Financial Factbook 2022

TOAGOSEI

Management's Discussion & Analysis

The financial section was translated into English based on some disclosed documents including the securities report of the Japanese version and is provided for information purpose only.

Overview of Fiscal 2022

During the period under review (January 1 to December 31, 2022), the global economy was impacted substantially from various fronts. The rising number of cases of the omicron variant of COVID-19 and Russia's military invasion of Ukraine resulted in supply chain disruptions. Additionally, economic sanctions against Russia have taken effect. The shortage of energy, food and mineral resources has caused historically high inflation, forcing countries around the world to tighten their monetary policy severely.

The Japanese economy experienced a rapid increase in prices of raw materials, fuels, and imported products due to the yen's depreciation caused by Japan's efforts to maintain monetary easing measures to escape deflationary pressures. Consequently, corporate earnings and household spending were constrained.

Against that backdrop, the Group hiked selling prices and promoted cost cutting efforts. Nevertheless, sales volumes were generally weaker because of ongoing production cuts in the automotive, smartphone, and their peripheral industries.

As a result, Toagosei Group recorded the following financial results for the period under review.

Net sales: ¥160,825 million (+2.9% YOY)

Operating income: ¥14,382 million (-18.6% YOY)

Ordinary income: ¥16,446 million (-13.4% YOY)

Net income attributable to owners of parent: ¥12,494 million (-9.3% YOY)

Furthermore, net sales declined by ¥7,940 million and operating income by ¥94 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

Outlined below are the results for our reportable segments.

Sales by Segment

Commodity Chemicals

Electrolysis products experienced a downturn in sales volume but selling prices were increased to cope with higher raw material and fuel prices, leading to increased sales revenue. Acrylic monomer products saw a downturn in sales volume, but price hikes based on higher raw material and fuel prices resulted in higher sales revenue. Industrial gases posted a decline in sales revenue on weaker sales volume, despite price hikes initiated in response to rising raw material and fuel prices. As a result of the above, this segment posted net sales of ¥74,225 million (+5.6% YOY). Furthermore, net sales declined by ¥2,246 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

Operating income totaled ¥6,691 million (-16.3% YOY) due to diminished sales volume, despite upward revisions to selling prices based on rising raw material and fuel prices. Furthermore, operating income increased by ¥1 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

Polymer & Oligomer

Acrylic polymers saw a decline in sales revenue on lower sales volume of automotive related products. Acrylic oligomers recorded lower sales volume for displays and other products, but net sales remained on par with the previous year due to the weak yen. Polymer flocculants posted an increase in sales revenue overall including exports and saw increased sales revenue thanks in part to selling prices hiked in response to rising raw material and fuel prices. As a result of these factors, this segment posted net sales of ¥35,807 (+2.6% YOY). Furthermore, net sales declined by ¥2,150 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

Operating income fell to ¥4,258 million (-19.3% YOY), impacted substantially by lower sales volume. Furthermore, operating income decreased by ¥130 million due to the application of

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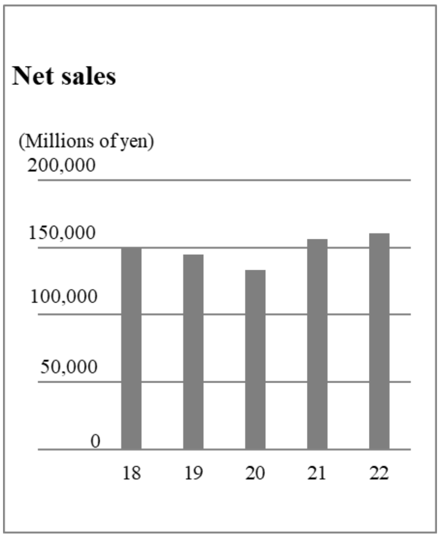
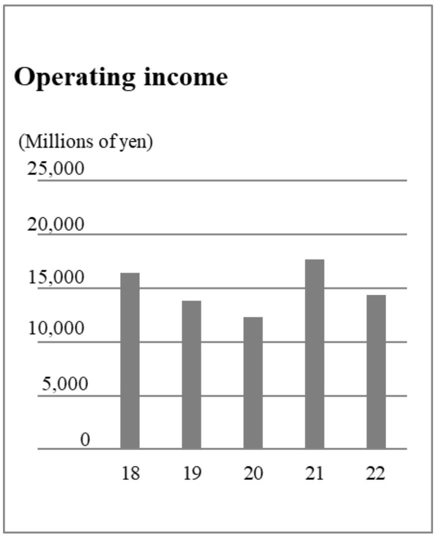
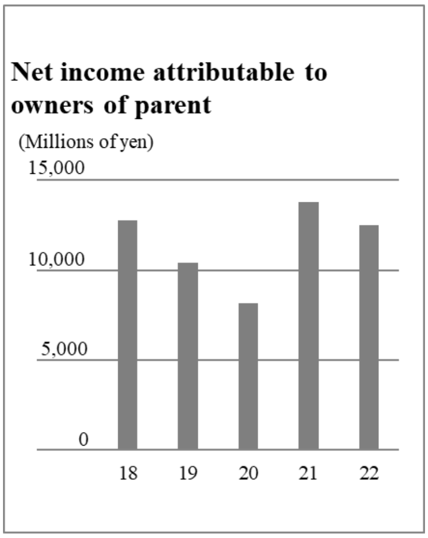
Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).







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Adhesive Material

Instant glues for consumers experienced a slight decline in sales volume due to the effects of diminished customer traffic at home improvement stores, etc., but the effects of the weaker yen contributed to an increase in sales revenue overall. Functional adhesives posted significantly lower sales volume amid the impacts of reduction production of smartphones, resulting in a decline in sales revenue. As a result, this segment posted net sales of ¥11,134 million (-1.8% YOY). Furthermore, net sales declined by ¥461 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

The operating loss declined by ¥1,100 million compared to the previous fiscal year to ¥255 million owing to diminished sales volume of functional adhesives, depreciation, and rising advertising expenses and technological research costs overseas. Furthermore, operating loss increased by ¥5 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

Performance Chemicals

High-purity inorganic chemicals recorded increased sales revenues amid higher sales volume of products for semiconductors. Inorganic functional materials saw an increase in sales revenue as sales volume of antimicrobial agents and deodorants increased, which offset the decrease in sales volume of ion-trapping agents to electronics components due to the reduced production of smartphones. As a result, this segment posted net sales of ¥10,466 million (+7.0% YOY). Furthermore, net sales increased by ¥103 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

Operating income came to ¥2,361 million (-3.6% YOY) amid higher depreciation and technological research costs incurred in the healthcare and cellulose nanofiber domains. Furthermore, operating income increased by ¥42 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

Plastics

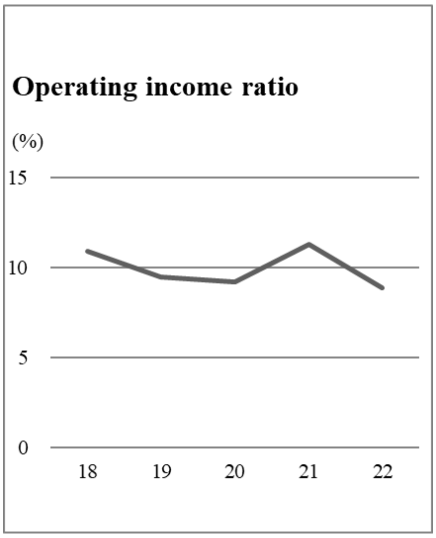
Piping equipment posted increased sales revenue on price hikes in response to rising raw material and fuel prices. Nursing care products also saw higher sales revenue amid strong sales of new products including walkers, etc. Products for construction and civil engineering posted net sales on par with the previous fiscal year as diminished sales volume was largely offset by hikes to selling prices in response to rising raw material and fuel prices. Elastomer compounds recorded higher sales revenue on increased sales volume for automobile and medical applications. As a result, this segment posted net sales of ¥27,754 million (+6.2% YOY). Furthermore, net sales declined by ¥706 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

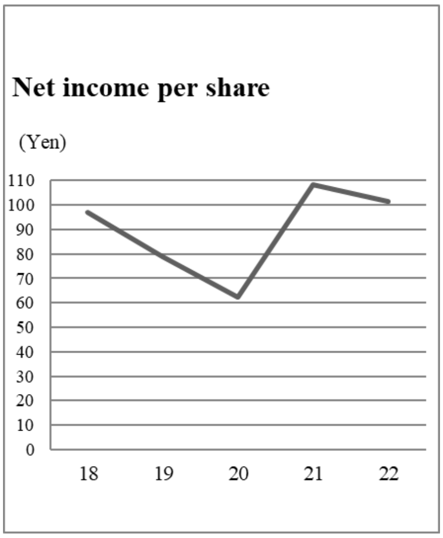
Operating income totaled ¥1,759 million (+22.7% YOY) as a result of price hikes implemented in response to higher raw material and fuel prices along with sales of piping equipment placing greater emphasis on profits. Furthermore, there were no effects on operating income from the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

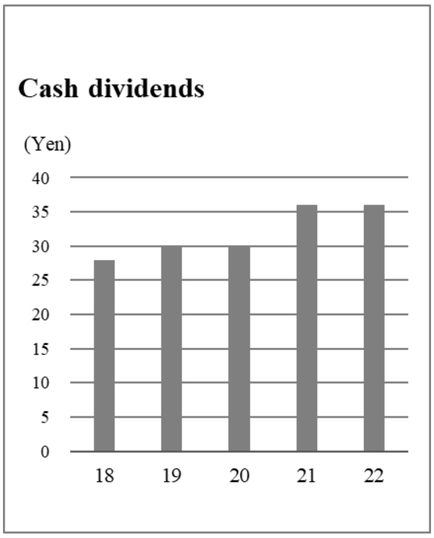
Other Businesses

This segment covers goods transportation and trading-house operations. The segment posted net sales of ¥1,436 million (-62.7% YOY). Furthermore, net sales declined by ¥2,478 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).

Operating loss totaled ¥434 million. Furthermore, operating loss increased by ¥2 million due to the application of Accounting Standard for Revenue Recognition (ASBJ Statement No. 29).







Cash Flows

Cash and cash equivalents at end of the year stood at ¥44,839 million, a decrease of ¥1,664 million from the previous term-end.

Net cash provided by operating activities increased by ¥10,230 million year on year to ¥10,988 million due to increases in inventories and income taxes paid, as well as a decrease in income before income taxes.

Net cash used in investing activities decreased by ¥6,659 million year on year to ¥3,579 million due to a decrease in amounts managed in time deposits, despite an increase in purchases of property, plant and equipment.

