 2024)	Financial Instruments: Disclosures	January 1, 2026	Fiscal year ending December 2026	Classification and Measurement of Financial Instruments
IFRS 7 (amended in December 2024)	Financial Instruments: Disclosures	January 1, 2026	Fiscal year ending December 2026	Contracts Referencing Nature- dependent Electricity
IFRS 9 (amended in May 2024)	Financial Instruments	January 1, 2026	Fiscal year ending December 2026	Classification and Measurement of Financial Instruments
IFRS 9 (amended in December 2024)	Financial Instruments	January 1, 2026	Fiscal year ending December 2026	Contracts Referencing Nature-dependent Electricity
IFRS 18 (issued in April 2024)	Presentation and Disclosure in Financial Statements	January 1, 2027	Fiscal year ending December 2027	Standard for the presentation and disclosure of financial statements that provide transparent and comparable information about financial performance

Note 4: Segment information

The Group's reportable segments are components of the Group for which discrete financial information is available, and whose operating results are reviewed regularly by the Group's chief operating decision maker to make decisions about resources to be allocated to the segment and assess performance. The Group has six in-house companies by product and service: Architectural Glass Europe & Americas, Architectural Glass Asia Pacific, Automotive, Electronics, Chemicals, and Life Science. Each in-house company operates worldwide, formulating comprehensive domestic and overseas strategies for its products and services.

In addition, the Architectural Glass Europe & Americas and Architectural Glass Asia Pacific companies are considered to share economic characteristics, because they are united in their efforts to share information on technological development and production related to float and architectural processing, to create social value of GHG reduction and product contribution to climate change issues, and to take a common commitment for long-term profitability indicators and others, and they have similarities in products and sales markets.

Thus, the Group has five reportable segments: Architectural Glass, Automotive, Electronics, Chemicals and Life Science.

The main products and services of each reportable segment are as follows.

Reportable segment	Main products and services
Architectural Glass	Architectural figured glass, Architectural processing glass (Insulating glass, Toughened glass, Laminated glass)
Automotive	Automotive glass, Cover glass for car-mounted displays
Electronics	Display Glass substrates for TFT-LCD/OLED, Specialty Glass for displays Electronic Materials Materials for semiconductor, Optical materials
Chemicals	Essential Chemicals Caustic soda, Polyvinyl chloride, Urethane Performance Chemicals Fluorinated resins (Polymers, Gases, Solvents), Iodine-related products
Life Science	CDMO services for small molecule pharmaceuticals, agrochemicals, biopharmaceuticals Intermediates and Active Ingredients of synthetic pharmaceutical and agrochemical

(1) Reportable segments

FY2023 (Jan. 1 through Dec. 31, 2023)

	Reportable segment							Total	Adjustments	Amount reported on consolidated financial statements
	Architectural Glass	Automotive	Electronics	Chemicals	Life Science	Ceramics/ Others				
(Unit: Millions of yen)										
Sales to external customers	¥474,646	¥499,392	¥311,964	¥569,652	¥123,933	¥39,665	¥2,019,254	¥	—	¥2,019,254
Inter-segment sales	1,648	316	1,204	4,466	2,882	43,713	54,231	(54,231)		—
Total sales	476,295	499,708	313,168	574,119	126,815	83,378	2,073,486	(54,231)		2,019,254
Segment profit (loss)										
[Operating profit]	32,763	21,786	18,352	64,769	(12,378)	3,346	128,640	138		128,779
Profit (loss) for the year . . .	—	—	—	—	—	—	—	—	—	82,484
Other items										
Depreciation and amortization	24,423	31,875	53,182	50,072	13,852	2,115	175,523	(176)		175,346
Impairment losses										
[Non-financial assets]	—	1,895	6,780	34	—	—	8,709	—		8,709
Capital expenditures	24,701	26,250	51,438	87,720	39,870	1,829	231,811	(95)		231,715
Investments accounted for using equity method	14,375	5,941	1,421	4,466	—	1,428	27,633	—		27,633

The amounts of inter-segment sales are primarily based on market prices and manufacturing cost.

“Ceramics/Others” mainly handles ceramics products, logistics and financial services.

Moreover, the above amounts of impairment losses (non-financial assets) include the amounts of impairment losses recorded as expenses for restructuring programs.

FY2024 (Jan. 1 through Dec. 31, 2024)

(Unit: Millions of yen)

	Reportable segment						Total	Adjustments	Amount reported on consolidated financial statements
	Architectural Glass	Automotive	Electronics	Chemicals	Life Science	Ceramics/ Others			
Sales to external customers	¥435,575	¥498,568	¥362,752	¥589,727	¥137,326	¥43,652	¥2,067,603	¥ —	¥2,067,603
Inter-segment sales	2,412	225	1,793	3,888	3,891	35,478	47,689	(47,689)	—
Total sales	437,987	498,794	364,545	593,615	141,218	79,131	2,115,293	(47,689)	2,067,603
Segment profit (loss)									
[Operating profit]	16,367	13,917	54,473	56,764	(21,158)	5,118	125,484	350	125,835
Profit (loss) for the year	—	—	—	—	—	—	—	—	(77,924)
Other items									
Depreciation and amortization	24,933	32,441	53,151	53,453	15,674	1,790	181,445	(171)	181,273
Impairment losses									
[Non-financial assets]	0	—	6,389	90	118,495	—	124,975	—	124,975
Capital expenditures	33,809	35,472	40,561	108,197	35,768	3,692	257,502	(43)	257,458
Investments accounted for using equity method	16,645	6,391	1,203	4,862	—	1,418	30,521	—	30,521

The amounts of inter-segment sales are primarily based on market prices and manufacturing cost.

“Ceramics/Others” mainly handles ceramics products, logistics and financial services.

Moreover, the above amounts of impairment losses (non-financial assets) include the amounts of impairment losses recorded as expenses for restructuring programs.

(2) Products and services

Disclosure is omitted as the same information is shown in segment information.

(3) Major customers

Disclosure is omitted as sales to external customers did not exceed 10% to any single external customer.

(4) Geographical segments

The analysis of sales by geographical area for the fiscal years ended December 31, 2023 and 2024 is as follows:

(Unit: Millions of yen)

	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Japan	¥ 645,817	¥ 649,856
Asia	627,577	668,218
America	219,118	256,889
Europe	526,741	492,639
Total	¥2,019,254	¥2,067,603

Note: Sales are based on the location of each company, and “Brazil” is included in “America.”

The analysis of non-current assets by geographical area as of December 31, 2023 and 2024 is as follows:

(Unit: Millions of yen)

	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Japan	¥ 436,559	¥ 464,705
Asia	704,203	781,918
America	150,528	83,384
Europe	354,901	336,716
Total	¥1,646,192	¥1,666,724

Notes: 1. Non-current assets do not include “Investments accounted for using equity method,” “other financial assets,” “deferred tax assets” and “Prepaid pension expenses.”

2. Non-current assets are based on the location of assets, and Brazil is included in “America.”

Note 5: Cash and cash equivalents

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Cash on hand and deposits	¥146,346	¥109,087
Negotiable certificates of deposit	7	7
Time deposits due over three months	(291)	(1,107)
Total	¥146,061	¥107,988

The balances of cash and cash equivalents on the consolidated statements of financial position as of December 31, 2023 and 2024 agree to the respective balances on the consolidated statements of cash flows.

Note 6: Trade and other receivables

Trade receivables

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Notes receivable	¥ 43,780	¥ 39,644
Accounts receivable	298,014	297,172
Allowance for doubtful accounts	(2,944)	(4,374)
Total	¥338,850	¥332,442

The Group's exposure to currency risk with respect to trade receivables, and impairment losses, are presented in Note 26 "Financial instruments."

Other receivables

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Other accounts receivable	¥21,041	¥16,783
Others	39,489	41,437
Total	¥60,530	¥58,221

Note 7: Inventories

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Merchandise and finished goods	¥159,754	¥161,570
Work in progress	94,674	102,776
Raw materials and supplies	199,627	189,796
Total	¥454,056	¥454,143

The amount of write-downs of inventories recognized as expenses and the amount of reversal of write-downs are as follows:

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Amount of write-downs of inventories recognized as expenses	¥(17,491)	¥(19,745)
Amount of reversal of write-downs	12,461	17,303

Note 8: Property, plant and equipment

Reconciliation

“Construction in progress” includes expenditures on property, plant and equipment under construction.

The amount in “additions” for each property, plant and equipment includes the amount which is transferred from “construction in progress.”

“Depreciation” is recorded in “cost of sales” and “selling, general and administrative expenses” on the consolidated statements of profit or loss.

FY2023 (Jan. 1 through Dec. 31, 2023)

Cost

	(Unit: Millions of yen)					
	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥ 938,976	¥2,587,230	¥168,249	¥101,493	¥223,710	¥4,019,661
Additions	47,209	146,193	12,363	1,042	15,933	222,743
Acquisitions due to business combinations	69	276	9	—	—	355
Disposals or sales	(5,413)	(66,941)	(5,410)	(336)	(2,819)	(80,922)
Net foreign exchange differences on translation	40,842	126,257	5,787	4,607	11,505	188,999
Others	(3,421)	1,167	—	—	—	(2,254)
Balance as of December 31	¥1,018,263	¥2,794,184	¥180,999	¥106,806	¥248,330	¥4,348,583

Accumulated depreciation and impairment losses

	(Unit: Millions of yen)					
	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥(540,617)	¥(1,964,121)	¥(141,493)	¥(6,404)	¥(16,253)	¥(2,668,892)
Depreciation	(34,834)	(116,890)	(12,044)	(934)	—	(164,705)
Impairment losses	(5,121)	(1,817)	(35)	—	(1,734)	(8,707)
Disposals or sales	3,856	62,438	4,530	423	1,302	72,551
Net foreign exchange differences on translation	(20,634)	(93,062)	(4,753)	(274)	(344)	(119,070)
Others	(1,891)	(14,011)	(8)	—	14,102	(1,809)
Balance as of December 31	¥(599,243)	¥(2,127,466)	¥(153,805)	¥(7,190)	¥ (2,927)	¥(2,890,633)

Carrying amounts

	(Unit: Millions of yen)					
	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥398,359	¥623,108	¥26,755	¥95,089	¥207,457	¥1,350,769
Balance as of December 31	¥419,020	¥666,717	¥27,193	¥99,616	¥245,403	¥1,457,950

FY2024 (Jan. 1 through Dec. 31, 2024)
Cost

(Unit: Millions of yen)

	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥1,018,263	¥2,794,184	¥180,999	¥106,806	¥248,330	¥4,348,583
Additions	47,274	139,026	13,233	4,643	43,435	247,613
Acquisitions due to business combinations	704	2,500	98	134	—	3,437
Disposals or sales	(38,033)	(87,501)	(8,245)	(1,524)	(1,568)	(136,874)
Net foreign exchange differences on translation	38,986	128,009	8,453	5,075	20,373	200,898
Others	(2,071)	(2,774)	(172)	—	—	(5,018)
Balance as of December 31	¥1,065,123	¥2,973,445	¥194,365	¥115,135	¥310,570	¥4,658,640

Accumulated depreciation and impairment losses

(Unit: Millions of yen)

	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥(599,243)	¥(2,127,466)	¥(153,805)	¥ (7,190)	¥ (2,927)	¥(2,890,633)
Depreciation	(36,761)	(122,481)	(10,883)	(1,062)	—	(171,189)
Impairment losses	(9,699)	(18,294)	(1,397)	(3,178)	(11,650)	(44,220)
Disposals or sales	31,050	78,700	7,830	651	14	118,248
Net foreign exchange differences on translation	(21,306)	(95,300)	(7,036)	(292)	(262)	(124,198)
Others	1,120	646	118	—	2,330	4,215
Balance as of December 31	¥(634,839)	¥(2,284,196)	¥(165,174)	¥(11,071)	¥(12,495)	¥(3,107,778)

Carrying amounts

(Unit: Millions of yen)

	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Total
Balance as of January 1	¥419,020	¥666,717	¥27,193	¥ 99,616	¥245,403	¥1,457,950
Balance as of December 31	¥430,284	¥689,249	¥29,190	¥104,063	¥298,074	¥1,550,862

Note 9: Goodwill and intangible assets
Reconciliation
Cost

(Unit: Millions of yen)

	FY2023 (Jan. 1 through Dec. 31, 2023)			
	Intangible assets			
	Goodwill	Customer relationships	Other	Total
Balance as of January 1	¥156,899	¥60,598	¥165,193	¥225,791
Additions	—	—	8,972	8,972
Additions through business combinations	—	—	0	0
Disposals or sales	(443)	—	(12,508)	(12,508)
Net foreign exchange differences on translation	13,161	4,846	7,972	12,819
Others	—	—	—	—
Balance as of December 31	¥169,617	¥65,444	¥169,629	¥235,074

	(Unit: Millions of yen)			
	FY2024 (Jan. 1 through Dec. 31, 2024)			
	Intangible assets			
	Goodwill	Customer relationships	Other	Total
Balance as of January 1	¥169,617	¥65,444	¥169,629	¥235,074
Additions	—	—	9,844	9,844
Additions through business combinations	1,615	—	97	97
Disposals or sales	(505)	—	(7,016)	(7,016)
Net foreign exchange differences on translation	7,150	4,382	5,977	10,360
Others	—	—	—	—
Balance as of December 31	¥177,878	¥69,827	¥178,531	¥248,359

Accumulated amortization and impairment losses

	(Unit: Millions of yen)			
	FY2023 (Jan. 1 through Dec. 31, 2023)			
	Intangible assets			
	Goodwill	Customer relationships	Other	Total
Balance as of January 1	¥(64,130)	¥(24,241)	¥(130,260)	¥(154,501)
Amortization	—	(3,559)	(7,082)	(10,641)
Impairment losses	—	—	(1)	(1)
Disposals or sales	443	—	9,870	9,870
Net foreign exchange differences on translation	(4,800)	(1,799)	(5,906)	(7,706)
Others	—	—	—	—
Balance as of December 31	¥(68,487)	¥(29,600)	¥(133,380)	¥(162,980)

	(Unit: Millions of yen)			
	FY2024 (Jan. 1 through Dec. 31, 2024)			
	Intangible assets			
	Goodwill	Customer relationships	Other	Total
Balance as of January 1	¥(68,487)	¥(29,600)	¥(133,380)	¥(162,980)
Amortization	—	(2,390)	(7,693)	(10,083)
Impairment losses	(60,640)	(19,825)	(290)	(20,115)
Disposals or sales	505	—	2,685	2,685
Net foreign exchange differences on translation	518	(1,056)	(4,229)	(5,285)
Others	—	—	(288)	(288)
Balance as of December 31	¥(128,103)	¥(52,871)	¥(143,196)	¥(196,068)

Carrying amounts

	(Unit: Millions of yen)			
	FY2023 (Jan. 1 through Dec. 31, 2023)			
	Intangible assets			
	Goodwill	Customer relationships	Other	Total
Balance as of January 1	¥ 92,768	¥36,356	¥34,933	¥71,290
Balance as of December 31	¥101,130	¥35,844	¥36,248	¥72,093

	(Unit: Millions of yen)			
	FY2024 (Jan. 1 through Dec. 31, 2024)			
	Intangible assets			
	Goodwill	Customer relationships	Other	Total
Balance as of January 1	¥101,130	¥35,844	¥36,248	¥72,093
Balance as of December 31	¥ 49,774	¥16,956	¥35,335	¥52,291

Amortization is recorded in "cost of sales" and "selling, general and administrative expenses" on the consolidated statements of profit or loss.

Note 10: Leases

The Group leases certain buildings, production facilities, etc. and accounts for them based on the terms of contract.

(1) Right-of-use assets

	(Unit: Millions of yen)				
	FY2023 (Jan. 1 through Dec. 31, 2023)				
	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Total
Additions	¥ 5,399	¥ 4,728	¥ 336	¥ 50	¥ 10,514
Depreciation	(10,145)	(3,422)	(365)	(934)	(14,868)
Balance as of December 31	¥ 46,773	¥ 9,725	¥ 536	¥ 7,497	¥ 64,533

	(Unit: Millions of yen)				
	FY2024 (Jan. 1 through Dec. 31, 2024)				
	Buildings and structures	Machinery, equipment and vehicles	Tools, fixtures and fittings	Land	Total
Additions	¥ 9,781	¥ 4,359	¥ 420	¥ 2,508	¥ 17,070
Depreciation	(10,071)	(3,646)	(416)	(1,062)	(15,197)
Balance as of December 31	¥ 44,280	¥ 9,719	¥ 774	¥ 9,637	¥ 64,411

(2) Lease liabilities

The contractual maturity of the lease liabilities is described in Note 26 "Financial instruments (3) Liquidity risk."

(3) Amounts recognized in profit or loss

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Interest on lease liabilities	¥ (2,493)	¥ (2,226)
Expenses related to short-term leases and leases of low-value assets	(12,203)	(12,769)

(4) Amounts recognized in the consolidated cash flow statement

Total cash outflows for leases are ¥30,140 million and ¥39,355 million for the fiscal years ended December 31, 2023 and 2024, respectively.

Note 11: Impairment of non-financial assets

(1) Impairment losses

When calculating impairment losses, the Group performs grouping of assets into a cash-generating unit, based on business units. The cash-generating unit is the smallest identifiable group of assets that generates largely independent cash inflows. The recoverable amount of a cash-generating unit is recorded as the higher of its value in use or fair value less costs of disposal. Value in use is calculated based on the major assumptions. On an annual basis, future cash flows for each cash-generating unit are based on the most recent budgets and medium-term business plans, while future cash flows for subsequent periods take into account the growth potential of businesses. The cash flow projection periods are set appropriately according to the business of each cash-generating unit. The discount rate applied to each cash-generating unit is calculated mainly based on the pre-tax weighted average cost of capital and adjusted to properly reflect risks and other factors related to the business using information from external and internal sources. The fair value less costs of disposal is calculated using techniques such as the market approach and the cost approach.

During the fiscal year ended December 31, 2023, the Group recognized the following impairment losses.

		(Unit: Millions of yen)		
		FY2023 (Jan. 1 through Dec. 31, 2023)		
Reportable segment	Cash-generating unit	Property, plant and equipment	Intangible assets	Total
Automotive	Others	¥1,895	¥—	¥1,895
	Subtotal	1,895	—	1,895
Electronics	Display business at the Kansai plant (Takasago Factory)	6,778	1	6,780
	Subtotal	6,778	1	6,780
Chemicals	Others	34	—	34
	Subtotal	34	—	34
Total		¥8,707	¥ 1	¥8,709

In the display business, which is included in the Electronics segment, the Group has recognized a deterioration in operating profitability primarily due to the impact of a slow recovery in demand for LCD glass substrates and the increased cost caused by the weaker yen and the soaring raw materials and fuel prices, which resulted in an indication of impairment for the cash-generating unit to which the relevant property, plant and equipment belong. The Group has performed an impairment test. As a result, since the recoverable amount calculated based on the value in use was above the carrying amount of the cash-generating unit, the Group did not recognize impairment losses. In the five-year business plan of the display business, which formed the basis for estimating value in use, the key assumptions were an increase in sales volume associated with a recovery in demand, revisions to price policy, an improved cost-of-sales ratio associated with operational adjustments to facilities, and the optimization of capital expenditures. In addition, the discount rate (pre-tax) used to determine the outcome of the impairment test was 8%. The property, plant and equipment amounted to ¥315,691 million at the end of the fiscal year ended December 31, 2023. Moreover, as part of measures to improve the profitability of the display business, in the second quarter, the Company decided to discontinue the production of LCD glass substrate products at the Kansai plant (Takasago Factory), and recognized an impairment loss of ¥6,780 million in connection with this decision.

In addition to the foregoing, the Group has identified indications of impairment including decreases in profitability with respect to certain assets in various businesses included in each segment. Considering the financial results outlook and prospects for recoverability going forward, the Group has recognized impairment losses of ¥1,929 million.

During the fiscal year ended December 31, 2024, the Group recognized the following impairment losses.

		(Unit: Millions of yen)			
		FY2024 (Jan. 1 through Dec. 31, 2024)			
Reportable segment	Cash-generating unit	Property, plant and equipment	Goodwill	Intangible assets	Total
Electronics	Specialty glass for chemical strengthening and related operations	¥ 5,303	¥ —	¥ 26	¥ 5,330
	Others	1,033	—	24	1,058
	Subtotal	6,337	—	51	6,389
Chemicals	Others	90	—	—	90
	Subtotal	90	—	—	90
Life science	AGC Biologics, Inc. (located in the United States) . . .	37,590	12,756	20,063	70,410
	AGC Biologics A/S (located in Denmark)	—	28,904	—	28,904
	AGC Biologics S.p.A. (located in Italy)	—	18,980	—	18,980
	Others	201	—	—	201
	Subtotal	37,791	60,640	20,063	118,495
Total		¥44,220	¥60,640	¥20,115	¥124,975

For AGC Biologics, Inc., which engages in contract development and manufacturing of biopharmaceutical active ingredients and gene and cell therapeutics and is included in the Life Science segment, operating profit has deteriorated mainly due to a delayed recovery in demand in the market for biopharmaceutical active ingredients and gene and cell therapeutics from a decrease in capital inflows to biotech ventures. Other indications of impairment have also been confirmed for the cash generating unit to which the related property, plant and equipment, intangible assets, and goodwill belong (including associated liabilities) owing to a significant decrease in future order and facility utilization prospects. The Group performed an impairment test at the end of the second quarter of the fiscal year ended December 31, 2024. As a result, since the recoverable amount (¥34,431 million) calculated based on value in use was less than the carrying amount of the cash-generating unit, the Group recognized an impairment loss of ¥70,410 million. The Group also performed an impairment test at the end of the fiscal year ended December 31, 2024. As a result, since the recoverable amount calculated based on value in use was above the carrying amount of the cash-generating unit, the Group did not recognize impairment losses. In the five-year business plan of AGC Biologics, Inc., which formed the basis for estimating the value in use, the key assumptions were an increase in net sales due to market expansion and an increase in contract development and manufacturing of biologically active pharmaceutical ingredients. In addition, the discount rate (pre-tax) used to determine the outcome of the impairment test was 16% at the end of the second quarter of the fiscal year ended December 31, 2024 and 17% at the end of the fiscal year ended December 31, 2024. The property, plant and equipment amounted to ¥34,072 million and intangible assets were ¥16 million at the end of the fiscal year ended December 31, 2024.

In addition, for AGC Biologics A/S, which engages in contract development and manufacturing of biopharmaceutical active ingredients and is included in the Life Science segment, operating profit has deteriorated owing primarily to a delayed recovery in demand in the market for biopharmaceutical active ingredients from a decrease in capital inflows to biotech ventures as well as delays in the launch of new lines and increased operating costs, and such increased operating costs are expected to continue in the future. There are indications of impairment for the cash-generating unit to which the related property, plant and equipment, intangible assets, and goodwill belong (including associated liabilities). The Group performed an impairment test at the end of the second quarter of the fiscal year ended December 31, 2024. As a result, since the recoverable amount (¥77,616 million) calculated based on the value in use was less than the carrying amount of the cash-generating unit, the Group recognized an impairment loss on goodwill of ¥28,904 million. The Group also performed an impairment test at the end of the fiscal year ended December 31, 2024. As a result, since the recoverable amount calculated based on value in use was above the carrying amount of the cash-generating unit, the Group did not recognize impairment losses. In the five-year business plan of AGC Biologics A/S, which formed the basis for estimating the value in use, the key assumptions were an increase in net sales due to market expansion and an increase in contract development and manufacturing of biologically active pharmaceutical ingredients, as well as projected operating costs for new lines. In addition, the discount rate (pre-tax) used to determine the outcome of the impairment test was 15% both at the end of the second quarter of the fiscal year ended December 31, 2024 and the end of the fiscal year ended December 31, 2024. The property, plant and equipment amounted to ¥60,186 million, intangible assets were ¥6,339 million, and goodwill was ¥9,818 million at the end of the fiscal year ended December 31, 2024.

Furthermore, in the fiscal year 2024, for AGC Biologics S. p. A., which engages in contract development and manufacturing of gene and cell therapeutics and is included in the Life Science segment, operating profit has deteriorated mainly due to a delayed recovery in demand in the market for gene and cell therapeutics. Other indications of impairment have also been confirmed for the cash generating unit to which the related property, plant and equipment, intangible assets, and goodwill belong (including associated liabilities) owing to a decrease in future order prospects. The Group performed an impairment test at the end of the second quarter of the fiscal year ended December 31, 2024. As a result, since the recoverable amount (¥15,834 million) calculated based on the value in use was less than the carrying amount of the cash-generating unit, the Group recognized an impairment loss on goodwill of ¥18,980 million. The Group also performed an impairment test at the end of the fiscal year ended December 31, 2024. As a result, since the recoverable amount calculated based on value in use was above the carrying amount of the cash-generating unit, the Group did not recognize impairment losses. In the five-year business plan of AGC Biologics S.p.A., which formed the basis for estimating the value in use, the key assumption was an increase in net sales due to market expansion and an increase in contract development and manufacturing of gene and cell therapy pharmaceuticals. In addition, the discount rate (pre-tax) used to determine the outcome of the impairment test was 20% at the end of the second quarter of the fiscal year ended December 31, 2024 and 18% at the end of the fiscal year ended December 31, 2024. The property, plant and equipment amounted to ¥8,233 million and intangible assets were ¥9,855 million at the end of the fiscal year ended December 31, 2024.

Furthermore, the Group has identified indications of impairment, such as a significant decline in profitability, for specialty glass for chemical strengthening and related operations, which are included in the Electronics segment. The Group performed an impairment test. As a result, since the recoverable amount was less than the carrying amount of the cash generating unit, the Group recognized an impairment loss of ¥5,330 million. The recoverable amount was based on the fair value less costs of disposal.

In addition to the foregoing, the Group has identified indications of impairment including decreases in profitability with respect to certain assets in various businesses included in each segment. Considering the financial results outlook and prospects for recoverability going forward, the Group has recognized impairment losses of ¥1,350 million.

Impairment losses are included in "other expenses" on the consolidated statements of profit or loss.

Non-financial assets excluding inventories and deferred tax assets reported on the Group's consolidated statements of financial position may become subject to impairment loss if a recoverable amount of any such asset has fallen below the carrying amount due to lower profitability, changes in fair value or other such circumstances going forward. Such a scenario could significantly affect the amount of non-financial assets on the Group's consolidated financial statements in the fiscal year ending December 31, 2025.

(2) Impairment test of cash-generating units including goodwill

The total carrying amount of goodwill allocated to each cash-generating unit is as follows:

Reportable Segment	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Architectural Glass	¥ 25,724	¥28,408
Automotive	1,494	1,494
Electronics	2,736	2,736
Chemicals	4,959	5,278
Life science	66,215	11,855
Total	¥101,130	¥49,774

The goodwill arising from the acquisition of AGC Biologics A/S (located in Denmark), AGC Biologics S.p.A. (located in Italy), and AGC Biologics, Inc. (located in the United States) for the fiscal year ended December 31, 2023 is included in the corresponding amount for the Life Science segment. The amount for AGC Biologics A/S was ¥35,737 million, the amount for AGC Biologics S.p.A. was ¥17,304 million, and the amount for AGC Biologics, Inc. was ¥11,232 million. The discount rates (pre-tax) used to determine the outcome of the impairment test for this goodwill was 15%, 18%, and 16% for AGC Biologics A/S, AGC Biologics S.p.A., and AGC Biologics, Inc., respectively.

During the fiscal year ended December 31, 2024, the Group recognized impairment losses associated with AGC Biologics, Inc. (located in the United States), AGC Biologics A/S (located in Denmark), and AGC Biologics S.p.A. (located in Italy), which are included in the Life Science segment, as stated in "(1) Impairment losses." For the goodwill of the relevant cash-generating units, the Group has recorded impairment losses of ¥12,756 million at AGC Biologics, Inc. (located in the United States), ¥28,904 million at AGC Biologics A/S (located in Denmark), and ¥18,980 million at AGC Biologics S.p.A. (located in Italy).

The main discount rates (pre-tax) used for impairment tests for cash-generating units including goodwill, except for the above, ranged from 7 to 10% and 7 to 10% for the fiscal years ended December 31, 2023 and 2024, respectively.

Note 12: Equity method affiliates

The carrying amounts of Investments accounted for using equity method are as follows:

Investments accounted for using equity method	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Investments accounted for using equity method	¥27,633	¥30,521

Share of profit and other comprehensive income of associates and joint ventures accounted for using the equity method are as follows:

Share of profit (loss) of associates and joint ventures accounted for using equity method	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Share of profit (loss) of associates and joint ventures accounted for using equity method	¥1,981	¥2,461
Share of other comprehensive income of associates and joint ventures accounted for using equity method	(6)	(8)
Total	¥1,975	¥2,453

During the fiscal years ended December 31, 2023 and 2024, there was no individually significant associate or joint venture accounted for using the equity method.