Net cash used in financing activities increased by ¥819 million year on year to ¥9,464 million due to increases in dividend payments and purchases of treasury stock.

Business Performance Prospects for Fiscal 2023

For the current term ending December 31, 2023, we forecast net sales of ¥178.8 billion, operating income of ¥14.0 billion, and net income attributable to owners of parent of ¥10.6 billion.

Economic Prospects for Fiscal 2023

The future outlook is expected to remain highly unclear due to uncertainties such as the situation in Ukraine, new variants of coronavirus, inflation, and trends in interest rates.

Basic Policy on Shareholder Returns and Dividends for Fiscal 2022 and 2023

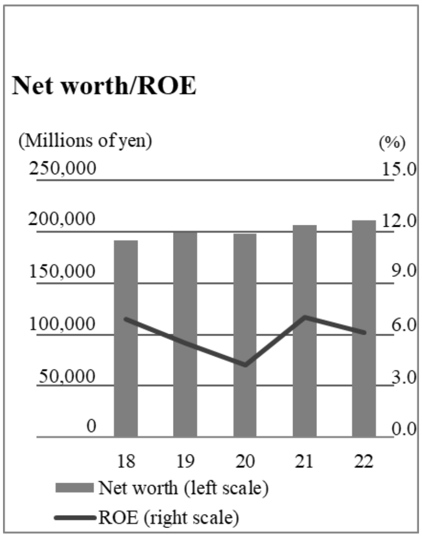
Basic policy on shareholder returns: We aim for sustainable dividends that deliver growth in consolidated total shareholder returns. Our benchmark for consolidated payout ratio is 30%, and our benchmark for consolidated total shareholder returns is 50%.

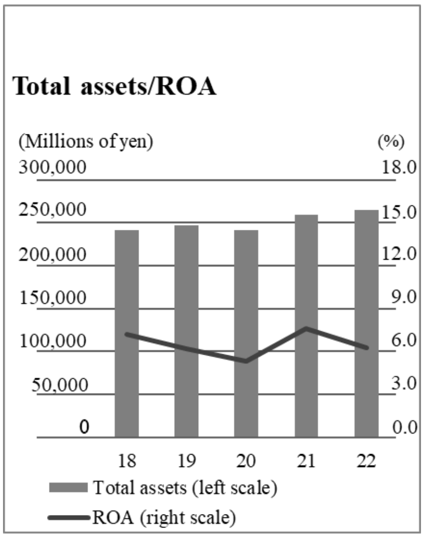
When deciding the dividend for a given period, we consider:

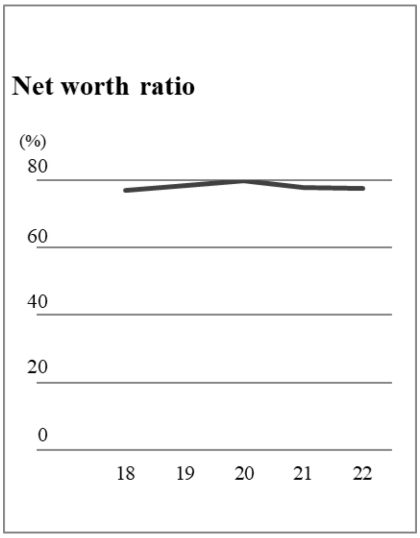
· the above policy,

· the need to reinvest earnings in projects that will increase our growth prospects and achieve sustainable management, and

· the need to retain a portion of earnings to cover risks such as rapid changes in the external environment and business risks.







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Dividend for fiscal 2022: For fiscal 2022, the full-year dividend will amount to ¥18 per share. This is the sum of the forecasted year-end dividend of ¥36 per share and the already-paid interim dividend of ¥18 per share (payout ratio: 35.5%). Consolidated total shareholder return will amount to 69.7%. This figure reflects the impact of a share buyback in fiscal 2022: Specifically, in that period, we bought back 3,978,700 shares at a total price of ¥4,299 million and retired 3,100,000 of them.
Share buyback: Under our medium-term management plan 2025 ("Leap Forward to the Next 2025," spanning three years from fiscal 2023 to 2025), we have set aside ¥20 billion for buying back shares. The purpose of the policy of this buyback program is to improve consolidated payout ratio and EPS.

Dividend for fiscal 2023: Based on the above policy, for fiscal 2023, we will pay a full-year dividend of ¥36 per share (payout ratio of 40.3%, interim dividend of ¥18 per share, year-end dividend of ¥18 per share). Consolidated total shareholder return will amount to 96.4%. This figure reflects our plan to buy back ¥6,000 million worth of shares. The buyback will help us improve shareholders returns, improve our capital efficiency, and improve our enterprise value.

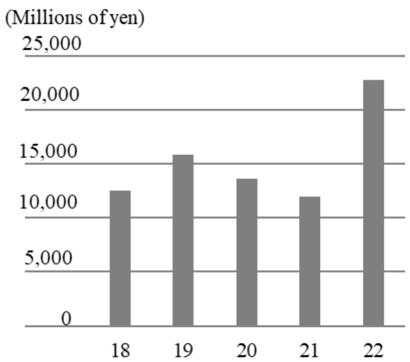
Business Risks

Of the matters concerning "Management's Discussion & Analysis," and "Consolidated Financial Statements and Others" contained in this report, major risks deemed to have the potential of significantly impacting the Group's financial position, business performance, and cash flows are stated below, provided, risks that may significantly impact investors' decisions are not limited to those described herein.

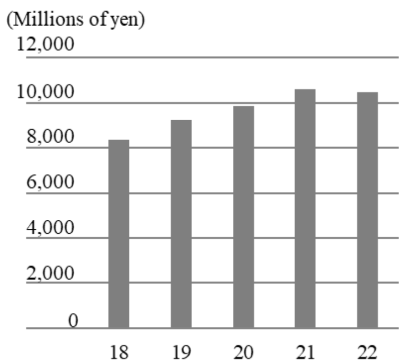
The Group established the Group Risk Management Rules as a mechanism for the routine identification and assessment of potential risks. Based upon this, risk countermeasures are formulated and the status of those countermeasures is checked, while measures are taken for the risks stated below. However, these countermeasures are not able to completely control the probability of risks emerging and the impact of risks if they emerge.

Forward-looking information stated herein is based on judgement by the Group as of the end of the fiscal year under review.

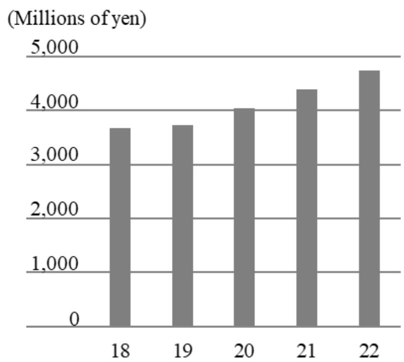
Capital investment



Depreciation and amortization expenditures



Research and development expense



(1) Natural disasters

The Group has production and sales bases in Japan and overseas. If these bases are hit by natural disasters such as earthquakes, typhoons, volcanic eruptions, heavy rains, tornadoes, gusts of wind, floods, tsunamis, and storm surges, this may result in damage to buildings and equipment, suspension of operations and business activities, and other losses.

In particular, in the event of a Tokai, Tonankai, or Nankai earthquake, there may be substantial damage to the Group's production and sales bases located in and around the Tokai, Kinki, and Shikoku regions, including the Nagoya Plant, the Group's main production base. Similarly, in the event of an earthquake directly hitting the Tokyo metropolitan area, there may be substantial damage to the Group's head office as well as production and sales bases located in and around the Kanto region.

Each base takes measures such as seismic retrofitting, regular disaster prevention drills simulating earthquakes and fires, and insurance coverage in case of earthquakes, fires, storms, and floods.

(2) Factory accidents

The main business of the Group is the manufacturing of chemical products. Accidents such as fires, explosions, and leaks of chemical substances may occur at the Group's domestic and overseas plants due to equipment trouble and human errors, resulting in damage to buildings and equipment, the suspension of operations and business activities, and compensation for victims and local communities.

Each plant takes measures such as installing automatic stopping devices for emergencies, holding disaster prevention meetings to discuss safety and disaster prevention when equipment is newly constructed or replaced, regular disaster prevention drills, and taking out insurance coverage in case of accidents.

(3) Changing market needs and intensifying competition

The Group's business consists of five segments and supplies a wide variety of products ranging from commodity chemicals including basic industrial materials to finished products for general consumers, enabling the Group to build a well-balanced business structure that is not easily affected by economic fluctuations. However, as the Group supplies its products to a wide range of industries and regions, the sales volumes and prices of its products may fluctuate significantly due to changes in the global or regional supply and demand environment, the emergence of alternative materials, changes in the purchasing policies of customers, and the sales prices of competitors.

In particular, many commodity chemicals, mainly in the Commodity Chemicals segment, are difficult to differentiate from other companies' products in terms of their function and performance. Given the present trend of intensifying price competition, there is a possibility that the Group may not be able to maintain its competitive edge over rival companies that are able to sell products with the same qualities at lower prices.

Meanwhile, the sales volumes and prices of high value-added products, mainly in the Polymer & Oligomer, Adhesive Material, and Performance Chemicals segments, may fluctuate significantly depending on the demand of customers and the Group's priority fields such as mobility and electronics.

In the Medium-Term Management Plan "Leap Forward to the Next 2025," the Group established "the expansion of high-value-added products" as a numerical target, and aims to increase the high-value-added product to net sales ratio to 48% in 2025.

(4) Regulations, legal revisions, trade restrictions, deterioration of international relations

The Group has production bases and sales bases not only in Japan but also in the U.S., China, Taiwan, Hong Kong, Singapore, Thailand, and South Korea and is engaged in sales and procurement activities on a global scale. Therefore, the suspension of operations and business activities, criminal penalties and surcharges, and litigations may arise in the event of a violation and change in interpretation of, and a differing view from authorities on Japan's Antimonopoly Act, Unfair Competition Prevention Act, Subcontract Act, Financial Instruments and Exchange Act, Foreign Exchange and Foreign Trade Act, export trading regulations, labor law, tax law, and regulations related to chemical substances, as well as various laws and regulations of relevant foreign countries and regions.

Furthermore, these laws and regulations may change due to institutional reforms, deregulation, greater regulatory controls, and trade restrictions, leading to the incurring of counter-measure costs and increased risk of violations.

The Group places particular importance on regulations related to chemical substances and has a system in place where the Environment & Safety Department and the Quality Assurance Department at the head office and manufacturing sites coordinate with each other to prevent violations. In addition, the Compliance Committee oversees and examines group-wide compliance practices for other laws and regulations.

In addition, as of December 2022, international tensions are on the increase. The Group collects information from experts and government agencies, etc., and takes necessary measures as appropriate.

(5) Impairment of fixed assets

The Group owns a large amount of fixed assets, including land, machinery and equipment mainly for the manufacture of chemical products. In order to achieve sustainable growth and increase corporate value over the medium- to long-term, the Group may, while making aggressive capital investment, engage in joint ventures, strategic alliances and business acquisitions with third parties. Under the Medium-Term Management Plan "Leap Forward to the Next 2025," the Group aims to make a total of ¥68 billion in capital investment over the three years from 2023 to 2025.

Decisions on such capital investment and other investment programs will be made subject to careful assessment of capital cost, but impairment losses may arise due to a decline in profitability resulting from a significant deterioration in the business environment, falling market prices, a decrease in synergies, and other factors.

(6) Product liability, recall, and inferior quality

If a defect or inferior quality of products manufactured and sold by the Group causes damage to customers or third parties, compensation for damages and recall costs may be incurred, and sales of the said products may decrease.

The Group conducts quality inspections at each manufacturing site and has a system in place to adapt to requirements in order to supply products that meet customer requirements as well as applicable legal and regulatory requirements. The Group also takes measures to reduce the impact of any potential damage by arranging product liability insurance.

(7) Information leakage

The Group holds important managerial, operational, and technological information as well as personal information on its employees, etc. If a business partner or employee leaks such information intentionally or through negligence, or if a third party with malicious intentions breaks into the Group's information management server and illegally obtains the information, there may be damages such as deterioration of managerial, operational, and technological advantage, sanctions and compensation for information leakage, and costs required for retrieving the information.

To prevent information leaks, the Group concludes non-disclosure agreements with business partners with whom it shares important information, and instills awareness of information management and information handling rules among its employees through education programs. In addition, the Group works to continually improve its information security measures, including measures against computer viruses.

(8) Soaring prices of raw materials, fuel, and other materials and changes in the prices of crude oil and naphtha

Soaring prices of raw materials, fuel, and other materials will lead to an increase in the Group's manufacturing costs. In particular, higher prices of crude oil and naphtha will result in a rise in the manufacturing costs of acrylic monomer products in the Commodity Chemicals segment and other products, and if the Group is unable to sufficiently raise its sales prices and rationalize its operations to offset these changes, it may put pressure on the Group's profits.

On the other hand, falling prices of crude oil and naphtha may cause the Group's sales prices to decline and may result in valuation losses on inventories.

A price formula has been established mainly with domestic business partners to ensure appropriate manufacturing costs and sales prices linked to crude oil and naphtha prices. However, these measures may not work in situations where prices are volatile or in competitive overseas markets.

(9) Infectious and communicable diseases

In the event of a widespread outbreak of an infectious or communicable disease that requires quarantine and movement restrictions, in addition to a general stagnation of economic activities, the business activities and distribution of the Group's customers and suppliers may be disrupted, potentially restricting the Group's operations and business activities. Furthermore, if the infection spreads to employees of the Group, operations may be temporarily suspended.

As of December 2022, COVID-19 continues to spread. The Group is building a system that enables safe and continuous operations and business activities by implementing telework and installing infection prevention goods such as disinfectants, and formulating COVID-19-related action guidelines to prevent infection.

(10) Suspension of raw material and fuel supplies and supply chain interruption

The Group conducts business keeping in mind the balance between cost reduction and stable procurement, but if the raw materials and fuel essential for manufacturing cannot be procured due to accidents at suppliers, production suspension, bankruptcy, and other reasons, the Group's operations may be suspended.

The Group strives to build a stable supply system by purchasing from multiple sources and maintaining constant communication with its suppliers.

(11) Environmental pollution and calls for sustainability

While complying with laws and regulations related to environmental conservation, the Group carries out environmentally conscious business activities by announcing its reduction targets for carbon dioxide emissions and maintaining thorough control of environmentally hazardous substances with the establishment of voluntary control values. However, as the Group operates chemical plants, soil, air, or water pollution may be discovered, resulting in the interruption of production activities and compensation costs. Furthermore, the chemical business, which is an energy-intensive industry, is being strongly urged to meet social demands such as further reduction of carbon dioxide emissions for sustainable social development, as exemplified by the SDGs and the ESG investment movement.

The Group will take further steps to reduce greenhouse gas emissions, energy consumption, waste, and environmentally hazardous substances mainly through the Sustainability Promotion Committee, which is chaired by the President. In particular, with regard to the reduction of greenhouse gases, the Group increased our reduction target in 2021 from the existing target, and created a roadmap toward the targets of "a 50% reduction in 2030 compared to 2013 (205,000 tons)" and "carbon neutral (virtually zero emissions) in 2050." In addition, the Group calculated greenhouse gas emissions in three categories (Scope 1-3), including supply chains, and conducted a scenario analysis in accordance with TCFD guidelines in order to understand the risks and opportunities that climate change has on our business and to clarify future measures.

(12) Foreign exchange fluctuations

The Group imports raw materials from overseas and also exports products manufactured in Japan to other countries, but the volume of raw materials it imports exceeds the volume of products it exports. Therefore, if the yen depreciates against foreign currencies, overall costs will increase. However, when the yen weakens, the export industry in Japan generally becomes more competitive internationally, and the demand for products sold by the Group becomes easier to stimulate.

Meanwhile, in the Medium-Term Management Plan "Leap Forward to the Next 2025," the Group aims to raise its overseas net sales ratio by 30% in 2025 from 2022 through aggressive overseas expansion. Therefore, the nature of the risk may change depending on the progress of the plan.

To mitigate the risk, the Group takes measures such as making financial plans to use foreign currencies earned through exports and dividends from overseas affiliates for import payments.

<u>(13) Human rights and compliance risks</u>

In the event that the Company is unable to respond appropriately to human rights issues or compliance violations within the Group or in our supply chain, this may result in administrative penalties, the suspension of transactions with customers, and the loss of social trust.

The Group has established the "Toagosei Group Human Rights Policy" based on international principles, and the "Sustainable Procurement Guidelines" to demonstrate our way of thinking to our business partners. In addition, we are creating handbooks, etc. in order to provide compliance education to employees. Through these measures, we are striving to reduce human rights and compliance risks.

[Accounting Practices]

1. Method of preparing consolidated financial statements and non-consolidated financial statements
   (1) The Company's consolidated financial statements are prepared in accordance with the Ordinance on Terminology, Forms, and Preparation Methods of Consolidated Financial Statements (Ordinance of the Ministry of Finance No. 28 of 1976).
   (2) The Company's non-consolidated financial statements are prepared in accordance with the Ordinance on the Terminology, Forms, and Preparation Methods of Financial Statements, etc. (Ordinance of the Ministry of Finance No. 59 of 1963; hereinafter "Ordinance on Financial Statements, etc.").
   The Company falls under the category of a special company submitting financial statements, and prepares financial statements in accordance with the provisions of Article 127 of the Ordinance on Financial Statements, etc.

2. Audit certification
   In accordance with the provisions of Article 193-2, Paragraph 1 of the Financial Instruments and Exchange Act, Ernst & Young ShinNihon LLC has audited the Company's Consolidated Financial Statements for the current fiscal year (January 1 to December 31, 2022) and the Company's Non-consolidated Financial Statements for the current fiscal year (January 1 to December 31, 2022).

3. Special efforts to ensure the appropriateness of the consolidated financial statements, etc.
   The Company makes special efforts to ensure the appropriateness of the consolidated financial statements, etc. Specifically, we have joined the Financial Accounting Standards Foundation in order to appropriately understand the details of accounting standards, etc. and to establish a system that enables us to appropriately prepare the consolidated financial statements, etc.
   The Company also participates in seminars, etc. held by the Financial Accounting Standards Foundation.

1. [Consolidated Financial Statements and Others]

(1) [Consolidated Financial Statements]

i) [Consolidated Balance Sheets]

(Millions of yen)

December 31,		2021		2022
Assets				
Current assets				
Cash and deposits		52,457		40,366
Notes and accounts receivable	*7	48,456	*1, *7	49,848
Securities		23,000		18,000
Inventories	*3	19,387	*3	25,511
Other current assets		1,913		5,309
Allowance for doubtful receivables		(46)		(50)
Total current assets		145,168		138,985
Fixed assets				
Property, plant and equipment				
Buildings and structures, net		28,034		27,467
Machinery, equipment and other, net		26,392		24,399
Tools, furniture and fixtures, net		3,076		2,908
Land		17,969		29,146
Leased assets, net		122		1,186
Construction in progress		2,599		5,666
Total property, plant and equipment	*5, *6	78,193	*5, *6	90,774
Intangible fixed assets		1,669		1,592
Investments and other assets				
Investment securities	*4	28,722	*4	28,472
Net defined benefit asset		3,165		2,704
Deferred tax assets		124		90
Other assets		1,920		2,522
Allowance for doubtful receivables		(8)		(6)
Total investments and other assets		33,924		33,782
Total fixed assets		113,787		126,150
Total assets		258,955		265,135

See accompanying notes to consolidated financial statements.