Note 13: Deferred tax assets and liabilities

(1) Unrecognized deferred tax assets

The Group recognizes deferred tax assets, taking into account deductible temporary differences, projected future taxable profit and tax planning. However, deferred tax assets have not been recognized for the following items:

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Carry-forwards of unused tax losses	¥471,824	¥ 574,386
Deductible temporary differences	383,411	526,739
Total	¥855,236	¥1,101,126

The amounts of carry-forwards of unused tax losses, for which deferred tax assets have not been recognized, and the expiries of the carry-forwards are as follows:

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
1st year	¥ 2,581	¥ 1,246
2nd year	1,308	161
3rd year	199	1,608
4th year	14,031	13,348
5th year and thereafter	453,703	558,021
Total	¥471,824	¥574,386

(2) Unrecognized deferred tax liabilities

In principle, the Group has recognized deferred tax liabilities on taxable temporary differences, arising from undistributed profits and exchange differences on translation of foreign operations, etc., associated with investment in subsidiaries. On the other hand, the Group has not recognized deferred tax liabilities if it is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

As of December 31, 2023 and 2024, the total amounts of taxable temporary differences (including exchange differences on translation of foreign operations) for which deferred tax liabilities have not been recognized were ¥414,045 million and ¥451,383 million, respectively.

(3) Recognized deferred tax assets and liabilities

Deferred tax assets and liabilities were attributable to the following items:

The Group has adopted the exception stipulated by the “International Tax Reform—Pillar Two Model Rules (Amendments to IAS12)” (hereinafter, “the Amendments”) issued on May 23, 2023. Accordingly, the Group has not recognized or disclosed deferred taxes related to taxes (hereinafter, the “Pillar Two corporate income taxes”) arising from the tax regime related to the Pillar Two Model Rules regarding the new global minimum taxation framework (hereinafter, “the global minimum taxation system”), which was announced by the Organisation for Economic Co-operation and Development (OECD).

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Deferred tax assets		
Post-employment benefit liabilities	¥ 15,568	¥ 17,133
Depreciation	11,390	14,361
Impairment losses	17,859	14,938
Carry-forwards of unused tax losses	22,176	11,445
Lease liabilities	14,286	14,167
Others	5,852	7,177
Total deferred tax assets	87,134	79,225
Deferred tax liabilities		
Financial assets measured at fair value through other comprehensive income	(9,822)	(6,709)
Gain on establishment of trust for retirement benefits	(2,899)	(2,322)
Depreciation	(21,828)	(11,745)
Deferred capital gain reserve	(6,319)	(5,911)
Right-to-use assets	(14,141)	(13,822)
Others	(30,313)	(22,559)
Total deferred tax liabilities	(85,325)	(63,071)
Net deferred tax assets	¥ 1,808	¥ 16,153

(4) Increase and decrease of deferred tax assets and liabilities

Increase and decrease of deferred tax assets and liabilities are as follows:

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Balance as of January 1 (net amount)	¥ 11,926	¥ 1,808
Recognized in profit or loss	(1,882)	7,024
Recognized in other comprehensive income	(13,231)	114
Others (business combinations, currency fluctuation and others)	4,996	7,205
Balance as of December 31 (net amount)	¥ 1,808	¥16,153

Note 14: Trade and other payables

Trade payables

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Notes payable	¥ 11,477	¥ 11,106
Trade accounts payable	195,089	190,697
Total	¥206,566	¥201,803

Other payables

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Other accounts payable	¥ 86,790	¥ 83,538
Accrued expenses	57,863	62,213
Others	71,585	68,771
Total	¥216,240	¥214,523

Note 15: Interest-bearing debt

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Short-term bank loans	¥ 78,572	¥ 82,940
Commercial paper	43,064	47,000
Long-term bank loans due within one year	114,634	76,106
Corporate bonds due within one year	—	19,992
Short-term lease liabilities	13,176	13,822
Total current liabilities	249,447	239,862
Long-term bank loans	312,281	285,269
Corporate bonds	69,869	69,847
Long-term lease liabilities	63,410	54,760
Total non-current liabilities	445,561	409,876
Total interest-bearing debt	¥695,009	¥649,739

Please see Note 26 “Financial instruments” for further information on the Group’s interest rate risk, currency risk, and liquidity risk. Assets pledged as collateral are presented in Note 29 “Collateral.”

(1) Bonds

Company	Name of bond	Date of issuance	As of January 1, 2024 (Millions of yen)	As of December 31, 2024 (Millions of yen)	Interest rate (% annum) ^(Note 2)	Collateral	Date of maturity
Asahi Glass Co., Ltd.	15th straight bond	May 29, 2017	19,974	19,982	0.31	None	May 28, 2027
AGC Inc.	1st straight bond	Oct. 12, 2018	19,982	19,992	0.23	None	Oct. 10, 2025
				(19,992)			
AGC Inc.	2nd straight bond	Jun. 8, 2023	29,912	29,921	0.79	None	Jun. 8, 2033
AGC Inc.	3rd straight bond	Sep. 5, 2024	—	9,975	0.71	None	Sep. 5, 2029
AGC Inc.	4th straight bond	Sep. 5, 2024	—	9,967	1.29	None	Sep. 5, 2034
Total ^(Note 1)	—	—	¥ 69,869	¥89,839	—	—	—
			(—)	(19,992)			

Notes: 1. The component figures disclosed in parentheses in the “As of January 1, 2024” and “As of December 31, 2024” columns represent balances due within one year.
2. The interest rate column shows the coupon rates applicable to each bond. Accordingly, these rates are different from the effective annual interest rates.

(2) Borrowings

As of December 31, 2024, the weighted average effective interest rate for “short-term bank loans,” “long-term bank loans due within one year” and “long-term bank loans” are 0.9%, 0.2% and 1.7% per annum, respectively.

The maturities of “long-term bank loans” are from 2026 to 2032.

(3) Liabilities arising from financing activities

The changes of liabilities arising from financing activities are as follows:

	(Unit: Millions of yen)				
	FY2023 (Jan. 1 through Dec. 31, 2023)				
	Borrowings	Commercial paper	Corporate bonds	Lease liabilities	Total liabilities arising from financing activities
Balance as of January 1	¥508,200	¥ 1,853	¥59,935	¥ 80,253	¥650,242
Cash flows	(25,302)	40,136	9,907	(15,444)	9,297
Non-cash changes					
Increase in finance lease liabilities	—	—	—	10,506	10,506
Foreign exchange differences	26,169	1,074	—	4,715	31,959
Changes in the scope of consolidation	(3,516)	—	—	—	(3,516)
Others	(62)	—	26	(3,443)	(3,480)
Balance as of December 31	¥505,488	¥43,064	¥69,869	¥ 76,586	¥695,009

(Unit: Millions of yen)

FY2024 (Jan. 1 through Dec. 31, 2024)					
	Borrowings	Commercial paper	Corporate bonds	Lease liabilities	Total liabilities arising from financing activities
Balance as of January 1	¥505,488	¥43,064	¥69,869	¥ 76,586	¥695,009
Cash flows	(77,677)	3,084	19,940	(24,358)	(79,011)
Non-cash changes					
Increase in finance lease liabilities	—	—	—	16,771	16,771
Foreign exchange differences	15,220	851	—	4,562	20,633
Changes in the scope of consolidation	2,940	—	—	(2,719)	221
Others	(1,656)	—	29	(2,260)	(3,886)
Balance as of December 31	¥444,316	¥47,000	¥89,839	¥ 68,582	¥649,739

Note 16: Provisions

(Unit: Millions of yen)

	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Provisions for restructuring costs	¥ 670	¥ 132
Other provisions	1,327	1,229
Total current liabilities	¥ 1,997	¥ 1,361
Provisions for restructuring costs	¥ 3,722	¥ 2,329
Other provisions	7,251	10,553
Total non-current liabilities	¥10,973	¥12,883

“Other provisions” consists of various provisions for undetermined obligation related to identifiable risks, such as asset retirement obligations and environment-related provisions.

There is no significant balance of asset retirement obligations as of December 31, 2023 and 2024.

A reconciliation of opening and closing balances for each class of provision is as follows:

(Unit: Millions of yen)

FY2024 (Jan. 1 through Dec. 31, 2024)			
	Provisions for restructuring costs	Other provisions	Total
Balance as of January 1	¥ 4,392	¥ 8,578	¥12,971
Amounts increased during the period	782	5,608	6,391
Amounts used during the period	(1,541)	(1,493)	(3,035)
Unused amounts reversed during the period	(257)	(436)	(693)
Others	(914)	(473)	(1,388)
Balance as of December 31	¥ 2,462	¥11,783	¥14,245

During the fiscal year ended December 31, 2024, the Group recognized a provision for restructuring programs measured at estimated future losses arising from restructuring actions such as an expansion in the additional severance compensation program to improve the business structure and the reorganization of certain operations. The timing of the payment may be affected by future business plans.

Note 17: Employee benefits

The Group has the following retirement benefit plans: defined benefit corporate pension plans, employees' pension fund plans, lump-sum severance payment plans, all which are defined benefit pension plans, and defined contribution pension plan.

The level of defined benefit pension plans is determined based on a certain number of points conferred according to an individual employee's contribution during his or her period of service. Asset administration, investment, and benefits are provided mainly by corporate pension funds. The investment yield of the corporate pension is set in consideration of the sustainability of the plan.

(1) Defined benefit plans

The amounts for defined benefit plans recognized on the consolidated statements of financial position are as follows:

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Present value of defined benefit obligations	¥(303,810)	¥(287,274)
Fair value of plan assets	348,123	364,319
Effect of asset ceiling	—	(45,085)
Total	¥ 44,312	¥ 31,960
Prepaid pension expenses ^(Note)	¥ 94,339	¥ 83,330
Post-employment benefit liabilities	(50,026)	(51,370)

Note: Prepaid pension expenses are included in "other non-current assets" on the consolidated statements of financial position.

(Corporate pension plan of the Company)

The Company's pension plan is managed through a legally independent entity AGC Corporate Pension Fund (the "Fund"). The Fund has a Board of Representatives split evenly between representatives selected by the Company and representatives elected by the pension plan members through mutual vote. The representatives elect directors and a controller through mutual vote. After that, the president (the chairman of the Board of Representatives) is selected.

Under the Defined-Benefit Corporate Pension Act, the Company is obligated to make pension contributions to the Fund which provides pension benefits. The directors of the Fund are responsible for faithfully executing operations related to the administration and investment of pension reserves for the Fund in compliance with laws and regulations, any orders issued by the Minister of Health, Labour and Welfare, and the director-generals of Regional Bureaus of Health and Welfare based on laws and regulations, as well as the rules of the Fund and the resolutions of the Board of Representatives. Furthermore, directors are prohibited from engaging in any actions that could hinder proper administration and investment of the pension reserves for the purpose of furthering their own interests or the interests of third parties other than the Fund.

i) Changes in the present value of defined benefit obligations

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
As of January 1	¥(329,245)	¥(303,810)
Benefits paid by the plan	17,979	19,104
Current service cost	(11,059)	(10,933)
Interest cost	(6,683)	(5,887)
Past service cost and settlement	31,053	4,485
Actuarial gains and losses	(552)	9,143
Due to changes in demographic assumptions	159	12
Due to changes in financial assumptions	137	7,936
Others	(849)	1,194
Foreign exchange differences	(5,690)	(231)
Business combinations and disposals	(28)	481
Others	417	374
As of December 31	¥(303,810)	¥(287,274)

The weighted average duration of defined benefit obligations was mainly 14 years and 14 years as of December 31, 2023 and 2024, respectively.

ii) Changes in the fair value of plan assets

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
As of January 1	¥351,846	¥348,123
Employer contributions	3,623	3,670
Employee contributions	341	186
Benefits paid by the plan	(15,309)	(16,716)
Interest income ^(Note)	6,053	5,910
Settlement	(33,146)	(4,420)
Income related to plan assets (excluding interest income)	30,472	27,944
Foreign exchange differences	4,658	(581)
Business combinations and disposals	—	379
Others	(417)	(176)
As of December 31	¥348,123	¥364,319

Note: Interest income is measured as the fair value of plan assets multiplied by the discount rate.

The Group plans to contribute ¥3,397 million to retirement benefit plans during the fiscal year ending December 31, 2025.

In accordance with the rules of the Fund, every five years the Company is required to recalculate the amount of pension contributions, with the end of the Fund's business year set as the record date. This is to maintain the Fund's financial stability into the future.

In the recalculation process, the Company reviews the base rates related to the pension contributions (assumed interest rate, assumed mortality rate, assumed withdrawal rate, assumed salary increase rate, assumed number of new pension plan members, etc.) in order to re-examine the appropriateness of the pension contributions.

iii) Components of plan assets

Plan assets are invested with the aim of ensuring the sustainability of the defined benefit plans. Plan assets are invested mainly in bonds and equities, and are exposed to market risk in each area. The Group has formulated a policy on risk and return targets for the investment of plan assets. The Group properly monitors investment performance, and regularly reviews this policy, taking into account the funding status and market developments surrounding investments.

The components of plan assets are as follows:

	(Unit: Millions of yen)					
	FY2023 (as of December 31, 2023)			FY2024 (as of December 31, 2024)		
	Assets with quoted market prices in an active market	Assets without quoted market prices in an active market ^(Note)	Subtotal	Assets with quoted market prices in an active market	Assets without quoted market prices in an active market ^(Note)	Subtotal
Equity securities	¥ 74,305	¥ 58,791	¥133,096	¥ 90,500	¥ 47,738	¥138,238
Bonds	60,753	99,438	160,191	76,199	112,197	188,397
Others	20,560	34,275	54,835	2,422	35,260	37,683
Total	¥155,619	¥192,504	¥348,123	¥169,122	¥195,197	¥364,319

Note: Equity securities include privately placed investment trusts that do not have quoted market prices in an active market, and comprise publicly traded shares in Japan and overseas. Others mainly include cash equivalents and insurance contracts.

iv) Effect of asset ceiling

Changes in the effect of asset ceiling are as follows:

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
As of January 1	¥—	¥ —
Remeasurements:		
Changes in the effect of asset ceiling	—	(45,085)
As of December 31	¥—	¥(45,085)

v) Analysis of post-employment benefit expenses

Amounts recognized as expenses related to post-employment benefits are as follows:

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Current service cost	¥(11,059)	¥(10,933)
Interest cost	(6,683)	(5,887)
Interest income	6,053	5,910
Past service cost and gains or losses on settlement	(2,092)	64
Total	¥(13,782)	¥(10,847)

The foregoing expenses are included in “cost of sales,” “selling, general and administrative expenses” and certain other accounts on the consolidated statements of profit or loss.

vi) Actuarial assumptions

Principal actuarial assumptions as of December 31, 2023 and 2024 are as follows:

	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Discount rate (%)	1.4	1.9

In addition to the above, actuarial assumptions include future salary increases, the mortality rate and the expected retirement rate.

vii) Sensitivity analysis of actuarial assumptions

The followings are changes in defined benefit obligations that would result from the changes below in the discount rate as of December 31, 2024. This analysis assumes that all other variables are held constant.