(Millions of yen)

December 31,		2021		2022
Liabilities				
Current liabilities				
Notes and accounts payable	*7	18,391	*7	19,653
Short-term bank loans		2,477		2,475
Lease obligations		148		173
Accrued income taxes		3,728		2,176
Accrued bonuses for employees		13		16
Other current liabilities	*7	11,977	*2, *7	13,296
Total current liabilities		36,737		37,792
Long-term liabilities				
Long-term debt		8,730		8,590
Lease obligations		140		1,137
Deferred tax liabilities		3,306		2,875
Net defined benefit liability		140		117
Other long-term liabilities		3,288		3,815
Total long-term liabilities		15,605		16,535
Total liabilities		52,343		54,328
Net Assets				
Shareholders' equity				
Common stock		20,886		20,886
Capital surplus		15,046		15,095
Retained earnings		153,693		158,154
Treasury stock		(230)		(1,081)
Total shareholders' equity		189,396		193,053
Accumulated other comprehensive income				
Unrealized holding gain on available-for-sale securities		9,749		9,598
Translation adjustments		2,199		3,471
Remeasurements of defined benefit plans		419		(154)
Total accumulated other comprehensive income		12,367		12,915
Non-controlling interests		4,848		4,837
Total net assets		206,612		210,807
Total liabilities and net assets		258,955		265,135

See accompanying notes to consolidated financial statements.

ii) [Consolidated Statements of Income and Consolidated Statements of Comprehensive Income]
[Consolidated Statements of Income]

(Millions of yen)

Years ended December 31,	2021		2022	
Net sales		156,313	*1	160,825
Cost of sales	*2	110,974	*2	117,891
Gross profit		45,339		42,933
Selling, general and administrative expenses				
Selling expenses	*3	16,023	*3	15,911
General and administrative expenses	*4, *5	11,639	*4, *5	12,639
Total selling, general and administrative expenses		27,663		28,551
Operating income		17,676		14,382
Non-operating income				
Interest income		32		68
Dividend income		962		1,020
Equity in earnings of affiliates		145		128
Foreign currency exchange gains		50		753
Gain on sale of goods		57		256
Rent income on non-current assets		245		182
Other		205		77
Total non-operating income		1,700		2,486
Non-operating expenses				
Interest expenses		94		100
Environment readiness fee		127		208
Inactive facilities expenses		33		25
Other		138		89
Total non-operating expenses		393		423
Ordinary profit		18,983		16,446
Extraordinary gains				
Gain on sales of investment securities		1,706		2,554
Subsidy income		134		283
Total extraordinary gains		1,840		2,837
Extraordinary losses				
Loss on disposal of non-current assets	*6	722	*6	559
Impairment loss	*7	1,032	*7	959
Expenses of soil pollution measures	*8	264	*8	358
Loss on valuation of investment securities		3		91
Total extraordinary losses		2,022		1,968
Income before income taxes		18,801		17,314
Income taxes -- Current		5,286		4,679
Income taxes -- Deferred		(465)		(118)
Total income taxes		4,821		4,560
Net income		13,979		12,754
Net income attributable to non-controlling interests		208		260
Net income attributable to owners of parent		13,771		12,494

See accompanying notes to consolidated financial statements.

[Consolidated Statements of Comprehensive Income]

(Millions of yen)

Years ended December 31,		2021		2022
Net income		13,979		12,754
Other comprehensive income				
Unrealized holding gain on available-for-sale securities		1,858		(148)
Translation adjustments		978		1,304
Remeasurements of defined benefit plans, net of tax		333		(573)
Total other comprehensive income	*1	3,170	*1	581
Comprehensive income		17,150		13,336
Comprehensive income attributable to:				
Owners of the parent		16,873		13,042
Non-controlling interests		276		293

See accompanying notes to consolidated financial statements.

iii) [Consolidated Statements of Changes in Net Assets]

(Millions of yen)

	Shareholders' equity				
Year ended December 31, 2021	Common stock	Capital surplus	Retained earnings	Treasury stock	Total shareholders' equity
Balance at beginning of the year	20,886	15,046	147,893	(207)	183,619
Cumulative effects of changes in accounting policies					—
Restated balance	20,886	15,046	147,893	(207)	183,619
Changes during the year:					
Cash dividends			(4,100)		(4,100)
Net income attributable to owners of parent			13,771		13,771
Purchase of treasury stock				(4,006)	(4,006)
Gain on sales of treasury stock		20		92	112
Cancellation of treasury stock		(3,891)		3,891	—
Transfer from retained earnings to capital surplus		3,870	(3,870)		—
Change in ownership interest of parent due to transactions with non-controlling interests					—
Net changes in items other than shareholders' equity					
Total changes during the year	—	—	5,800	(22)	5,777
Balance at end of the year	20,886	15,046	153,693	(230)	189,396

	Accumulated other comprehensive income					
Year ended December 31, 2021	Unrealized holding gain on available-for-sale securities	Translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at beginning of the year	7,891	1,287	86	9,265	4,757	197,642
Cumulative effects of changes in accounting policies						—
Restated balance	7,891	1,287	86	9,265	4,757	197,642
Changes during the year:						
Cash dividends						(4,100)
Net income attributable to owners of parent						13,771
Purchase of treasury stock						(4,006)
Gain on sales of treasury stock						112
Cancellation of treasury stock						—
Transfer from retained earnings to capital surplus						—
Change in ownership interest of parent due to transactions with non-controlling interests						—
Net changes in items other than shareholders' equity	1,857	911	333	3,102	91	3,193
Total changes during the year	1,857	911	333	3,102	91	8,970
Balance at end of the year	9,749	2,199	419	12,367	4,848	206,612

See accompanying notes to consolidated financial statements.

(Millions of yen)

Year ended December 31, 2022	Shareholders' equity: Common stock	Capital surplus	Retained earnings	Treasury stock	Total shareholders' equity
Balance at beginning of the year	20,886	15,046	153,693	(230)	189,396
Cumulative effects of changes in accounting policies			(54)		(54)
Restated balance	20,886	15,046	153,638	(230)	189,341
Changes during the year:					
Cash dividends			(4,603)		(4,603)
Net income attributable to owners of parent			12,494		12,494
Purchase of treasury stock				(4,303)	(4,303)
Gain on sales of treasury stock		(2)		80	78
Cancellation of treasury stock		(3,371)		3,371	—
Transfer from retained earnings to capital surplus		3,373	(3,373)		—
Change in ownership interest of parent due to transactions with non-controlling interests		48			48
Net changes in items other than shareholders' equity					
Total changes during the year	—	48	4,516	(851)	3,712
Balance at end of the year	20,886	15,095	158,154	(1,081)	193,053

Year ended December 31, 2022	Accumulated other comprehensive income: Unrealized holding gain on available-for-sale securities	Translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at beginning of the year	9,749	2,199	419	12,367	4,848	206,612
Cumulative effects of changes in accounting policies						(54)
Restated balance	9,749	2,199	419	12,367	4,848	206,557
Changes during the year:						
Cash dividends						(4,603)
Net income attributable to owners of parent						12,494
Purchase of treasury stock						(4,303)
Gain on sales of treasury stock						78
Cancellation of treasury stock						—
Transfer from retained earnings to capital surplus						—
Change in ownership interest of parent due to transactions with non-controlling interests						48
Net changes in items other than shareholders' equity	(151)	1,272	(573)	548	(10)	537
Total changes during the year	(151)	1,272	(573)	548	(10)	4,250
Balance at end of the year	9,598	3,471	(154)	12,915	4,837	210,807

See accompanying notes to consolidated financial statements.

iv) [Consolidated Statements of Cash Flows]

Years ended December 31,	2021	2022
		(Millions of yen)
Operating activities		
Income before income taxes	18,801	17,314
Depreciation and amortization	10,623	10,457
Impairment loss	1,032	959
Increase or decrease in allowance for doubtful receivables (Minus means decrease.)	3	2
Increase or decrease in other provisions (Minus means decrease.)	(2)	3
Increase or decrease in net defined benefit asset (Minus means increase.)	(244)	(365)
Increase or decrease in net defined benefit liability (Minus means decrease.)	(11)	(23)
Interest and dividend income	(995)	(1,088)
Interest expense	94	100
Foreign currency exchange gains or losses (Minus means gains.)	(57)	(660)
Gain or loss on sales of investment securities (Minus means gain.)	(1,706)	(2,554)
Gain or loss on valuation of investment securities (Minus means gain.)	3	91
Equity in earnings or losses of affiliates (Minus means earnings.)	(145)	(128)
Subsidy income	(134)	(283)
Gain or loss on disposal of non-current assets (Minus means gain.)	722	559
Increase or decrease in receivables (Minus means increase.)	(8,480)	(1,124)
Increase or decrease in inventories (Minus means increase.)	(2,125)	(5,795)
Increase or decrease in payables (Minus means decrease.)	6,143	1,138
Other, net	[illegible]	[illegible]
Subtotal	23,406	15,741
Interest and dividends received	1,192	1,190
Interest paid	(96)	(97)
Subsidy income received	19	398
Income taxes paid	(3,301)	(6,243)
Net cash provided by operating activities	21,219	10,988
Investing activities		
Increase or decrease in time deposits (Minus means increase.)	(890)	(16,056)
Net increase or decrease in short-term investment securities (Minus means increase.)	2,000	—
Purchases of investment securities	(438)	(623)
Proceeds from sales of investment securities	2,910	3,049
Purchases of property, plant and equipment	(11,516)	(20,295)
Other, net	(2,304)	(1,766)
Net cash used in investing activities	(10,239)	(3,579)

See accompanying notes to consolidated financial statements.

Years ended December 31,		2021		2022
				(Millions of yen)
Financing activities				
Net increase or decrease in short-term borrowings (Minus means decrease.)		(10)		12
Proceeds from long-term borrowings		4,400		—
Repayment of long-term debt		(4,558)		(143)
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation		—		(158)
Proceeds from sales of treasury stock		0		0
Purchases of treasury stock		(4,006)		(4,306)
Repayment of lease obligations		(185)		(171)
Cash dividends to shareholders		(4,098)		(4,599)
Cash dividends paid to non-controlling interests		(185)		(97)
Net cash used in financing activities		(8,644)		(9,464)
Effect of exchange rate changes on cash and cash equivalents		368		390
Net increase or decrease in cash and cash equivalents (Minus means decrease.)		2,703		(1,664)
Cash and cash equivalents at beginning of the year		43,800		46,504
Cash and cash equivalents at end of the year	*1	46,504	*1	44,839

See accompanying notes to consolidated financial statements.

[Notes]

(Basis for Preparation of Consolidated Financial Statements)

1. Scope of consolidation
(1) Consolidated subsidiaries: 18
(2) Unconsolidated subsidiaries: 3
A major unconsolidated subsidiary is Toa Kenso Co., Ltd. The unconsolidated subsidiaries have an immaterial effect on the Company's consolidated financial statements as a whole in terms of the sum of total assets, the sum of net sales, the sum of net income/loss, and the sum of retained earnings.

2. Application of equity method
(1) Unconsolidated subsidiaries and affiliates which are accounted for by the equity method
Affiliates: 1 Partnership: 1
Chubu Liquid Oxygen Co., Ltd.
Elmer's & Toagosei Co.
(2) Unconsolidated subsidiaries and affiliates which are not accounted for by the equity method
Unconsolidated subsidiaries: 3
Affiliates: 10
Toyo Denka Kogyo Co., Ltd., etc.
(3) Reason for exclusion from application of equity method accounting:
Because the effect of their net income/loss and retained earnings on the Company's consolidated financial statements is immaterial and they are not important as a whole in accounting terms.

3. Fiscal year-end of consolidated subsidiaries
The fiscal year-end of consolidated subsidiaries is the same as the Company's consolidated fiscal year-end.