	(Unit: Millions of yen)
	FY2024 (as of December 31, 2024)
Discount rate (0.5% increase)	¥ 15,514
Discount rate (0.5% decrease)	(17,278)

(2) Defined contribution plans

Amounts recognized as expenses related to defined contribution plans are as follows:

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Expenses related to defined contribution plans	¥(2,556)	¥(2,626)

The abovementioned expenses are included in “cost of sales” and “selling, general and administrative expenses” on the consolidated statements of profit or loss.

Note 18: Share-based payments

(1) Stock options

i) Description of stock options

Until the fiscal year ended December 31, 2017, the Company granted the Group's directors, executive officers and other employees with stock options, which confer the right to purchase the Company's shares. Under the plan, 200 shares of common stock per one stock acquisition right are granted to the grantees. Stock options that are not exercised during the exercisable period will expire.

The general terms and conditions for stock options are as follows. The presentation is based on the numbers when the shares were granted.

Grant date	Number of shares granted	Vesting conditions	Exercisable period	Exercise price (Yen)
July 2, 2007 (Compensation-type)	53,200 ^(Note 1)		From July 3, 2007 to July 2, 2037 ^(Note 1)	¥ 1
July 1, 2008 (Compensation-type)	53,000 ^(Note 1)		From July 2, 2008 to July 1, 2038 ^(Note 1)	1
July 1, 2009 (Compensation-type)	129,400 ^(Note 1)		From July 2, 2009 to July 1, 2039 ^(Note 1)	1
July 1, 2010 (Compensation-type)	86,400 ^(Note 1)		From July 2, 2010 to July 1, 2040 ^(Note 1)	1
July 1, 2011 (Compensation-type)	86,000 ^(Note 1)		From July 2, 2011 to July 1, 2041 ^(Note 1)	1
July 2, 2012 (Compensation-type)	204,000 ^(Note 1)		From July 3, 2012 to July 2, 2042 ^(Note 1)	1
March 26, 2013 (Compensation-type)	55,600 ^(Note 1)		From March 27, 2013 to March 26, 2043 ^(Note 1)	1
July 1, 2013 (Compensation-type)	118,400 ^(Note 1)		From July 2, 2013 to July 1, 2043 ^(Note 1)	1
July 1, 2014 (Compensation-type)	128,800 ^(Note 1)		From July 2, 2014 to July 1, 2044 ^(Note 1)	1
July 1, 2014 (Ordinary-type)	66,000	An option holder must remain in continued service from the grant date (July 1, 2014) to the vesting date (June 30, 2017).	From July 1, 2017 to June 30, 2023	3,035
January 27, 2015 (Compensation-type)	4,800 ^(Note 1)		From January 28, 2015 to January 27, 2045 ^(Note 1)	1
July 1, 2015 (Compensation-type)	90,200 ^(Note 1)		From July 2, 2015 to July 1, 2045 ^(Note 1)	1
July 1, 2015 (Ordinary-type)	75,200	An option holder must remain in continued service from the grant date (July 1, 2015) to the vesting date (June 30, 2018).	From July 1, 2018 to June 30, 2024	4,000
February 22, 2016 (Compensation-type)	12,200 ^(Note 1)		From February 23, 2016 to February 22, 2046 ^(Note 1)	1
July 1, 2016 (Compensation-type)	139,200 ^(Note 1)		From July 2, 2016 to July 1, 2046 ^(Note 1)	1
July 1, 2016 (Ordinary-type)	76,000	An option holder must remain in continued service from the grant date (July 1, 2016) to the vesting date (June 30, 2019).	From July 1, 2019 to June 30, 2025	3,260
March 24, 2017 (Compensation-type)	24,200 ^(Note 1)		From March 25, 2017 to March 24, 2047 ^(Note 1)	1
July 3, 2017 (Compensation-type)	60,200 ^(Note 1)		From July 4, 2017 to July 3, 2047 ^(Note 1)	1

Notes: 1. Vesting conditions and exercisable period

Within the abovementioned exercisable periods, option holders may exercise their subscription rights within 10 years from the day after they lose their position as a director or an executive officer of the Company.

2. Effective from July 1, 2017, the Company consolidated its common shares at a ratio of five shares to one share. The number of shares granted and exercise price are calculated on the assumption that the consolidation of shares has been conducted on the grant date.

ii) Number and average exercise price of stock options

The number and weighted average exercise prices of stock options granted during the period are as follows. The number of stock options is shown after conversion into the number of shares.

	FY2023 (Jan. 1 through Dec. 31, 2023)		FY2024 (Jan. 1 through Dec. 31, 2024)	
	Number (Shares)	Weighted average exercise price (Yen)	Number (Shares)	Weighted average exercise price (Yen)
Outstanding as of January 1	662,400	¥ 599	523,400	¥ 473
Granted during the period	—	—	—	—
Forfeited during the period	2,000	3,630	—	—
Exercised during the period	132,000	961	103,600	1,245
Expired during the period	5,000	3,035	8,200	4,000
Outstanding as of December 31	523,400	¥ 473	411,600	¥ 208
Exercisable as of December 31	523,400	¥ 473	411,600	¥ 208

The weighted average remaining contractual period was 18.4 years and 18.7 years as of December 31, 2023 and 2024, respectively.

The weighted average share price on the exercise dates of stock options exercised in the fiscal years ended December 31, 2023 and 2024 were ¥4,938 and ¥5,365, respectively.

iii) Fair value of stock options

There were no stock options granted during the fiscal years ended December 31, 2023 and 2024.

iv) Equity-settled share-based payment transactions for which IFRS 2 is not applied

Out of the description in i) above, due to optional exemptions by IFRS 1, details of stock options for which IFRS 2 has not been applied are as follows:

Grant date	Number of shares granted	Vesting conditions	Exercisable period	Exercise price (Yen)
July 2, 2007 (Compensation-type)	53,200	(Note 1)	From July 3, 2007 to July 2, 2037 ^(Note 1)	¥1
July 1, 2008 (Compensation-type)	53,000	(Note 1)	From July 2, 2008 to July 1, 2038 ^(Note 1)	1
July 1, 2009 (Compensation-type)	129,400	(Note 1)	From July 2, 2009 to July 1, 2039 ^(Note 1)	1
July 1, 2010 (Compensation-type)	86,400	(Note 1)	From July 2, 2010 to July 1, 2040 ^(Note 1)	1
July 1, 2011 (Compensation-type)	86,000	(Note 1)	From July 2, 2011 to July 1, 2041 ^(Note 1)	1

Notes: 1. Vesting conditions and exercisable period

Within the abovementioned exercisable periods, option holders may exercise their subscription rights within 10 years from the day after they lose their position as a director or an executive officer of the Company.

2. Effective from July 1, 2017, the Company consolidated its common shares at a ratio of five shares to one share. The number of shares granted is calculated on the assumption that the consolidation of shares has been conducted on the grant date.

v) Expenses recorded under stock options

There were no expenses recorded under the plan during the fiscal years ended December 31, 2023 and 2024 because all the stock options under the plan vested.

(2) Share-based compensation plan that uses a structure called BIP Trust

i) Description of share-based compensation plan that uses a structure called BIP Trust

The Company has introduced a plan to its directors and executive officers (excluding non-residents of Japan; hereinafter referred to as “directors, etc.”). The purpose is to further motivate the contributions to the increase of the Group’s corporate value in the medium to long term, and the achievement of performance targets as set out in the medium-term management plan.

In the plan, the BIP Trust acquires the Company’s shares, and delivers the shares and provides the amount of money equivalent to the value of the shares to directors, etc., based on their positions and the level of achievement of the performance targets and other factors.

ii) Expenses recorded under the share-based compensation plan that uses a structure called BIP Trust

Expenses recorded under the plan were ¥343 million and ¥214 million during the fiscal years ended December 31, 2023 and 2024, respectively.

These expenses were included in “cost of sales” and “selling, general and administrative expenses” on the consolidated statements of profit or loss.

iii) Weighted average fair value of the Company’s shares granted during the period

Weighted average fair value of the Company’s shares granted during the period is measured based on observable market prices, including expected dividends, etc.

Weighted average fair value of the Company’s shares granted was ¥4,966 and ¥5,052 during the fiscal years ended December 31, 2023 and 2024, respectively.

Note 19: Equity

(1) Share capital and share premium

	(Unit: Thousands of shares)	
	Fully paid issued shares (No par value ordinary shares)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
As of January 1	227,441	217,434
Decrease due to cancellation of treasury shares	(10,006)	—
As of December 31	217,434	217,434
Number of authorized shares	400,000	400,000

Note: In accordance with the resolutions of the Board of Directors meeting held on October 12, 2023, the Company canceled its treasury shares during the year ended December 31, 2023.

Out of the amount generated from the equity transaction, capital surplus consists of the amount which is not included in share capital.

Under the Companies Act of Japan, at least 50% of the proceeds of certain issues of ordinary shares shall be credited to share capital.

(2) Retained earnings

Retained earnings include amounts transferred from accumulated gains or losses recognized in other components of equity upon the sale of financial assets measured at fair value through other comprehensive income.

Furthermore, retained earnings include the amount of accumulated foreign currency translation adjustments that had been recognized based on previous standards (JGAAP), and transferred to retained earnings as of the transition date to IFRS.

(3) Treasury shares

	(Unit: Thousands of shares)	
	Treasury shares	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
As of January 1	5,757	5,622
Increase due to acquisition of treasury shares in accordance with the resolution of the Board of Directors	10,006	—
Decrease due to cancellation of treasury shares	(10,006)	—
Decrease due to sales of less-than-one-unit shares	(0)	(0)
Increase due to purchases of less-than-one-unit shares	4	4
Decrease due to exercise of stock options	(132)	(103)
Increase due to market purchases of the BIP Trust	—	221
Decrease due to delivery to the beneficiaries of the BIP Trust	(7)	(269)
As of December 31	5,622	5,474

Note: In accordance with the resolutions of the Board of Directors meeting held on October 12, 2023, the Company canceled its treasury shares during the year ended December 31, 2023.

(4) Other components of equity

The following is a breakdown of other components of equity:

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Remeasurements of defined benefit plans	¥ 29,737	¥ 23,921
Net change in revaluation of financial assets measured at FVTOCI	25,317	18,687
Cash flow hedges	(6,167)	(497)
Exchange differences on translation of foreign operations	365,053	489,023
Total	¥413,941	¥531,134

Remeasurements of defined benefit plans

Remeasurements of defined benefit plans includes the effects of differences between the actuarial assumptions at the beginning of the period and the actual numbers at the end of the period, and differences between actual income from plan assets and projected interest income from plan assets.

Net change in revaluation of financial assets measured at FVTOCI

This includes the cumulative amount of the net change in revaluation of financial assets measured at FVTOCI.

Cash flow hedges

This is the effective portion of the cumulative amount of the net change in fair value of cash flow hedges relating to hedge transactions that have not yet been realized.

Exchange differences on translation of foreign operations

These are foreign currency differences arising from the translation of the financial statements of foreign operations.

(5) Dividends

Dividends paid during the fiscal years ended December 31, 2023 and 2024 are as follows:

(Fiscal year ended December 31, 2023)					
Date of approval	Type of share	Total amount of dividends (Millions of yen)	Dividends per share (Yen)	Record date	Effective date
Shareholders' meeting					
held on March 30, 2023 . . .	Ordinary shares	¥23,316	¥105.00	December 31, 2022	March 31, 2023
Board of Directors meeting					
held on August 2, 2023 . . .	Ordinary shares	22,666	105.00	June 30, 2023	September 8, 2023

Notes 1: The year-end dividend based on the resolution of the Shareholders' meeting held on March 30, 2023, includes dividend payment of ¥39 million paid for the shares held by the BIP Trust.
2: The interim dividend based on the resolution of the Board of Directors meeting held on August 2, 2023, includes dividend payment of ¥38 million paid for the shares held by the BIP Trust.

(Fiscal year ended December 31, 2024)					
Date of approval	Type of share	Total amount of dividends (Millions of yen)	Dividends per share (Yen)	Record date	Effective date
Shareholders' meeting					
held on March 28, 2024 . . .	Ordinary shares	¥22,278	¥105.00	December 31, 2023	March 29, 2024
Board of Directors meeting					
held on August 1, 2024 . . .	Ordinary shares	22,288	105.00	June 30, 2024	September 6, 2024

Notes 1: The year-end dividend based on the resolution of the Shareholders' meeting held on March 28, 2024, includes dividend payment of ¥38 million paid for the shares held by the BIP Trust.
2: The interim dividend based on the resolution of the Board of Directors meeting held on August 1, 2024, includes dividend payment of ¥33 million paid for the shares held by the BIP Trust.

Dividends for which the effective date falls in the period subsequent to the fiscal year are as follows:

(Fiscal year ended December 31, 2023)					
Date of approval	Type of share	Total amount of dividends (Millions of yen)	Dividends per share (Yen)	Record date	Effective date
Shareholders' meeting					
held on March 28, 2024 . . .	Ordinary shares	¥22,278	¥105.00	December 31, 2023	March 29, 2024

Note: Total amount of dividends includes dividend payment of ¥38 million paid for the shares held by the BIP Trust.

(Fiscal year ended December 31, 2024)					
Date of approval	Type of share	Total amount of dividends (Millions of yen)	Dividends per share (Yen)	Record date	Effective date
Shareholders' meeting					
held on March 28, 2025 . . .	Ordinary shares	¥22,289	¥105.00	December 31, 2024	March 31, 2025

Note: Total amount of dividends includes dividend payment of ¥33 million paid for the shares held by the BIP Trust.

Note 20: Other comprehensive income

Changes in other comprehensive income during the fiscal years ended December 31, 2023 and 2024 are as follows:

(Unit: Millions of yen)

	FY2023			FY2024		
	(Jan. 1 through Dec. 31, 2023)			(Jan. 1 through Dec. 31, 2024)		
	Before tax effects	Tax effects	Net amount	Before tax effects	Tax effects	Net amount
Remeasurements of defined benefit plans	¥ 29,920	¥ (9,940)	¥19,979	¥ (7,996)	¥ 2,313	¥ (5,682)
Net change in revaluation of financial assets measured at FVTOCI ^(Note)	14,236	(4,426)	9,809	6,466	(2,035)	4,430
Cash flow hedges	(9,202)	835	(8,366)	5,524	(6)	5,518
Exchange differences on translation of foreign operations	77,433	299	77,733	144,734	(156)	144,577
Share of other comprehensive income of associates and joint ventures accounted for using equity method	(6)	—	(6)	(8)	—	(8)
Total	¥112,382	¥(13,231)	¥99,150	¥148,721	¥ 114	¥148,836

Note: FVTOCI: Fair Value Through Other Comprehensive Income

During the fiscal year ended December 31, 2023, the reclassification adjustments of exchange differences on translation of foreign operations were ¥(1,919) million (before tax effects) and ¥551 million (tax effects). During the fiscal year ended December 31, 2024, the reclassification adjustments of exchange differences on translation of foreign operations were ¥42,133 million (before tax effects), with no tax effects recognized.

Amounts attributable to non-controlling interests are as follows:

(Unit: Millions of yen)

	FY2023			FY2024		
	(Jan. 1 through Dec. 31, 2023)			(Jan. 1 through Dec. 31, 2024)		
	Before tax effects	Tax effects	Net amount	Before tax effects	Tax effects	Net amount
Remeasurements of defined benefit plans	¥ (415)	¥ 64	¥ (351)	¥ 91	¥41	¥ 132
Net change in revaluation of financial assets measured at FVTOCI ^(Note)	15	(4)	11	5	(1)	4
Cash flow hedges	152	(30)	122	(189)	37	(151)
Exchange differences on translation of foreign operations	12,703	—	12,703	20,608	(0)	20,608
Total	¥12,457	¥ 28	¥12,485	¥20,515	¥77	¥20,593

Note: FVTOCI: Fair Value Through Other Comprehensive Income

Note 21: Revenue

(1) Disaggregation of revenue

As disclosed in Note 4 "Segment information," the Group has five reportable segments: Architectural Glass, Automotive, Electronics, Chemicals and Life Science.

In addition, net sales are broken down by product group and region.

The reconciliations of the disaggregated revenue with the Group's sales components are as follows.

i) Disaggregation by product groups

		(Unit: Millions of yen)	
		FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Architectural Glass		¥ 474,646	¥ 435,575
Automotive		499,392	498,568
Electronics	Display	160,680	179,165
	Electronics materials	151,283	183,587
	Subtotal	311,964	362,752
Chemicals	Essential Chemicals	402,796	411,774
	Performance Chemicals	166,855	177,952
	Subtotal	569,652	589,727
Life Science		123,933	137,326
Ceramics/Others		39,665	43,652
Total		¥2,019,254	¥2,067,603

ii) Disaggregation by geographical segments

FY2023 (Jan. 1 through Dec. 31, 2023)

(Unit: Millions of yen)							
	Architectural Glass	Automotive	Electronics	Chemicals	Life Science	Ceramics/ Others	Total
Japan/Asia	¥158,381	¥256,389	¥277,026	¥511,134	¥ 30,796	¥39,665	¥1,273,395
America	29,537	101,182	33,849	31,978	22,571	—	219,118
Europe	286,727	141,821	1,088	26,539	70,565	—	526,741
Total	¥474,646	¥499,392	¥311,964	¥569,652	¥123,933	¥39,665	¥2,019,254

Note: Sales by region are based on the location of each company, and "Brazil" is included in "America."

FY2024 (Jan. 1 through Dec. 31, 2024)

(Unit: Millions of yen)							
	Architectural Glass	Automotive	Electronics	Chemicals	Life Science	Ceramics/ Others	Total
Japan/Asia	¥157,917	¥249,026	¥309,646	¥532,352	¥ 25,482	¥43,649	¥1,318,074
America	28,795	109,657	52,196	32,358	33,880	—	256,889
Europe	248,862	139,885	909	25,016	77,963	2	492,639
Total	¥435,575	¥498,568	¥362,752	¥589,727	¥137,326	¥43,652	¥2,067,603

Note: Sales by region are based on the location of each company, and "Brazil" is included in "America."

In the Architectural Glass segment, the Group sells architectural figured glass, architectural processing glass, etc., and primarily sells globally to residential and office building-related companies. Additionally, in certain regions, the Group delivers and installs related products.

In the Automotive segment, the Group supplies automotive glass, automotive display cover glass, etc. Main customers are domestic and overseas automobile manufacturers.

In the Electronics segment, the Group delivers glass for display such as Glass substrates for TFT-LCD/OLED, Specialty Glass for displays, Materials for semiconductor, Optical materials. Main customers are domestic and overseas electronics companies.

In the Chemicals segment, the Group supplies essential chemicals, performance chemical products, etc., and sells them globally, mainly through wholesalers such as trading companies, as well as the sales bases of the Group, etc.

In the Life Science segment, the Group performs contract development and manufacturing globally for synthetic pharmaceutical and agrochemical intermediates and active ingredients, biopharmaceuticals, etc. Main customers are pharmaceutical and agrochemical-related companies.

These are accounted for in accordance with the accounting policy described in Note 3 "Material accounting policies." The consideration for performance obligations is mainly recovered within one year after performance obligations are satisfied. In addition, the consideration for performance obligations does not include a significant financing component.

(2) Contract balances

Information on contract assets and liabilities arising from contracts with customers is as follows:

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Contract Assets	¥ 4,718	¥ 5,322
Contract Liabilities	57,906	48,390

Contract assets primarily relate to the Group's rights to receive consideration for performance obligations that have been completed, but not yet billed for, as of the reporting date. Contract assets are reclassified as receivables when the Group's right to payment becomes unconditional.

Contract liabilities mainly relate to consideration received from customers before the Group delivers products to them, based on receivables management and other considerations. The revenue recognized during the fiscal years ended December 31, 2023 and 2024, included balances of contract liabilities at the beginning of the fiscal years of ¥38,895 million and ¥35,684 million, respectively.

(3) Transaction price allocated to the remaining performance obligations

The Group applies the practical expedients for exemption on disclosure of information on remaining performance obligations that have original expected duration of one year or less. The Group has no significant transactions with original expected duration exceeding one year. In addition, there are no significant amounts in consideration from contracts with customers that are not included in transaction prices.

(4) Assets recognized from the costs of obtaining or fulfilling contracts with customers

There are no assets recognized from the costs of obtaining or fulfilling contracts with customers as of the fiscal year ended December 31, 2023 and 2024. In addition, if the amortization period of the assets that the Group otherwise would have recognized is one year or less, the Group applies the practical expedient of recognizing the incremental costs of obtaining the contract as an expense when incurred.

Note 22: Classification of expenses by nature

The classification of expenses by nature and reconciliation with business profit are as follows:

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Net sales	¥ 2,019,254	¥ 2,067,603
Personnel expenses	(410,275)	(434,281)
Depreciation and amortization	(175,346)	(181,273)
Others	(1,304,852)	(1,326,213)
Operating profit	128,779	125,835
Foreign exchange gain	8,583	10,393
Gains on sale of fixed assets	563	2,261
Gains on sale of shares of subsidiaries and associates	3,333	—
Others	7,054	4,579
Other income	19,535	17,233
Losses on disposal of fixed assets	(4,717)	(6,534)
Impairment losses	(605)	(124,774)
Expenses for restructuring programs	(11,490)	(10,620)
Losses on sale of shares of subsidiaries and associates	—	(36,482)
Others	(3,224)	(9,336)
Other expenses	(20,036)	(187,747)
Business profit (loss)	¥ 128,277	¥ (44,678)

The amounts of research and development expenses were ¥57,342 million during the year ended December 31, 2023 and ¥61,823 million during the year ended December 31, 2024.

The total amounts of impairment losses included in expenses for restructuring programs were ¥8,104 million during the year ended December 31, 2023 and ¥201 million during the year ended December 31, 2024. Expenses for restructuring programs during the year ended December 31, 2023 include ¥7,890 million incurred in relation to the termination of the production of LCD glass substrate products at Kansai Plant (Takasago Factory) in Japan.

Losses on sale of shares of subsidiaries and associates during the year ended December 31, 2024 include a loss of ¥35,999 million from the transfer of Russian operations. The loss is mainly due to the reclassification adjustments on exchange differences on translation of foreign operations.

The events, circumstances and other factors that led to the recognition of impairment losses are presented in Note 11 “Impairment of non-financial assets.”

Note 23: Finance income and finance costs

(1) Finance income

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Interest income	¥11,667	¥ 9,746
Dividend income	2,061	1,726
Others	7	513
Total	¥13,735	¥11,986

(2) Finance costs

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Interest expense	¥(17,842)	¥(16,619)
Others	(1,395)	(739)
Total	¥(19,237)	¥(17,358)

Interest income and interest expense are generated primarily from financial assets and financial liabilities measured at amortized cost.

Dividend income is generated mainly from financial assets measured at fair value through other comprehensive income.

Note 24: Income tax expenses

(1) Composition of income tax expenses

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Current income tax expenses	¥(38,408)	¥(34,898)
Deferred income tax expenses	(1,882)	7,024
Total	¥(40,291)	¥(27,873)

Deferred income tax expenses include the amounts of the benefits from previously unrecognized tax losses, tax credits, or temporary differences of prior periods that were used to reduce deferred income tax expenses. During the fiscal years ended December 31, 2023 and 2024, the amounts of decrease in deferred income tax expenses due to these benefits were ¥3,419 million and ¥361 million, respectively.

There were no material fluctuations in deferred income tax expenses due to changes in tax rates during the fiscal years ended December 31, 2023 and 2024.

(2) Income tax recognized in other comprehensive income

Income tax recognized in other comprehensive income is presented in Note 20 “Other comprehensive income.”

(3) Reconciliation between effective statutory tax rate and effective income tax rate

Income tax expenses applicable to the Company and its domestic consolidated subsidiaries consist of corporate income tax (national), enterprise tax (local) and resident income tax (local). The effective statutory tax rates calculated by using these taxes for the fiscal years ended December 31, 2023 and 2024 are 30.4% and 30.4%, respectively.

Foreign subsidiaries are subject to corporate income tax and other taxes in their respective jurisdiction.

The following is a reconciliation between the effective statutory tax rates and the effective income tax rates for corporate income tax expenses appearing on the consolidated statements of profit or loss.

	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Effective statutory tax rate of the Company	30.4%	30.4%
Entertainment expenses, etc., nondeductible	1.3	(2.5)
Dividend income, not taxable	(1.1)	6.1
Difference in tax rates applied to foreign subsidiaries	(8.1)	18.4
Changes in unrecognized temporary differences	13.1	(69.7)
Impairment of goodwill	—	(36.9)
Others	(2.8)	(1.4)
Effective income tax rate after tax effect accounting applied	<u>32.8%</u>	<u>(55.7)%</u>

(4) Potential impacts of Pillar Two corporate income taxes

On March 28, 2023, Japan enacted a tax reform bill to implement the global minimum taxation system. The new tax reform statute will be applied by the Company from its fiscal year beginning on January 1, 2025.

The tax reform bill introduces the income inclusion rule (IIR), one of the BEPS global minimum tax rules, which will impose an additional tax on a parent company located in Japan until the tax burden of the parent company's subsidiaries, etc. located in Japan reaches the minimum tax rate (15%).

Pillar Two corporate income taxes may be incurred by the Group as a result of the implementation of the global minimum taxation system, but the impact of this tax on the Group's consolidated financial statements is insignificant.

Note 25: Earnings per share

(1) Basic earnings per share

Basic earnings per share and the basis for calculating basic earnings per share are as follows:

	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Profit (loss) for the year attributable to owners of the parent (Millions of yen)	¥ 65,798	¥ (94,042)
Weighted average number of ordinary shares outstanding (Thousands of shares)	215,922	211,945
Basic earnings (loss) per share (Yen)	<u>¥ 304.73</u>	<u>¥ (443.71)</u>

(2) Diluted earnings per share

Diluted earnings per share and the basis for calculating diluted earnings per share are as follows:

	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Profit (loss) for the year attributable to owners of the parent (Millions of yen)	¥ 65,798	¥ (94,042)
Adjustments to profit or loss used to calculate diluted earnings per share (Millions of yen)	—	—
Profit (loss) used to calculate diluted earnings per share (Millions of yen)	<u>¥ 65,798</u>	<u>¥ (94,042)</u>
Weighted average number of ordinary shares outstanding (Thousands of shares)	215,922	211,945
Effects of dilutive potential ordinary shares		
Stock options based on subscription rights (Thousands of shares)	516	—
Diluted weighted average number of ordinary shares outstanding (Thousands of shares)	<u>216,439</u>	<u>211,945</u>
Diluted earnings (loss) per share (Yen)	<u>¥ 304.01</u>	<u>¥ (443.71)</u>

In the fiscal year ended December 31, 2024, the exercise of stock options using the stock acquisition rights method reduced net loss per share, and as a result, potential ordinary shares have no dilution effect.

Note 26: Financial instruments

(1) Capital management

The Group has adopted return on equity attributable to owners of the parent (ROE) and the debt-to-equity ratio (ratio of interest-bearing debt to equity) as its financial targets. The Group aims to attain those financial targets by improving not only profits but also the asset turnover ratio.

(2) Credit risk

Credit risk is the risk of financial losses to the Group if a counterparty to a financial instrument fails to meet its contractual obligations.

Trade and other receivables including notes receivables, accounts receivables, and other financial assets are exposed to customer credit risks. To manage these risks, each Group company performs due date controls and balance controls for each customer, and identifies and mitigates risks regarding the collection of receivables caused by factors such as deterioration of financial conditions at an early stage, in accordance with each Group entity's credit management rules.

In its derivative transactions, the Group uses only creditworthy financial institutions to reduce its credit risks.