4. Accounting policies
(1) Basis and method for valuation of major assets
1) Securities
Available-for-sale securities
Securities other than shares, etc. that do not have a market price classified as available-for-sale securities
Securities other than shares, etc. that do not have a market price classified as available-for-sale securities are carried at fair value determined with changes in unrealized holding gain or loss, net of the applicable income taxes, included directly in net assets.
Shares, etc. that do not have a market price classified as available-for-sale securities
Shares, etc. that do not have a market price classified as available-for-sale securities are carried at cost. Cost of securities sold is determined by the moving average method.
2) Derivative
Derivative financial instruments are carried at fair value.
3) Inventories
Inventories are stated at the lower of cost or net selling value, cost being determined by the moving average method. (The balance sheet amounts are written down if there is any decrease in profitability.)

(2) Depreciation and amortization of major depreciable and amortizable assets
1) Property, plant and equipment (excluding leased assets)
Depreciation of property, plant and equipment is calculated by the straight-line method based on the estimated useful lives of the respective assets and their residual value.
The useful lives for major property, plant and equipment are as follows:

Buildings and structures	2–75 years
Machinery, equipment and other	2–17 years
Tools, furniture and fixtures	2–20 years

2) Intangible fixed assets (excluding leased assets)
Amortization of intangible fixed assets, primarily consisting of software, is calculated by the straight-line method based on the estimated useful lives of the respective assets in this category (primarily 5 years for software).
3) Leased assets (leased assets relating to finance lease transactions that do not transfer ownership)
Depreciation of leased assets shall be calculated based on the assumption that the useful lives equal the lease term and the residual value is zero.
(3) Posting standards for providing major allowance
1) Allowance for doubtful receivables
The allowance for bad debts and doubtful receivables in respect of individual bad debts is provided in an amount sufficient to cover credit losses based on the collectability of individual receivables. The allowance for receivables other than those described above is based on past credit loss experience.
2) Accrued bonuses for employees
Accrued bonuses for employees are provided at the estimated amounts expected to be paid to employees for one consolidated subsidiary.
(4) Accounting methods relating to retirement benefits
1) Periodic allocation of estimated retirement benefits
In calculating retirement benefit obligation, the benefit formula basis is applied for allocation of projected retirement benefit to the periods until the end of the current fiscal year.
2) Amortization of actuarial gain or loss and prior service costs
Actuarial gain or loss of the Company is amortized in the year following the year in which the gain or loss is recognized by the straight-line method over the average remaining years of service of the eligible employees (primarily 10 years) when incurred in each fiscal year.
Prior service costs are expensed using the straight-line method over the average remaining years of service of the eligible employees (primarily 10 years) when incurred.
3) Adoption of the simplified method in SMEs
In calculating net defined benefit liability and retirement benefit expenses, some consolidated subsidiaries adopt the simplified method where the projected benefit obligation is an estimated amount of retirement benefits, assuming that all employees terminate their services on the balance sheet date for their own convenience.
(5) Revenue and expense recognition standards
In accordance with the following five steps, the Group recognizes revenue at the amount expected to be received in exchange for promised goods or services when control of said promised goods or services is transferred to the customer.
Step 1: Identify the contract(s) 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 (or as) a performance obligation is satisfied

The Group is engaged primarily in the manufacture and sale of products in each of the Commodity Chemicals Business, Polymer & Oligomer Business, Adhesive Material Business, Performance Chemicals Business, and Plastics Business. The performance obligation is generally deemed to be satisfied when the customer obtains control of said products at the time of their delivery, and revenue from sales of said products is recognized at the time of delivery. With domestic sales, the normal period is from the time of shipment to the time that control of the products is transferred to the customer. Therefore, revenue is recognized at the time of shipment in accordance with the treatment of shipping standards, etc. stipulated in Paragraph 98 of the Implementation Guidance on Accounting Standard for Revenue Recognition.

Revenue is calculated on the basis of the consideration promised in the contract with the customer, less returned goods, discounts, rebates, etc., to the extent that it is highly probable that there will be no significant reversal of revenue. The promised consideration is collected primarily within one year of the time the performance obligation is satisfied, and does not include a significant financing component.

Revenue from transactions for which the Group acts as an agent is recognized on a net basis.

(6) Foreign currency translation

Receivables and payables in foreign currencies are translated into yen at the rates of exchange in effect at the balance sheet date, and the resulting translation gain or loss is charged or credited to income.

Assets and liabilities of the foreign consolidated subsidiaries are translated at the same exchange rates. Revenue and expense accounts of the foreign consolidated subsidiaries are translated at periodical average rates during the fiscal year. The resulting translation gain or loss is included in “Translation adjustments” and “Non-controlling interests” under “Net assets.”

(7) Goodwill amortization method and amortization period

The amortization of goodwill is determined on an individual basis, and goodwill is amortized evenly over a reasonable number of years within a period of 20 years.

(8) Scope of funds in the consolidated statements of cash flows

Funds (cash and cash equivalents) in the consolidated statements of cash flows comprise cash on hand, bank deposits available for withdrawal on demand and readily available short-term investments with maturities of three months or less, which are exposed to minor risk of fluctuation in value.

(Significant Accounting Estimates)

Impairment of fixed assets

(1) Amounts recognized in the consolidated financial statements for the fiscal year under review

(Millions of yen)

December 31,	2021	2022
Property, plant and equipment	78,193	90,774
Intangible fixed assets	1,669	1,592
Impairment loss	1,032	959

(2) Information on significant accounting estimates pertaining to identified items

The Group regularly assesses signs of impairment for each asset group and estimates the recoverable amount in the event of such signs. Future cash flows expected to be obtained from the relevant asset group are used to estimate the recoverable amount. Future cash flow forecasts are formulated in consideration of future market trends and the state of business activities but in the event that future cash flow forecasts are amended, or if it is determined that the amount is unrecoverable, an impairment loss may be recognized.

(Changes in Accounting Policies)

Application of Accounting Standard for Revenue Recognition, etc.

The “Accounting Standard for Revenue Recognition” (ASBJ Statement No. 29 issued on March 31, 2020; hereinafter, “Revenue Recognition Standard”), etc. have been applied from the beginning of the current fiscal year. Accordingly, revenue is recognized at the amount expected to be received in exchange for promised goods or services when control of said promised goods or services is transferred to the customer. The main changes as a result of this are as follows.

1. Revenue recognition from export transactions

Revenue from export transactions by the Company and its domestic consolidated subsidiaries was previously recognized in accordance with shipping standards. However, this method has been changed to one whereby revenue is recognized when the goods or services are transferred to the customer and said performance obligation is satisfied.

2. Revenue recognition from agent transactions

Revenue from the purchase and sale of goods or services mainly in the trading firm business was previously recognized at the total amount of consideration received from the customer. However, as the result of making a determination of the role played in providing goods or services to a customer (principal or agent), for transactions that are conducted in the capacity of an agent, the method has been changed to one whereby revenue is recognized at the net amount that is received from the customer less the amount paid to the supplier.

3. Revenue recognition from buy-sell transactions

Buy-sell transactions were previously recognized at the disappearance of supplies provided for a fee. However, this method has been changed to one whereby the disappearance of supplies is not recognized if there is an obligation to buy back said supplies.

The application of the Revenue Recognition Standard, etc. is in accordance with the transitional treatment stipulated in the proviso to Paragraph 84 of the Revenue Recognition Standard. The cumulative effect of retrospectively applying the new accounting policy to prior periods is adjusted to retained earnings at the beginning of the current fiscal year, with the new accounting policy applied from the beginning balance. However, the Company applies the method stipulated in Paragraph 86 of the Revenue Recognition Standard, and does not apply the new accounting policy retrospectively to contracts for which substantially all revenue amounts had been recognized prior to the beginning of the current fiscal year in accordance with the previous treatment.

As a result, net sales, cost of sales, and selling, general and administrative expenses for the current fiscal year decreased by ¥7,940 million, ¥7,292 million, and ¥553 million, respectively, and operating income, ordinary profit, and income before income taxes each decreased by ¥94 million. In addition, the balance of retained earnings at the beginning of the year decreased by ¥54 million.

In accordance with the transitional treatment set forth in Paragraph 89-3 of the Revenue Recognition Standard, the notes to consolidated balance sheets, notes to consolidated statements of income, and notes to revenue recognition pertaining to the previous fiscal year are not presented.

Application of the Accounting Standard for Fair Value Measurement, etc.

The “Accounting Standard for Fair Value Measurement” (ASBJ Statement No. 30 issued on July 4, 2019; hereinafter, “Fair

Value Measurement Standard"), etc. has been applied from the beginning of the current fiscal year. In accordance with the transitional treatment stipulated in Paragraph 19 of the Fair Value Measurement Standard and Paragraph 44-2 of the "Accounting Standard for Financial Instruments" (ASBJ Statement No. 10 issued on July 4, 2019), the new accounting policy stipulated in the Fair Value Measurement Standard will be applied prospectively. As a result, although the Company previously applied the fair value method based on the average of quoted prices (or their equivalent) in the one-month period prior to the balance sheet date for those available-for-sale securities that are marketable, from the current fiscal year, we have changed to the fair value method based on the quoted price on the balance sheet date.

In addition, we have decided to provide fair value information by level within the fair value hierarchy in the notes to Financial Instruments. However, in accordance with the transitional treatment stipulated in Paragraph 7-4 of the "Implementation Guidance on Disclosures about Fair Value of Financial Instruments" (ASBJ Guidance No. 19 issued on July 4, 2019), matters pertaining to the previous fiscal year are not presented.

(Changes in Presentation Method)

(Notes to Consolidated Statements of Income)

"Gain on sale of goods," which was included in "Other" under "Non-operating income" in the previous fiscal year, is presented separately from the current fiscal year due to its increased materiality. In order to reflect this change in presentation method, the consolidated financial statements for the previous fiscal year have been reclassified.

As a result, the ¥263 million shown in "Other" under "Non-operating income" in the consolidated statements of income for the previous fiscal year has been reclassified as "Gain on sale of goods" of ¥57 million and "Other" of ¥205 million.

(Notes to Consolidated Balance Sheets)

*1 Amount of receivables arising from contracts with customers in notes and accounts receivable

(Millions of yen)

December 31,	2022
Notes receivable - trade	10,645
Accounts receivable - trade	39,203

*2 Amount of contract liabilities in other current liabilities

(Millions of yen)

December 31,	2022
Contract liabilities	49

*3. Components of inventories:

(Millions of yen)

December 31,	2021	2022
Merchandise and finished products (including semi-finished products)	12,949	17,309
Work in process	531	599
Raw materials and supplies	5,907	7,602
Total	19,387	25,511

*4. Investments in unconsolidated subsidiaries and affiliates were as follows:

(Millions of yen)

December 31,	2021	2022
Investment securities (stocks)	1,647	1,624

*5. Assets pledged as collateral:

December 31, 2021

Assets pledged as collateral		
Classification	Book value (Millions of yen)	Type of security interests
Buildings and structures	9,800	Plant foundation
Machinery, equipment and other	14,111	ditto
Tools, furniture and fixtures	1,791	ditto
Land	4,448	ditto
Total	30,152	

(Note) The assets described above are pledged as collateral, but there are no corresponding secured obligations.

December 31, 2022

Assets pledged as collateral		
Classification	Book value (Millions of yen)	Type of security interests
Buildings and structures	9,883	Plant foundation
Machinery, equipment and other	13,632	ditto
Tools, furniture and fixtures	1,556	ditto
Land	4,448	ditto
Total	29,521	

(Note) The assets described above are pledged as collateral, but there are no corresponding secured obligations.

*6. Accumulated depreciation of property, plant and equipment:

(Millions of yen)

December 31,	2021	2022
	205,319	211,779

*7. Notes matured at the balance sheet date and cash settlement payable as of the balance sheet date (method of cash settlement payable at due date with the same terms as notes) are treated as if they were settled on the maturity date. Because the balance sheet date of the current fiscal year fell on a holiday for financial institutions, the notes matured and cash settlement payable at the balance sheet date were excluded from the balance as of the end of the current fiscal year.

(Millions of yen)

December 31,	2021	2022
Notes and accounts receivable	4,772	5,689
Notes and accounts payable	1,750	2,264
Other (Current liabilities)	541	570

8. Contingent liabilities and secured liabilities:

(Millions of yen)

December 31,		2021	2022
Employees	Guarantees against loans from financial institutions	89	40
Hokuriku Liquid Oxygen Co., Ltd.	ditto	12	63
Total		102	103

(Notes to Consolidated Statements of Income)

*1. For net sales, the Company does not disaggregate revenues from contracts with customers and other sources of revenue. The amount of revenue from contracts with customers is presented in (Revenue Recognition) 1. Disaggregation of revenue from contracts with customers in the Notes to (1) Consolidated Financial Statements.

*2. Inventories as at the fiscal year-end represent the book value written-down due to a decrease in profitability. The following losses on devaluation of inventories were included in cost of sales (the amount stated is the amount after offset by reversal):

(Millions of yen)

Years ended December 31,	2021	2022
	(38)	105

*3. Major items of selling expenses:

(Millions of yen)

Years ended December 31,	2021	2022
Transportation expenses	8,825	8,936
Salaries	2,066	2,121
Bonuses	895	935
Retirement benefit expenses	131	112
Depreciation and amortization	154	148

*4. Major items of general and administrative expenses:

(Millions of yen)

Years ended December 31,	2021	2022
Salaries	2,537	2,707
Bonuses	1,319	1,442
Retirement benefit expenses	215	182
Depreciation and amortization	1,139	1,434

*5. Research and development cost included in general and administrative expenses and manufacturing cost:

(Millions of yen)

Years ended December 31,	2021	2022
	4,391	4,748

*6. Components of loss on disposal of non-current assets:

(Millions of yen)

Years ended December 31,	2021	2022
Machinery, equipment and other	55	72
Disposal costs	553	244
Buildings and structures, etc.	113	241

*7. Impairment loss:

Year ended December 31, 2021

The Company and its consolidated subsidiaries have recognized impairment loss on the following class of assets:

Location	Major use	Category	Impairment loss (Millions of yen)
Kawasaki-ku, Kawasaki-shi	Facilities for manufacturing synthetic resins	Machinery, etc.	1,032

(Outline and grouping method)

The Company operates multiple businesses and has grouped business-use assets according to the minimum unit in each of the Commodity Chemicals, Polymer & Oligomer, Adhesive Material, and Performance Chemicals segments. In addition, consolidated subsidiaries mainly operate a single business, and the companies themselves form the minimum asset group.

The Company wrote down the book values of facilities for manufacturing synthetic resins, which are unlikely to be used by the Company in the future, to their respective recoverable amounts. Accordingly, ¥1,032 million of impairment loss was recognized under extraordinary losses in the statement of income.

(Components of impairment loss)

The impairment loss was ¥940 million for machinery, ¥51 million for buildings, ¥21 million for structures, ¥17 million for construction in progress and ¥1 million for tools, furniture and fixtures.

(Calculation of recoverable amounts, etc.)

The recoverable amounts applicable to assets for which impairment losses were recognized for the corresponding year ended December 31, 2021 were measured using the value in use, which was calculated by discounting future cash flows at 14.30%.

Year ended December 31, 2022

The Company and its consolidated subsidiaries have recognized impairment loss on the following class of assets:

Location	Major use	Category	Impairment loss (Millions of yen)
Minami-ku, Yokohama-shi	Company housing and dormitory	Land and buildings	728
Suita-shi, Osaka Prefecture	Dormitory	Land	231

(Outline and grouping method)

The Company operates multiple businesses and has grouped business-use assets according to the minimum unit in each of the Commodity Chemicals, Polymer & Oligomer, Adhesive Material, and Performance Chemicals segments. In addition, consolidated subsidiaries mainly operate a single business, and the companies themselves form the minimum asset group.

The Company wrote down the book values of company housing and a dormitory in Yokohama-shi due to the decision to sell the land due to the discontinued use of the dormitory, and the book value of a dormitory in Osaka Prefecture due to a significant reduction in the market value of the land, to their respective recoverable amounts. Accordingly, ¥959 million of impairment loss was recognized under extraordinary losses in the statement of income.

(Components of impairment loss)

The impairment loss was ¥640 million for land, ¥163 million for buildings and ¥155 million for other.

(Calculation of recoverable amounts, etc.)

The recoverable amounts applicable to assets for which impairment losses were recognized for the corresponding year ended December 31, 2022 were measured using the net realizable value for land, and the net realizable value is calculated on the basis of the appraisal value. Fixed assets other than land are assessed on the basis of the memorandum value.

*8. Expenses of soil pollution measures:

Year ended December 31, 2021

Expenses related to the removal, etc. of soil and contaminated groundwater associated with the construction of a warehouse at the Company’s Nagoya Plant are recognized under extraordinary losses.

Year ended December 31, 2022

Expenses related to the removal, etc. of soil and contaminated groundwater at the planned construction site for offices, etc. of the Company’s Nagoya Plant and the planned construction site for company housing, etc. on a site owned in Tsurumi-ku, Yokohama-shi are recognized under extraordinary losses.

(Notes to Consolidated Statements of Comprehensive Income)

*1. Reclassification adjustment and tax effect of other comprehensive income:

Years ended December 31,	2021	2022
	(Millions of yen)	
Unrealized holding gain on available-for-sale securities		
Amount arising during the fiscal year	4,369	2,329
Reclassification adjustment	(1,706)	(2,554)
Amount before tax effect	2,663	(225)
Tax effect	(804)	76
Unrealized holding gain on available-for-sale securities	1,858	(148)
Translation adjustments		
Amount arising during the fiscal year	978	1,304
Amount before tax effect	978	1,304
Tax effect	—	—
Translation adjustments	978	1,304
Remeasurements of defined benefit plans, net of tax		
Amount arising during the fiscal year	445	(744)
Reclassification adjustment	33	(81)
Amount before tax effect	479	(825)
Tax effect	(146)	252
Remeasurements of defined benefit plans, net of tax	333	(573)
Total other comprehensive income	3,170	581

(Notes to Consolidated Statements of Changes in Net Assets)

Year ended December 31, 2021

1. Matters related to the type and total number of issued shares and the type and total number of shares of treasury stock:

(Thousands of shares)

Type of shares	Number of shares at beginning of the year	Increase in the number of shares in the year	Decrease in the number of shares in the year	Number of shares at end of the year
Issued shares				
Common stock (Note 1)	128,300	—	3,100	125,200
Total	128,300	—	3,100	125,200
Treasury stock				
Common stock (Notes 2, 3)	196	3,174	3,186	183
Total	196	3,174	3,186	183

(Notes) 1. The decrease in the number of issued shares (common stock) is due to cancellation of treasury stock.
2. The increase in the number of treasury stock (common stock) consists of the increase of 3,169 thousand shares due to treasury stock acquisition and the increase of 5 thousand shares due to purchase of less-than-one-unit shares.
3. The decrease in the number of treasury stock (common stock) consists of the decrease of 3,100 thousand shares due to cancellation of treasury stock, the decrease of 86 thousand shares due to disposal of treasury stock as the restricted share-based remuneration and the decrease of 0 thousand shares due to sales of less-than-one-unit shares.

2. Matters related to dividends

(1) Amount of dividends paid

Resolution	Type of shares	Gross amount (Millions of yen)	Dividend per share (Yen)	Record date	Effective date
March 30, 2021 108th Annual Shareholders' Meeting	Common stock	1,921	15.00	December 31, 2020	March 31, 2021
July 30, 2021 Board of Directors	Common stock	2,179	17.00	June 30, 2021	September 6, 2021

(2) Dividends whose record date was in the year ended December 31, 2021 but whose effective date is in the year ending December 31, 2022

Resolution	Type of shares	Gross amount (Millions of yen)	Source of dividends	Dividend per share (Yen)	Record date	Effective date
March 30, 2022 109th Annual Shareholders' Meeting	Common stock	2,375	Retained earnings	19.00	December 31, 2021	March 31, 2022

Year ended December 31, 2022

1. Matters related to the type and total number of issued shares and the type and total number of shares of treasury stock:

(Thousands of shares)

Type of shares	Number of shares at beginning of the year	Increase in the number of shares in the year	Decrease in the number of shares in the year	Number of shares at end of the year
Issued shares				
Common stock (Note 1)	125,200	—	3,100	122,100
Total	125,200	—	3,100	122,100
Treasury stock				
Common stock (Notes 2, 3)	183	3,983	3,172	994
Total	183	3,983	3,172	994

(Notes) 1. The decrease in the number of issued shares (common stock) is due to cancellation of treasury stock.
2. The increase in the number of treasury stock (common stock) consists of the increase of 3,978 thousand shares due to treasury stock acquisition and the increase of 5 thousand shares due to purchase of less-than-one-unit shares.
3. The decrease in the number of treasury stock (common stock) consists of the decrease of 3,100 thousand shares due to cancellation of treasury stock, the decrease of 71 thousand shares due to disposal of treasury stock as the restricted share-based remuneration and the decrease of 0 thousand shares due to sales of less-than-one-unit shares.