The total carrying amount of financial assets represents the maximum amount of exposure to credit risk.

i) Credit risk exposure

An analysis of the aging of trade receivables, other receivables and other financial assets is as follows:

FY2023 (as of Dec. 31, 2023)

	(Unit: Millions of yen)			
	FY2023 (as of Dec. 31, 2023)			
	Financial assets of which lifetime expected credit losses are measured as allowance for doubtful accounts			
	Financial assets of which 12-month expected credit losses are measured as allowance for doubtful accounts	Financial assets whose credit risk increased significantly since initial recognition	Financial assets of which expected credit losses are always measured at their expected lifetime as allowance for doubtful accounts	Total
Not past due	¥38,667	¥ —	¥314,931	¥353,598
Past due not later than 30 days	146	—	14,884	15,031
Past due over 30 days but within 90 days	—	64	4,769	4,834
Past due over 90 days	—	1,230	8,955	10,185
Total	¥38,814	¥1,294	¥343,540	¥383,650

FY2024 (as of Dec. 31, 2024)

	(Unit: Millions of yen)			
	FY2024 (as of Dec. 31, 2024)			
	Financial assets of which lifetime expected credit losses are measured as allowance for doubtful accounts			
	Financial assets of which 12-month expected credit losses are measured as allowance for doubtful accounts	Financial assets whose credit risk increased significantly since initial recognition	Financial assets of which expected credit losses are always measured at their expected lifetime as allowance for doubtful accounts	Total
Not past due	¥34,971	¥ —	¥300,379	¥335,350
Past due not later than 30 days	92	—	18,102	18,194
Past due over 30 days but within 90 days	—	96	13,944	14,040
Past due over 90 days	—	1,118	5,982	7,100
Total	¥35,063	¥1,214	¥338,407	¥374,685

ii) Allowance for doubtful accounts

Changes in the allowance account for credit losses on trade receivables, other receivables and other financial assets are as follows:

There was no significant increase or decrease in gross carrying amount of the financial instruments which contributed to changes in the allowance account for credit losses during the fiscal year ended December 31, 2024.

FY2023 (Jan. 1 through Dec. 31, 2023)

(Unit: Millions of yen)				
FY2023 (Jan. 1 through Dec. 31, 2023)				
Lifetime expected credit losses				
	12-month expected credit losses	Financial assets whose credit risk increased significantly since initial recognition	Financial assets of which expected credit losses are always measured at their expected lifetime as allowance for doubtful accounts	Total
As of January 1	¥ 96	¥96	¥3,831	¥4,025
Write-off	—	—	—	—
Remeasurements	(13)	(1)	725	710
Others	—	—	(252)	(252)
As of December 31	¥ 83	¥95	¥4,304	¥4,483

FY2024 (Jan. 1 through Dec. 31, 2024)

(Unit: Millions of yen)				
FY2024 (Jan. 1 through Dec. 31, 2024)				
Lifetime expected credit losses				
	12-month expected credit losses	Financial assets whose credit risk increased significantly since initial recognition	Financial assets of which expected credit losses are always measured at their expected lifetime as allowance for doubtful accounts	Total
As of January 1	¥83	¥95	¥4,304	¥4,483
Write-off	—	—	—	—
Remeasurements	4	(0)	1,261	1,264
Others	—	—	(66)	(66)
As of December 31	¥87	¥94	¥5,498	¥5,680

(3) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in discharging its financial liabilities using cash or other financial assets.

Financial liabilities such as loans and corporate bonds are exposed to liquidity risks. The Group manages these risks by diversifying fund procurement methods, establishing commitment lines with various financial institutions, and keeping an appropriate balance between direct and indirect fund procurements and a proper mixture of short-term and long-term loans and bonds.

The Group does not expect the cash flows included in the maturity analysis to occur much earlier than anticipated or to differ significantly from the anticipated monetary amounts.

(Unit: Millions of yen)								
FY2023 (as of December 31, 2023)								
	Carrying amount	Contractual cash flows	Due within one year or less	Due between one year and two years	Due between two years and three years	Due between three years and four years	Due between four years and five years	Due after five years
Non-derivative financial liabilities								
Loans payable	¥ 505,488	¥ 533,319	¥200,127	¥ 88,615	¥89,868	¥51,245	¥27,893	¥ 75,567
Commercial paper	43,064	43,532	43,532	—	—	—	—	—
Corporate bonds	69,869	72,527	345	20,337	299	20,262	237	31,046
Finance lease liabilities	76,586	93,197	14,887	12,848	8,285	6,494	5,278	45,402
Total interest-bearing debt	695,009	742,577	258,893	121,801	98,453	78,003	33,409	152,016
Others ^(Note)	347,685	347,685	344,924	2,761	—	—	—	—
Total	¥1,042,695	¥1,090,262	¥603,817	¥124,562	¥98,453	¥78,003	¥33,409	¥152,016

Note: Others consist of "trade payables," "other payables," and "other non-current liabilities."

	Carrying amount	Contractual cash flows	Due within one year	Due after one year
Derivative financial liabilities				
Foreign exchange contracts	¥ 3,500	¥ 3,500	¥ 3,500	¥ —
Interest rate contracts	680	676	167	509
Commodity contracts	6,741	6,741	6,674	66
Total	¥10,923	¥10,917	¥10,341	¥576

The Group does not expect the cash flows included in the maturity analysis to occur much earlier than anticipated or to differ significantly from the anticipated monetary amounts.

(Unit: Millions of yen)

FY2024 (as of December 31, 2024)								
	Carrying amount	Contractual cash flows	Due within one year or less	Due between one year and two years	Due between two years and three years	Due between three years and four years	Due between four years and five years	Due after five years
Non-derivative financial liabilities								
Loans payable	¥444,316	¥427,610	¥159,775	¥79,387	¥41,693	¥34,601	¥14,667	¥ 97,484
Commercial paper	47,000	47,222	47,222	—	—	—	—	—
Corporate bonds	89,839	93,799	20,537	499	20,463	437	10,419	41,443
Finance lease liabilities	68,582	78,976	15,773	10,073	7,661	5,802	4,599	35,067
Total interest-bearing debt	649,739	647,609	243,308	89,960	69,818	40,841	29,686	173,995
Others ^(Note)	344,798	344,798	342,123	2,675	—	—	—	—
Total	¥994,537	¥992,407	¥585,431	¥92,635	¥69,818	¥40,841	¥29,686	¥173,995

Note: Others consist of "trade payables," "other payables," and "other non-current liabilities."

	Carrying amount	Contractual cash flows	Due within one year	Due after one year
Derivative financial liabilities				
Foreign exchange contracts	¥4,171	¥4,171	¥4,171	¥ —
Interest rate contracts	810	804	158	646
Commodity contracts	642	642	570	71
Total	¥5,624	¥5,617	¥4,900	¥717

The Group does not expect the cash flows included in the maturity analysis to occur much earlier than anticipated or to differ significantly from the anticipated monetary amounts.

(4) Currency risk

The Group operates businesses globally, and is therefore exposed to currency fluctuation risks associated with transactions undertaken in currencies other than the functional currency of the individual Group companies. To manage such risks, the Group hedges the risks with foreign exchange forward contracts, currency swap contracts, and other instruments.

The principal exchange rates are as follows:

(Unit: Yen)

	FY2023 (Jan. 1 through Dec. 31, 2023)		FY2024 (Jan. 1 through Dec. 31, 2024)	
	Average rate	Rate at the end of the reporting period	Average rate	Rate at the end of the reporting period
U.S. dollars	¥140.56	¥141.83	¥151.58	¥158.18
Euros	152.00	157.12	163.95	164.92

i) **Currency risk exposure**

The Group's maximum amount of exposure to currency fluctuation risk is as follows.

The exposure excludes amounts for which currency fluctuation risk is hedged using foreign exchange forward contracts, currency swap contracts, and other instruments.

	FY2023 (as of December 31, 2023)		FY2024 (as of December 31, 2024)	
	Thousands of U.S. dollars	Thousands of euros	Thousands of U.S. dollars	Thousands of euros
Financial instruments dominated in foreign currency	\$ (90,190)	€ (7,279)	\$ (154,146)	€ (18,037)

ii) **Sensitivity analysis of currency fluctuation risk**

In the event of a 1% appreciation against the U.S. dollar and euro at the end of the reporting period, the monetary impact of this exchange rate movement on profit before tax is shown below.

This analysis is performed by multiplying the currency fluctuation risk exposures by 1%, assuming that movements in various exchange rates have no impact on other variables (other exchange rates, interest rates, etc.). It was conducted on the same basis as the analysis for the fiscal years ended December 31, 2023 and 2024.

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
U.S. dollars (1% yen appreciation)	¥127	¥243
Euros (1% yen appreciation)	11	29

(5) Interest rate risk

Interest-bearing debts with floating rates are exposed to interest rate fluctuation risks. For some long-term floating-rate loans, the Group uses derivative transactions (interest rate swaps) as hedging instruments to avoid the interest rate fluctuation risks and convert the floating rates into fixed rates.

i) **Exposure to interest rate risk**

The Group's exposure to interest rate fluctuation risk is as follows.

The monetary amount of exposure excludes monetary amounts for which currency fluctuation risk is hedged using interest rate swap contracts.

	(Unit: Millions of yen)					
	FY2023 (as of December 31, 2023)			FY2024 (as of December 31, 2024)		
	Due within one year	Due after one year	Total	Due within one year	Due after one year	Total
Loans payable	¥ 78,572	¥ —	¥ 78,572	¥ 82,940	¥ —	¥ 82,940
Commercial paper	43,064	—	43,064	47,000	—	47,000
Current interest-bearing debt	¥121,637	¥ —	¥121,637	¥129,940	¥ —	¥129,940
Loans payable	¥ 99,821	¥27,694	¥127,516	¥ 43,116	¥71,406	¥114,523
Non-current interest-bearing debt	¥ 99,821	¥27,694	¥127,516	¥ 43,116	¥71,406	¥114,523

ii) **Sensitivity analysis of interest rate risk**

In the event of a 1% interest rate increase, the monetary impact of financial instruments affected by the interest rate movement on profit before tax is shown below.

This analysis is performed by multiplying the currency fluctuation risk exposures by 1%, assuming that movements in various exchange rates have no impact on other variables (other exchange rates, etc.). It was conducted on the same basis as the analysis for the fiscal years ended December 31, 2023 and 2024.

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Floating interest rate financial instruments	¥ (2,491)	¥ (2,444)

(6) Fair value

The fair value of financial instruments is categorized into three levels based on inputs used to measure fair value, as follows:

Inputs include stock prices, exchange rates, and interest rates as well as indexes related to commodity prices, etc.

Level 1: Quoted prices in active markets

Level 2: Observable prices other than quoted prices included within Level 1

Level 3: Inputs not based on observable market data

i) Financial assets and liabilities measured at fair value

The fair value of financial assets and financial liabilities is determined as follows.

(Derivatives)

Foreign exchange contracts are mainly based on forward exchange rates and prices quoted by financial institutions with which contracts are concluded. Interest rate contracts are mainly based on prices quoted by financial institutions with which contracts are concluded.

Commodity contracts are mainly based on prices quoted by counterparties with whom contracts are concluded. In each case, the financial instruments are classified as Level 2 in the fair value hierarchy.

(Financial assets measured at fair value through other comprehensive income)

The Group measures financial assets at fair value when market values are available, and classifies such assets as Level 1 in the fair value hierarchy. The Group estimates fair values of financial instruments whose market values are unavailable using either the discounted future cash flows method, third-party appraisal, or another appropriate measurement technique. Such financial instruments are classified as Level 3 in the fair value hierarchy.

(Financial assets measured at fair value through profit or loss)

The Group measures financial assets at fair value when market values are available, and classifies such assets as Level 1 in the fair value hierarchy. The Group estimates fair values of financial instruments whose market values are unavailable using either the discounted future cash flows method, third-party appraisal, or another appropriate measurement technique. Such financial instruments are classified as Level 3 in the fair value hierarchy.

ii) Financial assets and liabilities measured at amortized cost

The fair value of financial assets and financial liabilities measured at amortized cost is determined as follows.

(Financial assets measured at amortized cost)

Each receivable is categorized by period, and its fair value is the present value of future cash flows discounted by an interest rate that reflects time to maturity and credit risk.

(Loans payable)

As short-term loans payable are settled on a short-term basis, their fair values approximate their carrying amounts.

The fair values of long-term loans payable are calculated by the total sum of the principal and interest discounted by the interest rates that would apply if similar borrowings were conducted anew. For long-term loans payable at floating interest rates, however, the fair values approximate the carrying amounts because the interest rates are adjusted regularly at fixed intervals.

(Corporate bonds)

Fair values of corporate bonds are calculated based on market prices.

(Financial liabilities measured at amortized cost other than the above)

Each payable is categorized by period, and its fair value is the present value of future cash flows discounted by an interest rate that reflects time to maturity and credit risk.

Financial assets and financial liabilities measured at amortized cost are classified as Level 2 in the fair value hierarchy.

iii) Fair value of financial assets and liabilities

The carrying amounts and fair values of financial instruments as of December 31, 2023 and 2024 are as follows:

	(Unit: Millions of yen)			
	FY2023 (as of December 31, 2023)		FY2024 (as of December 31, 2024)	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets measured at fair value				
Other current assets and other financial assets				
Derivatives not designated as hedges	¥ 12,378	¥ 12,378	¥ 15,181	¥ 15,181
Derivatives designated as hedges	573	573	479	479
Other financial assets				
Financial assets measured at FVTOC ^(Note)	54,339	54,339	37,774	37,774
Financial assets measured at FVTPL ^(Note)	4,000	4,000	2,999	2,999
Financial assets measured at amortized cost				
Cash and cash equivalents	146,061	146,061	107,988	107,988
Trade receivables	338,850	338,850	332,442	332,442
Other receivables	23,114	23,114	19,708	19,708
Other financial assets	17,202	17,202	16,854	16,854
Financial liabilities measured at fair value				
Other current liabilities and other non-current liabilities				
Derivatives not designated as hedges	4,291	4,291	4,611	4,611
Derivatives designated as hedges	6,631	6,631	1,012	1,012
Financial liabilities measured at amortized cost				
Trade payables	206,566	206,566	201,803	201,803
Interest-bearing debt (short-term and long-term)				
Loans payable	505,488	506,184	444,316	443,669
Commercial paper	43,064	43,064	47,000	47,000
Corporate bonds	69,869	69,599	89,839	88,204
Other payables	138,357	138,357	139,905	139,905
Other current liabilities	384	384	413	413
Other non-current liabilities	2,326	2,326	2,675	2,675

Note: FVTOCI: Fair Value Through Other Comprehensive Income
FVTPL: Fair Value Through Profit or Loss

iv) Fair value hierarchy

The following table is an analysis of financial instruments measured at fair value by valuation methods.