2. Matters related to dividends

(1) Amount of dividends paid

Resolution	Type of shares	Gross amount (Millions of yen)	Dividend per share (Yen)	Record date	Effective date
March 30, 2022 109th Annual Shareholders' Meeting	Common stock	2,375	19.00	December 31, 2021	March 31, 2022
July 29, 2022 Board of Directors	Common stock	2,228	18.00	June 30, 2022	September 6, 2022

(2) Dividends whose record date was in the year ended December 31, 2022 but whose effective date is in the year ending December 31, 2023

Resolution	Type of shares	Gross amount (Millions of yen)	Source of dividends	Dividend per share (Yen)	Record date	Effective date
March 30, 2023 110th Annual Shareholders' Meeting	Common stock	2,179	Retained earnings	18.00	December 31, 2022	March 31, 2023

(Notes to Consolidated Statements of Cash Flows)

*1. Reconciliation of the balance of cash and cash equivalents in the consolidated statement of cash flows to cash and deposits included in the consolidated balance sheet:

Years ended December 31,	2021	2022
		(Millions of yen)
Cash and deposits	52,457	40,366
Securities	23,000	18,000
Time deposits with terms in excess of 3 months	(26,952)	(11,526)
Negotiable certificate of deposit with terms in excess of 3 months	(2,000)	(2,000)
Cash and cash equivalents	46,504	44,839

(Lease Transactions)

1. Finance leases (lessee)

Finance lease transactions that do not transfer ownership

1) Leased assets

Property, plant and equipment

Consists of buildings and structures, machinery, equipment and other, and tools, furniture and fixtures

2) Depreciation of leased assets

As described in “4. Accounting policies (2) Depreciation and amortization of major depreciable and amortizable assets.”

2. Operating leases

Future minimum lease payments under noncancelable operating leases:

December 31,	2021	2022
		(Millions of yen)
Due within one year	16	16
Due after one year	—	—
Total	16	16

(Financial Instruments)

1. Matters related to the status of financial instruments
(1) Policies on financial instruments
When managing surplus funds, the Group limits the application of such funds to highly secure financial assets, mainly short-term bank deposits, and it procures funds mainly through bank borrowings. Derivative transactions are used to hedge interest fluctuation risk present in borrowings, but are not used for speculative or trading purposes.

(2) Description of financial instruments and associated risks
Notes and accounts receivable, which represent trade receivables, are exposed to client-based credit risk. Furthermore, foreign currency denominated trade receivables are also subject to exchange rate fluctuation risks. In order to counter such risk, foreign currency borrowings are used when necessary as a means of hedging the net position of foreign currency denominated trade payables. Securities and investment securities are primarily negotiable certificate of deposits and shares related to businesses, and are thus exposed to risk stemming from fluctuations in market value.
Notes and accounts payable, which represent trade payables, are due within one year. A portion of these are foreign currency denominated items related to payment for raw material imports, which are subject to exchange rate fluctuation risk. These are constantly maintained within the balance of receivables denominated in the same foreign currencies. Borrowings are used to procure funds necessary for operational transactions and capital expenditures. A portion of these borrowings bearing variable interest rates are exposed to interest rate fluctuation risk. Derivative transactions (interest rate swap transactions) are used as when necessary a means of hedging.

(3) Risk management systems related to financial instruments
1) Management of credit risk (risk associated with non-performance of a contract by a business partner etc.)
The departments in charge of Company operations regularly monitor the trade receivable status of all business partners in accordance with the Regulations on Selling in order to identify business partner-based credit risk associated with the deterioration of financial circumstances or other causes at an early stage and reduce it. In case of the consolidated subsidiaries, their divisions or accounting departments also manage the financial and credit status of their business partners pursuant to their own regulations. Derivative transactions are entered into only with highly rated financial institutions.
The maximum credit risk value as of the date of closing of consolidated accounts for the current term is expressed by the value of financial assets in the consolidated balance sheet which are subject to credit risk.

2) Management of market risk (risk associated with exchange rate and interest rate fluctuations)
When necessary, the Company uses borrowings denominated in foreign currencies to hedge its foreign currency denominated trade receivables and trade payables. Interest rate swaps are used when necessary to reduce risk associated with fluctuations in interest expenses related to borrowings.
The Company regularly confirms the fair value of securities and investment securities and the financial condition of the issuers (its business partners) and continually reviews its shareholdings with a view to maintaining and strengthening comprehensive relations with its business partners and in consideration of the economic rationality of holding their shares.
Derivative transactions are executed and managed in accordance with internal regulations that stipulate transaction authority.

3) Management of liquidity risk associated with procuring funds (the risk of being unable to execute a payment on the due date)
The Company and its consolidated subsidiaries have formulated cash flow management plans and manage liquidity risk by, for example, keeping a certain amount of cash reserves on hand.

(4) Supplementary information regarding the fair value of financial instruments
Variable factors are incorporated into the calculations of the fair value of financial instruments, and different fair values are possible depending on the differing assumptions used.

2. Fair value of financial instruments
The fair value and carrying value of financial instruments and the difference between both values are shown below. In addition, “cash and deposits,” “notes and accounts receivable,” “notes and accounts payable,” and “short-term bank loans” are cash, and as they are settled within a short span of time, the fair value is virtually identical to the carrying value. Therefore, notes are omitted.

(Millions of yen)

December 31, 2021	Carrying value	Fair value	Difference
(1) Securities and investment securities: Available-for-sale securities	48,763	48,763	—
Total assets	48,763	48,763	—
(1) Long-term debt	8,730	8,746	16
Total liabilities	8,730	8,746	16

Financial instruments whose fair value is extremely difficult to determine, are not included in the table above. (Please refer to Note 1.)

(Millions of yen)

December 31, 2022	Carrying value	Fair value	Difference
(1) Securities and investment securities:			
Available-for-sale securities	43,056	43,056	—
Total assets	43,056	43,056	—
(1) Long-term debt	8,590	8,551	(38)
Total liabilities	8,590	8,551	(38)

Shares, etc. that do not have a market price, are not included in the table above. (Please refer to Note 1.)

(Note 1)
The following items are not included in "Assets: (1) Securities and investment securities."

Financial instruments whose fair value is extremely difficult to determine

(Millions of yen)

December 31, 2021	Carrying value
Investments in subsidiaries and affiliates	
Investments in unconsolidated subsidiaries and affiliates	1,647
Available-for-sale securities:	
Unlisted securities	1,096
Investment limited partnership	216
Total	2,959

Shares, etc. that do not have a market price,

(Millions of yen)

December 31, 2022	Carrying value
Investments in subsidiaries and affiliates	
Investments in unconsolidated subsidiaries and affiliates	1,624
Available-for-sale securities:	
Unlisted securities	1,209
Investment limited partnership	581
Total	3,415

(Note 2)
The redemption schedule for monetary claims, held-to-maturity securities and available-for-sale securities with maturities subsequent to the consolidated balance sheet date:

(Millions of yen)

December 31, 2021	1 year or less	Over 1 year to 5 years	Over 5 years to 10 years	Over 10 years
Deposits	52,453	—	—	—
Notes and accounts receivable	48,456	—	—	—
Securities and investment securities:				
Available-for-sale securities with maturities (negotiable certificate of deposit)	23,000	—	—	—
Total	123,909	—	—	—

(Millions of yen)

December 31, 2022	1 year or less	Over 1 year to 5 years	Over 5 years to 10 years	Over 10 years
Deposits	40,364	—	—	—
Notes and accounts receivable	49,848	—	—	—
Securities and investment securities:				
Available-for-sale securities with maturities (negotiable certificate of deposit)	18,000	—	—	—
Total	108,215	—	—	—

(Note 3)
The repayment schedule for long-term debt, lease obligations, and other interest-bearing debt subsequent to the consolidated balance sheet date:

(Millions of yen)

December 31, 2021	1 year or less	Over 1 year to 2 years	Over 2 years to 3 years	Over 3 years to 4 years	Over 4 years to 5 years	Over 5 years
Short-term bank loans	2,334	—	—	—	—	—
Long-term debt	143	140	140	3,840	4,540	70
Lease obligations	148	60	41	21	12	4
Total	2,626	200	181	3,861	4,552	74

(Millions of yen)

December 31, 2022	1 year or less	Over 1 year to 2 years	Over 2 years to 3 years	Over 3 years to 4 years	Over 4 years to 5 years	Over 5 years
Short-term bank loans	2,335	—	—	—	—	—
Long-term debt	140	140	3,840	4,540	70	—
Lease obligations	173	157	136	131	121	591
Total	2,649	297	3,976	4,671	191	591

3. Fair value information by level within the fair value of financial instruments

The fair value of financial instruments is classified into the following three levels according to the observability and materiality of inputs used to measure fair value.

Level 1 fair value: Fair value measured using observable inputs, i.e. quoted prices in active markets for assets or liabilities that are the subject of the measurement

Level 2 fair value: Fair value measured using observable inputs other than Level 1 inputs

Level 3 fair value: Fair value measured using unobservable inputs

If multiple inputs are used that are significant to the fair value measurement, the fair value measurement is classified in its entirety in the level of the lowest level input that is significant to the entire measurement.

(1) Financial instruments measured at fair value in the consolidated balance sheet

December 31, 2022	Fair value (Millions of yen)			
	Level 1	Level 2	Level 3	Total
Securities and investment securities				
Available-for-sale securities				
Stocks	25,056	—	—	25,056
Total assets	25,056	—	—	25,056

(2) Financial instruments other than those measured at fair value in the consolidated balance sheet

December 31, 2022	Fair value (Millions of yen)			
	Level 1	Level 2	Level 3	Total
Securities and investment securities				
Available-for-sale securities				
Other	—	18,000	—	18,000
Total assets	—	18,000	—	18,000
Long-term debt	—	8,551	—	8,551
Total liabilities	—	8,551	—	8,551

(Note) A description of the valuation techniques and inputs used in the fair value measurements

Securities and investment securities

Listed shares are valued using quoted prices. As listed shares are traded in active markets, their fair value is classified as Level 1. In addition, negotiable certificates of deposit included in Other are classified as Level 2 because they are not traded frequently in the public market and are not considered to have quoted prices in active markets.

Long-term debt

The fair value of long-term debt is measured using the present value by discounting the sum of principal and interest by the interest rate assumed for new borrowings of the same type, and is classified as Level 2.