	(Unit: Millions of yen)			
	FY2023 (as of December 31, 2023)			
	Level 1	Level 2	Level 3	Total
Derivative financial assets	¥ —	¥12,952	¥ —	¥12,952
Derivatives not designated as hedges	—	12,378	—	12,378
Derivatives designated as hedges	—	573	—	573
Equity instruments	43,171	—	11,168	54,339
Financial assets measured at FVTOCI ^(Note)	43,171	—	11,168	54,339
Debt instruments	—	—	4,000	4,000
Financial assets measured at FVTPL ^(Note)	—	—	4,000	4,000
Derivative financial liabilities	—	10,923	—	10,923
Derivatives not designated as hedges	—	4,291	—	4,291
Derivatives designated as hedges	—	6,631	—	6,631

Note: FVTOCI: Fair Value Through Other Comprehensive Income
FVTPL: Fair Value Through Profit or Loss

(Unit: Millions of yen)

	FY2024 (as of December 31, 2024)			
	Level 1	Level 2	Level 3	Total
Derivative financial assets	¥ —	¥15,660	¥ —	¥15,660
Derivatives not designated as hedges	—	15,181	—	15,181
Derivatives designated as hedges	—	479	—	479
Equity instruments	26,659	—	11,115	37,774
Financial assets measured at FVTOCI ^(Note)	26,659	—	11,115	37,774
Debt instruments	—	—	2,999	2,999
Financial assets measured at FVTPL ^(Note)	—	—	2,999	2,999
Derivative financial liabilities	—	5,624	—	5,624
Derivatives not designated as hedges	—	4,611	—	4,611
Derivatives designated as hedges	—	1,012	—	1,012

Note: FVTOCI: Fair Value Through Other Comprehensive Income
FVTPL: Fair Value Through Profit or Loss

The presence of any financial instruments subject to significant transfers between fair value hierarchy levels is determined at the end of every period. There were no financial instruments subject to significant transfers between the fair value hierarchy levels during the fiscal years ended December 31, 2023 and 2024.

There were no significant changes in “Financial assets measured at fair value through other comprehensive income” classified as Level 3 during the fiscal year ended December 31, 2024.

Derivative financial assets are included in “Other current assets” and “Other financial assets” in the consolidated statements of financial position.

Equity instruments and debt instruments are included in “Other financial assets” in the consolidated statements of financial position.

Derivative financial liabilities are included in “Other current liabilities” and “Other non-current liabilities” in the consolidated statements of financial position.

Changes in financial instruments categorized within Level 3 of the fair value hierarchy during the fiscal year are as follows:

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Balance as of January 1	¥14,819	¥15,168
Purchases	1,248	49
Sales	(1,158)	(1,042)
Other comprehensive income	(235)	(38)
Other changes	493	(21)
Balance as of December 31	¥15,168	¥14,115

v) Equity instruments

Equity instruments such as equity securities are held mainly for the purpose of maintaining and strengthening business relationships over the medium and long terms, and are designated as financial assets measured at FVTOCI. The following is a breakdown of the major stocks within equity instruments and their fair values:

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Mitsubishi Gas Chemical Company, Inc.	¥ 7,271	¥ 9,121
Honda Motor Co., Ltd.	12,459	7,828
Mitsubishi Research Institute, Inc.	2,071	2,170
Meiwa Corporation	2,526	1,948
SODA NIKKA CO., LTD.	1,276	1,372
Mitsubishi Logistics Corporation	2,935	802
Mitsubishi Estate Co., Ltd.	2,430	—
Suzuki Motor Corporation	8,959	—
Others	14,408	14,530
Total	¥54,339	¥37,774

Equity instruments are sold taking into consideration the fair value such as market value of shares and the need to hold shares for business purposes. The fair values of and cumulative gains or losses (Before tax effects) recognized in other components of equity on stocks sold during the fiscal years ended December 31, 2023 and 2024 are shown below. The cumulative gains or losses recognized are transferred on sale from other components of equity to retained earnings.

(Unit: Millions of yen)

FY2023 (Jan. 1 through Dec. 31, 2023)		FY2024 (Jan. 1 through Dec. 31, 2024)	
Fair value	Cumulative gains or losses (Before tax effects)	Fair value	Cumulative gains or losses (Before tax effects)
¥28,057	¥16,518	¥22,928	¥16,189

The following is a breakdown of dividend income recognized from equity instruments:

(Unit: Millions of yen)

FY2023 (Jan. 1 through Dec. 31, 2023)		FY2024 (Jan. 1 through Dec. 31, 2024)	
Financial assets derecognized during the year	Financial assets held as of the end of the reporting year	Financial assets derecognized during the year	Financial assets held as of the end of the reporting year
¥439	¥1,621	¥220	¥1,506

(7) Derivatives and hedge accounting

The Group uses commodity futures and foreign exchange forward contracts to hedge variations in cash flows associated with forecast transactions and interest rate swaps and instruments to hedge variations in cash flows associated with loans payable with floating interest rates. The Group uses these derivatives only for transactions justified by actual demand, and does not hold these derivatives for speculative or trading purposes.

When applying hedge accounting, at the inception of hedges, the Group formally designates and documents hedging relationships to which hedge accounting is applied and the objectives and strategies of risk management for undertaking hedges. Moreover, at the inception of hedges, the Group evaluates whether or not the hedging instrument can be predicted to be effective. Thereafter, the Group continuously evaluates whether the derivative is highly effective in offsetting changes in future cash flows from the hedged item.

For the purpose of hedging variations in cash flows associated with raw material and fuel costs, the Group enters into raw material and fuel swap contracts for natural gas, oil and other commodities to hedge the risk of price fluctuations. The Group has determined that there is an economic relationship between the raw materials and fuel it uses, which reflects market prices, and the hedging instruments that are correlated with market prices for raw materials and fuel. The risk of price fluctuations has an impact on the Group's consolidated financial statements through fluctuations in raw material and fuel costs. Therefore, the Group applies hedge accounting by designating only raw material and fuel costs as risk factors. The designated risk factor accounts for most of the risk of price fluctuations. Moreover, at the inception of hedging relationships, the Group sets an appropriate hedge ratio based on the quantity of the hedged item and the quantity of hedging instruments. In principle, the Group sets the hedge ratio so as to obtain a one-to-one relationship between those quantities.

The ineffective portion of hedging instruments arises mainly because changes in the fair value of the hedging instruments are unable to fully cover the fluctuations in the hedged item, namely the fluctuations in raw material and fuel costs.

For the purpose of hedging variations in cash flows associated with foreign currency-denominated forecast transactions, the Group enters into forward exchange contracts to hedge the risk of exchange rate fluctuations. In applying hedge accounting to the above-mentioned risk, the Group confirms that an economic relationship exists between the hedged item and the hedging instrument through a qualitative evaluation of whether the critical terms of the hedged item and the hedging instrument are the same or closely match. This is in order to confirm that the economic relationship is such that the risk of exchange rate fluctuations, which is the hedged item, is offset by changes in the fair value of the hedging instrument.

Details on cash flow hedges for commodity price risk and exchange rate fluctuations risk are as follows:

i) **Impact of hedge accounting on the consolidated statements of financial position**

As of December 31, 2023 and 2024, the carrying amount of hedging instruments on the consolidated statements of financial position and the changes in the fair value of hedging instruments used as a basis for calculating hedge ineffectiveness are as follows:

		(Unit: Millions of yen)	
		FY2023 (as of December 31, 2023)	
Type of risk	Hedging instrument	Carrying amount of hedging instrument	
Commodity price risk ^(Note)	Swap contract	Other current assets	¥ 66
		Other financial assets	6
		Other current liabilities	3,608
		Other non-current liabilities	3,023
Exchange rate fluctuations risk	Forward exchange contract	Other current assets	¥ 499
		Other financial assets	—
		Other current liabilities	—
		Other non-current liabilities	—
		Changes in fair value of hedging instrument	
		¥ (5,655)	
		¥ 440	

Note: The delivery month of foregoing contracts are expected to mature within three years from December 31, 2023 and most parts of contracts are expected to mature within one year from December 31, 2023.

		(Unit: Millions of yen)	
		FY2024 (as of December 31, 2024)	
Type of risk	Hedging instrument	Carrying amount of hedging instrument	
Commodity price risk ^(Note)	Swap contract	Other current assets	¥229
		Other financial assets	215
		Other current liabilities	808
		Other non-current liabilities	127
Exchange rate fluctuations risk	Forward exchange contract	Other current assets	¥ 33
		Other financial assets	—
		Other current liabilities	76
		Other non-current liabilities	—
		Changes in fair value of hedging instrument	
		¥9,951	
		¥ (477)	

Note: The delivery month of foregoing contracts are expected to mature within three years from December 31, 2024 and most parts of contracts are expected to mature within one year from December 31, 2024.

The notional amount of hedging instruments as of December 31, 2023 and 2024 are as follows:

		(Unit: Millions of yen)	
		FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Type of risk	Hedging instrument	Notional amount	Notional amount
Commodity price risk	Swap contract	¥27,194	¥15,885
Exchange rate fluctuations risk	Forward exchange contract	¥11,454	¥ 5,619

The changes in value of the hedged items used as the basis for calculating hedge ineffectiveness and the balances remaining in the cash flow hedge reserve as of December 31, 2023 and 2024 are as follows:

		(Unit: Millions of yen)	
		FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Type of risk		Changes in value of hedged item	Cash flow hedge reserve
Commodity price risk		¥5,655	¥(6,558)
Exchange rate fluctuations risk		¥ (440)	¥ 499

		(Unit: Millions of yen)	
		FY2024 (as of December 31, 2024)	
Type of risk		Changes in value of hedged item	Cash flow hedge reserve
Commodity price risk		¥(9,951)	¥(491)
Exchange rate fluctuations risk		¥ 477	¥ (42)

ii) Impact of hedge accounting on the consolidated statements of profit or loss and consolidated statements of comprehensive income

Profit or loss items recorded on the consolidated statements of profit or loss and consolidated statements of comprehensive income during the fiscal years ended December 31, 2023 and 2024 are as follows:

(Unit: Millions of yen)			
FY2023 (Jan. 1 through Dec. 31, 2023)			
Type of risk	Hedging gains or losses that were recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss reclassification adjustment	Amount reclassified from cash flow hedge reserve into the cost of inventories as reclassification adjustment
Commodity price risk	¥(5,655)	¥—	¥(3,989)

(Unit: Millions of yen)			
FY2023 (Jan. 1 through Dec. 31, 2023)			
Type of risk	Hedging gains or losses that were recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss reclassification adjustment	Amount reclassified from cash flow hedge reserve into profit or loss as reclassification adjustment
Exchange rate fluctuations risk . . .	¥440	¥—	¥2

During the fiscal year ended December 31, 2023, no cash flow hedges were discontinued as a result of not executing forecast transactions within the initially anticipated time period.

(Unit: Millions of yen)			
FY2024 (Jan. 1 through Dec. 31, 2024)			
Type of risk	Hedging gains or losses that were recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss reclassification adjustment	Amount reclassified from cash flow hedge reserve into the cost of inventories as reclassification adjustment
Commodity price risk	¥9,951	¥—	¥(3,884)

(Unit: Millions of yen)			
FY2024 (Jan. 1 through Dec. 31, 2024)			
Type of risk	Hedging gains or losses that were recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss reclassification adjustment	Amount reclassified from cash flow hedge reserve into profit or loss as reclassification adjustment
Exchange rate fluctuations risk . . .	¥(477)	¥—	¥(64)

During the fiscal year ended December 31, 2024, no cash flow hedges were discontinued as a result of not executing forecast transactions within the initially anticipated time period.

Note 27: Business combinations

FY2023 (Jan. 1 through Dec. 31, 2023)

There are no significant transactions to disclose.

FY2024 (Jan. 1 through Dec. 31, 2024)

There are no significant transactions to disclose.

Note 28: Commitments

As of December 31, 2023 and 2024, significant contractual commitments relating to the acquisition of property, plant and equipment amounted to ¥16,382 million and ¥67,946 million, respectively.

Note 29: Collateral

Assets pledged as collateral and obligation secured by collateral are as follows:

Assets pledged as collateral

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Property, plant and equipment	¥208	¥82
Total	¥208	¥82

Obligation secured by collateral

	(Unit: Millions of yen)	
	FY2023 (as of December 31, 2023)	FY2024 (as of December 31, 2024)
Long-term bank loans	¥40	¥4
Total	¥40	¥4

Other than the above mentioned, no ownership restrictions or rights of pledge as collateral for obligation have been established.

Note 30: Contingencies

The Group provides guarantees, etc., for borrowings from financial institutions taken out by companies outside the Group amounting to ¥1 million and ¥0 million as of December 31, 2023 and 2024, respectively.

Note 31: Related parties**Related party transactions**

Related party transactions were made on terms equivalent to those that prevail in arm's length transactions.

Breakdown of compensation to directors

	(Unit: Millions of yen)	
	FY2023 (Jan. 1 through Dec. 31, 2023)	FY2024 (Jan. 1 through Dec. 31, 2024)
Monthly compensation and bonuses	¥489	¥490
Share-based payment	177	128
Total	¥666	¥618

Note 32: Group entities

Major subsidiaries as of December 31, 2024 are as follows:

Subsidiary name	Location	Capital	Main business	Voting rights held by the Company (%)
Consolidated subsidiaries				
Architectural Glass				
AGC Glass Kenzai Co., Ltd.	Japan	¥470 million	Production and sales of architectural figured glass, architectural processing glass, and building materials	100.0 (0.0)
AGC Glass Products Co., Ltd.	Japan	¥1,287 million	Production and sales of architectural processing glass and cutting and sales of flat glass	100.0 (0.0)
PT Asahimas Flat Glass Tbk ^(Note 3)	Indonesia	217 billion rupiah	Production and sales of architectural figured glass, architectural processing glass, and automotive glass	44.5 (0.0)
AGC Glass Europe	Belgium	€473 million	Production and sales of architectural figured glass	100.0 (0.0)
AGC Flat Glass Czech a.s.	Czech	3,560 million koruna	Production and sales of architectural figured glass	100.0 (100.0)
Automotive				
AGC Automotive (Suzhou) Inc.	China	US\$236 million	Production and sales of automotive glass	100.0 (0.0)
AGC Flat Glass North America, Inc.	U.S.A.	US\$4 million	Production and sales of automotive glass	100.0 (100.0)
AGC Automotive Europe	Belgium	€105 million	Production and sales of automotive glass	100.0 (100.0)
AGC Automotive Czech a.s.	Czech	1,657 million koruna	Production and sales of automotive glass	100.0 (100.0)
Electronics				
AGC Electronics Co., Ltd.	Japan	¥300 million	Production of materials for semiconductor and optical materials	100.0 (0.0)
AGC Techno Glass Co., Ltd.	Japan	¥300 million	Production of optoelectronic materials, and production and sales of products for Laboratory use wave	100.0 (0.0)
AGC Display Glass Taiwan Inc.	Taiwan	NT\$3,120 million	Production and sales of glass substrates for TFT-LCD/OLED	100.0 (100.0)
AGC Display Glass (Huizhou) Co., Ltd.	China	¥45,800 million	Production and sales of glass substrates for TFT-LCD/OLED	100.0 (0.0)
AGC Advanced Electronics Display Glass (Shenzhen) Co., Ltd.	China	¥33,700 million	Production and sales of glass substrates for TFT-LCD/OLED	63.0 (0.0)
AGC Fine Techno Korea Co., Ltd.	South Korea	227,000 million won	Production and sales of glass substrates for TFT-LCD/OLED	100.0 (33.0)
Chemicals				
Ise Chemicals Corporation*	Japan	¥3,599 million	Production and sales of iodine-related products and metallic compounds, extraction and sales of natural gas	53.4 (0.0)
PT Asahimas Chemical	Indonesia	US\$84 million	Production and sales of caustic soda, polyvinyl chloride monomer, and polyvinyl chloride	52.5 (0.0)
AGC Vinythai Public Company Limited	Thailand	9,435 million baht	Production and sales of caustic soda, polyvinyl chloride monomer, and polyvinyl chloride	65.0 (0.0)

Subsidiary name	Location	Capital	Main business	Voting rights held by the Company (%)
Life Science				
AGC Biologics Inc.	U.S.A.	US\$250 million	CDMO services for biopharmaceuticals	100.0 (100.0)
AGC Biologics A/S	Denmark	42 million Danish krone	CDMO services for biopharmaceuticals	100.0 (0.0)
Ceramics/Others				
AGC Ceramics Co., Ltd.	Japan	¥3,500 million	Production and sales of various ceramic products	100.0 (0.0)
AGC Singapore Services Pte. Ltd.	Singapore	US\$88 million	Procurement of funds and financing services for affiliates in Asia, and holding of shares in affiliates	100.0 (0.0)
AGC America, Inc.	U.S.A.	US\$0 million	Holding of shares in affiliates in North America, and information collection	100.0 (0.0)
AGC Capital, Inc.	U.S.A.	US\$0 million	Procurement of funds and financing services for affiliates in North America	100.0 (100.0)
Other consolidated subsidiaries	162			
Total consolidated subsidiaries	186			
Equity method affiliates	21			

Notes: 1. Figures disclosed in parentheses in the "Voting rights held by the Company" column represent voting rights held indirectly by the Company.

2. Subsidiaries marked with * in the "Subsidiary name" column have filed a marketable securities report.

3. Although the Group holds less than half of the voting rights, it includes the entity in consolidated subsidiary because it substantially controls the entity.

During the fiscal years ended December 31, 2023 and 2024, there was no individually significant subsidiary having non-controlling interests.

Information for equity method affiliates is presented in Note 12 "Equity method affiliates."

Note 33: Significant subsequent events

No items to report.



Independent auditor's report

To the Board of Directors of AGC Inc.:

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the accompanying consolidated financial statements of AGC Inc. (“the Company”) and its consolidated subsidiaries (collectively referred to as “the Group”), which comprise the consolidated statement of financial position as at December 31, 2024, and the consolidated statements of profit or loss, comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising material accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2024, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with IFRS Accounting Standards as issued by the International Accounting Standards Board (IFRS Accounting Standards).

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in Japan. Our responsibilities under those standards are further described in the Auditor’s Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Japan, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current fiscal year. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We selected the key audit matters in our audit of the consolidated financial statements of the current fiscal year, taking into consideration the changes in the relative risks. The table below shows the changes from the previous fiscal year.

Item	Previous fiscal year	Current fiscal year
Impairment testing on plant, property and equipment of the display business	Selected	Not selected
Impairment testing on property, plant and equipment, intangible assets and goodwill of AGC Biologics, Inc. which is a contract development	Selected	Not selected

and manufacturing organization (CDMO), offering biologically active pharmaceutical ingredient (API) and gene and cell therapy pharmaceutical manufacturing services		
Impairment testing on property, plant and equipment, intangible assets and goodwill of AGC Biologics, Inc., AGC Biologics, A/S and AGC Biologics, S.p.A. in Life science segment	Not selected	Selected

The key audit matter

As described in Note 11 “Impairment of non-financial assets” to the consolidated financial statements, the Group’s consolidated statement of profit or loss for the fiscal year ended December 31, 2024 and consolidated statement of financial position as at December 31, 2024 include the amount of impairment losses and the balances of property, plant and equipment, intangible assets and goodwill (net of impairment losses) of AGC Biologics, Inc., AGC Biologics, A/S and AGC Biologics, S.p.A, which belong to Life science segment.

Company name	Amount of impairment losses	Balances of property, plant and equipment, intangible assets and goodwill (net of impairment losses) and the ratio to total assets
AGC Biologics, Inc. (located in the U.S.)	JPY70,410 million (of which: JPY12,756 million for goodwill, JPY37,590 million for property, plant and equipment and JPY20,063 million for intangible assets)	Property, plant and equipment: JPY34,072 million Intangible assets: JPY16 million Ratio to total assets: 1.2%
AGC Biologics, A/S (located in Denmark)	JPY28,904 million for goodwill	Property, plant and equipment: JPY60,186 million Intangible assets: JPY6,339 million Goodwill: JPY9,818 million Ratio to total assets: 2.6%
AGC Biologics, S.p.A. (located in Italy)	JPY18,980 million for goodwill	Property, plant and equipment: JPY8,233 million Intangible assets: JPY9,855 million Ratio to total assets: 0.6%

As described in Note 3 “Material accounting policies, (9) Impairment of non-financial assets” to the consolidated financial statements, each asset of property, plant and equipment, intangible assets and goodwill, or the cash-generating unit to which the asset belongs, is assessed for any indication of impairment at the end of each reporting period, and tested for impairment whenever there is such an indication. If the carrying amount exceeds the recoverable amount in the impairment testing, the carrying amount is reduced to the recoverable amount, and the resulting decrease in the carrying amount is recognized as an impairment loss.

There were indications of impairment in AGC Biologics, Inc., AGC Biologics, A/S and AGC Biologics, S.p.A. at the end of the current second quarter and the end of the current fiscal year due to the following reasons.

Company name	Main reasons for indications of impairment
AGC Biologics, Inc. (located in the U.S.)	<ul style="list-style-type: none"> • Deterioration in the operating result due to delayed recovery in demand in the market for biopharmaceutical active ingredients and gene and cell therapeutics from a decrease in capital inflows to biotech ventures • Significant decrease in future order and facility utilization prospects
AGC Biologics, A/S (located in Denmark)	<ul style="list-style-type: none"> • Deterioration in the operating result due to delayed recovery in demand in the market for biopharmaceutical active ingredients from a decrease in capital inflows to biotech ventures and delay in the launch of new lines and increased operating costs • The expectation of increased operating costs in the future
AGC Biologics, S.p.A. (located in Italy)	<ul style="list-style-type: none"> • Deterioration in the operating result due to delayed recovery in demand in the market for gene and cell therapeutics • Decrease in future order prospects

As a result of an impairment test performed at the end of the current second quarter, an impairment loss was recognized, since the recoverable amount of each cash-generating unit was lower than its carrying amount. As a result of an impairment test performed at the end of the current fiscal year, an impairment loss was not recognized, since the recoverable amount of each cash-generating unit exceeded its carrying amount. Management used the value in use as the recoverable amount, which was calculated by discounting to the present value the future cash flows that are estimated based on the five-year business plan developed by management, taking into consideration the future growth potential of the business thereafter. The discount rates used for the impairment tests performed at the end of the current second quarter and the end of the current fiscal year as follows.

Company name	Current second quarter-end	Current fiscal year-end
AGC Biologics, Inc. (located in the U.S.)	16%	17%
AGC Biologics, A/S (located in Denmark)	15%	15%
AGC Biologics, S.p.A. (located in Italy)	20%	18%

In the business plan, which formed the basis for estimating future cash flows, the following assumptions were included, which involved a high degree of uncertainty, and management's judgment thereon had a significant effect on the estimated future cash flows.

Company name	Key assumptions
AGC Biologics, Inc. (located in the U.S.)	<ul style="list-style-type: none"> • Increase in net sales due to market expansion and increase in contract development and manufacturing of biologically active pharmaceutical ingredients
AGC Biologics, A/S (located in Denmark)	<ul style="list-style-type: none"> • Increase in net sales due to market expansion and increase in contract development and manufacturing of biologically active pharmaceutical ingredients • Projected operating costs for new lines
AGC Biologics, S.p.A. (located in Italy)	<ul style="list-style-type: none"> • Increase in net sales due to market expansion and increase in contract development and manufacturing of gene and cell therapy pharmaceutical products

Selecting appropriate models and input data for estimating the discount rates of AGC Biologics, Inc., AGC Biologics, A/S and AGC Biologics, S.p.A. used to calculate the value in use requires a high degree of expertise in valuation.

We, therefore, determined that our assessment of the reasonableness of the management's estimate of the value in use for the impairment testing on property, plant and equipment, intangible assets and goodwill of AGC Biologics, Inc., AGC Biologics, A/S and AGC Biologics, S.p.A. in Life science segment was of most significance in our audit of the consolidated financial statements of the current fiscal year, and accordingly, a key audit matter.

How the matter was addressed in our audit

The primary procedures we performed to assess whether the estimate of the value in use for the impairment testing on property, plant and equipment, intangible assets and goodwill of AGC Biologics, Inc., AGC Biologics, A/S and AGC Biologics, S.p.A. in Life science segment was reasonable are set forth below.

(1) Internal control testing

- We tested the design and operating effectiveness of certain of the Company's internal controls relevant to measuring the value in use used for the impairment testing of the group of cash-generating units to which the property, plant and equipment, intangible assets and goodwill of AGC Biologics, Inc., AGC Biologics, A/S and AGC Biologics, S.p.A. belong.

(2) Assessment of the reasonableness of the estimated value in use

- In order to assess the appropriateness of key assumptions embedded in the business plan of AGC Biologics, Inc., AGC Biologics, A/S and AGC Biologics, S.p.A., which formed the basis for estimating future cash flows, we inquired of management and the head of Life science company about the basis on which those assumptions were developed. In addition, we performed the following procedures.

Company name	Procedures performed
AGC Biologics, Inc. (located in the U.S.)	<ul style="list-style-type: none"> • Assessed the consistency of the growth of net sales in the future business plan with the sales plan for each major project and orders received; • Compared the expansion of the market with external market data on the growth rate and the market size; and • Inspected relevant documents and compared them with actual results to assess the reasonableness of the equipment utilization plans with respect to sales in the future business plan.
AGC Biologics, A/S (located in Denmark)	<ul style="list-style-type: none"> • Assessed the consistency of the growth of net sales in the future business plan with the sales plan for each major project and orders received; • Compared the expansion of the market with external market data on the growth rate and the market size; and • Performed a comparison and trend analysis of operating costs for new lines based on the analysis of differences for the achievement of past business plans.
AGC Biologics, S.p.A. (located in Italy)	<ul style="list-style-type: none"> • Assessed the consistency of the growth of net sales in the future business plan with the sales plan for each major project and orders received; and • Compared the expansion of the market with external market data on

	the growth rate and the market size.
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- We assessed the appropriateness of the model used to estimate the discount rate based on subject matters relevant to valuation and the requirements of accounting standards and compared the input data that formed the basis for estimating the discount rate with the information published by external organizations, by involving a valuation specialist within our domestic network firms.

Other Information

The other information comprises the information included in “Financial Review”, but does not include the consolidated financial statements and our auditor’s reports thereon. Management is responsible for the preparation and presentation of the other information. Audit & Supervisory Board and its Members are responsible for overseeing the directors’ performance of their duties with regard to the design, implementation and maintenance of the reporting process for the other information.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Responsibilities of Management and Audit & Supervisory Board and its Members for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS Accounting Standards, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group’s ability to continue as a going concern, disclosing, as applicable, matters related to going concern in accordance with IFRS Accounting Standards and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Audit & Supervisory Board and its Members are responsible for overseeing the directors’ performance of their duties with regard to the design, implementation and maintenance of the Group’s financial reporting process.

Auditor’s Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor’s report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with auditing standards generally accepted in Japan

will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of our audit in accordance with auditing standards generally accepted in Japan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, while the objective of the audit is not to express an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate whether the presentation and disclosures in the consolidated financial statements are in accordance with IFRS Accounting Standards, the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Plan and perform the group audit to obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group as a basis for forming an opinion on the group financial statements. We are responsible for the direction, supervision and review of the audit work performed for the purpose of the group audit. We remain solely responsible for our audit opinion.

We communicate with Audit & Supervisory Board and its Members regarding, among other matters, the planned scope and timing of the audit, significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide Audit & Supervisory Board and its Members with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with Audit & Supervisory Board and its Members, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Fee-related Information

Fees paid or payable to our firm and to other firms within the same network as our firm for audit and non-audit services provided to the Company and its subsidiaries are described in "Fees for Audit and Non-audit Services by the Independent Auditor and other its network firms" included in "Management's Discussion and Analysis" of the "Financial Review".

Interest required to be disclosed by the Certified Public Accountants Act of Japan

We do not have any interest in the Group which is required to be disclosed pursuant to the provisions of the Certified Public Accountants Act of Japan.

Noriaki Habuto
Designated Engagement Partner
Certified Public Accountant

Tsutomu Ogawa
Designated Engagement Partner
Certified Public Accountant

Takahiro Kajiwara
Designated Engagement Partner
Certified Public Accountant

KPMG AZSA LLC
Tokyo Office, Japan
March 28, 2025

Notes to the Reader of Independent Auditor's Report:

This is a copy of the Independent Auditor's Report and the original copies are kept separately by the Company and KPMG AZSA LLC.

AGC Inc.

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