(Securities)

1. Marketable securities classified as available-for-sale securities:

(Millions of yen)

December 31, 2021	Type	Carrying value	Acquisition cost	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition cost	(1) Stock	23,760	9,248	14,512
Securities whose acquisition cost exceeds their carrying value or more	(1) Stock	2,002	2,475	(472)
	(2) Other	23,000	23,000	—
	Subtotal	25,002	25,475	(472)
Total		48,763	34,723	14,039

(Millions of yen)

December 31, 2022	Type	Carrying value	Acquisition cost	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition cost	(1) Stock	23,236	9,061	14,174
Securities whose acquisition cost exceeds their carrying value or more	(1) Stock	1,820	2,293	(473)
	(2) Other	18,000	18,000	—
	Subtotal	19,820	20,293	(473)
Total		43,056	29,355	13,701

2. Marketable securities classified as available-for-sale securities sold during the fiscal year ended:

December 31, 2021 (Millions of yen)

Classification	Sales amount	Total gain on sales	Total loss on sales
Stock	2,910	1,706	—

December 31, 2022 (Millions of yen)

Classification	Sales amount	Total gain on sales	Total loss on sales
Stock	3,049	2,554	—

3. Other securities for which impairment loss was recognized:

An impairment loss of investment securities in an amount of ¥3 million (marketable securities classified as available-for-sale securities of ¥3 million) was recognized for the previous fiscal year.

An impairment loss of investment securities in an amount of ¥91 million (marketable securities classified as available-for-sale securities of ¥91 million) was recognized for the current fiscal year.

In the accounting for impairment, an impairment loss is recognized for all securities of which the fair values as of the consolidated balance sheet date decline more than 50% from the acquisition cost, and at an amount deemed necessary for securities of which the fair values as of the same date decline between 30% and 50% in consideration of recoverability and other factors.

(Retirement Benefit Plans)

1. Outline of adopted retirement benefit plans for employees
The Company and its consolidated subsidiaries adopt a defined benefit plan and a defined contribution plan, either funded or unfunded, to provide for retirement benefits for employees.
Under defined benefit corporate pension plans (all the plans are funded), a lump-sum or annuity is paid based on accumulated points according to a qualification grade.
Under defined contribution pension plans, a premium calculated by the qualification grade is expensed when contributed.
Under retirement lump-sum payment plans (consisting of funded plans and unfunded plans), salaries and lump-sum payments based on length of service are paid as retirement benefits.
In addition, under the retirement lump-sum payment plans adopted by some of the consolidated subsidiaries, net defined benefit liability and retirement benefit expenses are calculated in accordance with the simplified plan.

2. Defined benefit plan
(1) Reconciliation of opening and closing balance of retirement benefit obligation (excluding plans using the simplified method)

(Millions of yen)

Years ended December 31,	2021	2022
Balance of retirement benefit obligation at beginning of year	11,611	11,425
Service cost	550	548
Actuarial gain or loss	(7)	58
Retirement benefits paid	(729)	(642)
Balance of retirement benefit obligation at end of year	11,425	11,390

(2) Reconciliation of opening and closing balance of plan assets (excluding plans using the simplified method)

(Millions of yen)

Years ended December 31,	2021	2022
Balance of plan assets at beginning of year	14,052	14,590
Expected return on plan assets	140	146
Actuarial gain or loss	438	(686)
Contribution from employer	688	687
Retirement benefits paid	(729)	(642)
Balance of plan assets at end of year	14,590	14,095

(3) Reconciliation of opening and closing balance of net defined benefit liability under the plans using the simplified method

(Millions of yen)

Years ended December 31,	2021	2022
Balance of net defined benefit liability at beginning of year	151	140
Retirement benefit expenses	25	9
Retirement benefits paid	(31)	(25)
Contribution to plan	(4)	(5)
Other	(0)	(0)
Balance of net defined benefit liability at end of year	140	117

(4) Reconciliation of the ending balance of retirement benefit obligations and plan assets and the net defined benefit liability and the net defined benefit asset included in the consolidated balance sheets

(Millions of yen)

December 31,	2021	2022
Funded retirement benefit obligations	11,620	11,595
Plan assets	(14,683)	(14,209)
	(3,063)	(2,613)
Unfunded projected benefit obligations	38	26
Net amount of relevant liabilities and assets on the consolidated balance sheets	(3,024)	(2,587)
Net defined benefit liability	140	117
Net defined benefit asset	(3,165)	(2,704)
Net amount of relevant liabilities and assets on the consolidated balance sheets	(3,024)	(2,587)

(Note) Includes the plans using the simplified method.

(5) Retirement benefit expenses and components thereof

(Millions of yen)

Years ended December 31,	2021	2022
Service cost	550	548
Expected return on plan assets	(140)	(146)
Amortization of actuarial gain or loss	55	(59)
Amortization of prior service cost	(21)	(21)
Retirement benefit expenses calculated using the simplified method	25	9
Retirement benefit expenses related to the defined benefit plan	469	330

(6) Remeasurements of defined benefit plans, net of tax

The components of items (before tax) reported under remeasurements of the defined benefit plans, net of tax were as follows:

(Millions of yen)

Years ended December 31,	2021	2022
Prior service cost	(21)	(21)
Actuarial gain or loss	501	(804)
Total	479	(825)

(7) Remeasurements of defined benefit plans

The components of items (before tax) reported under remeasurements of the defined benefit plans were as follows:

(Millions of yen)

December 31,	2021	2022
Unrecognized prior service cost	(172)	(150)
Unrecognized actuarial gain or loss	(431)	373
Total	(603)	222

(8) Matters regarding plan assets

1) Major components of the plan assets

The percentages of the major asset types accounting for the total plan assets were as follows:

December 31,	2021	2022
Bonds	40.1%	39.3%
Stocks	19.9	18.5
General accounts of life insurance companies	36.0	37.7
Other	4.0	4.6
Total	100.0	100.0

2) Method for setting the long-term rate of the expected return on plan assets

To determine the long-term rate of the expected return on plan assets, we take into account the current and projected distribution of plan assets and the current and anticipated long-term yield rates of the various assets that constitute the plan assets.

(9) Matters regarding the assumptions for actuarial calculations

Key assumptions for actuarial calculations (representing weighted averages)

Years ended December 31,	2021	2022
Discount rate	0.0%	0.0%
Long-term rate of the expected return on plan assets	1.0	1.0

3. Defined contribution plan

The amounts required to be contributed by the Company and consolidated subsidiaries are ¥306 million for the previous fiscal year and ¥305 million for the current fiscal year.

(Stock Options, etc.)

Not applicable.

(Tax Effect Accounting)

1. Significant components of deferred tax assets and liabilities:

(Millions of yen)

December 31,	2021	2022
Deferred tax assets		
Elimination of unrealized profit	1,398	1,398
Net operating loss carry forwards	793	1,209
Impairment loss	484	719
Depreciation	591	637
Accrued costs of removing facilities	514	498
Expenses of soil pollution measures	80	189
Accrued enterprise tax	253	185
Loss on valuation of investment securities	181	156
Valuation loss on inventories	115	141
Loss on valuation of golf club membership	41	41
Net defined benefit liability	42	35
Other	522	307
Gross deferred tax assets	5,020	5,521
Valuation allowance	(1,290)	(1,746)
Total deferred tax assets	3,730	3,774
Deferred tax liabilities		
Unrealized holding gain on available-for-sale securities	(4,266)	(4,134)
Reserve for reduction entry	(973)	(996)
Net defined benefit asset	(966)	(825)
Undistributed earnings of subsidiaries and affiliates	(275)	(369)
Securities returned from retirement benefit trust	(221)	(170)
Other	(208)	(62)
Total deferred tax liabilities	(6,912)	(6,558)
Net deferred tax assets (liability)	(3,182)	(2,784)

2. Major reasons for which the effective tax rates reflected in the consolidated statements of income differ from the statutory tax rates:

December 31,	2021	2022
Statutory tax rate	30.53%	30.53%
Effect of:		
Permanent difference – entertainment expenses	0.07	0.16
Permanent difference – dividend income	(0.48)	(0.44)
Inhabitants' per capita taxes	0.40	0.43
Equity in earnings of affiliates	(0.26)	(0.19)
Valuation allowance	(0.99)	(0.67)
Different tax rates applied to income of foreign consolidated subsidiaries	(1.02)	(0.76)
Tax deduction of experiment and research expenses	(2.35)	(3.02)
Other, net	(0.26)	0.30
Effective tax rates.	25.65	26.34

(Asset Retirement Obligations)
Not applicable.

(Rental properties, etc.)
Disclosure on rental properties, etc. is not required because rental properties, etc. are not significant in the Group.

(Revenue Recognition)
1. Disaggregation of revenue from contracts with customers
The Group's net sales are mainly revenue recognized from contracts with customers. The breakdown of the Group's reportable segments by region is as follows.

Year ended December 31, 2022	Reportable segments						Others (Note 1)	Total
	Commodity Chemicals	Polymer & Oligomer	Adhesive Material	Performance Chemicals	Plastics	Total		
Net sales								
Japan	67,823	22,429	6,370	5,150	26,603	128,377	1,405	129,783
Asia	4,505	9,837	2,676	4,365	1,147	22,532	19	22,552
North America	1,152	1,536	1,897	531	0	5,119	7	5,126
Other	743	2,004	189	418	2	3,358	3	3,362
Sales to third parties	74,225	35,807	11,134	10,466	27,754	159,388	1,436	160,825

(Notes)
1. The Others segment includes business operations relative to research and development, transportation and trading firm business.
2. Net sales are classified into countries and regions based on geographic location of the customer.
3. Net sales consist almost entirely of revenue recognized from contracts with customers. Revenue recognized from other sources is not disaggregated as it is immaterial.

2. Useful information in understanding revenue from contracts with customers
Useful information in understanding revenue is presented in (Basis for Preparation of Consolidated Financial Statements), 4. Accounting policies, (5) Revenue and expense recognition standards.

3. Reconciliation of satisfaction of performance obligations within contracts with customers and cash flows arising from such contracts, and the amount and timing of revenue arising from customers existing at the end of the current fiscal year expected to be recognized in and after the following fiscal year

(1) Balance of contract liabilities, etc.
Receivables and contract liabilities from contracts with customers are as follows.

(Millions of yen)

	Year ended December 31, 2022	
	Balance at beginning of the year	Balance at end of the year
Receivables from contracts with customers	48,456	49,848
Contract liabilities	45	49

Contract liabilities are mainly advances received from customers and are included in "Other current liabilities " under "Current liabilities" on the consolidated balance sheet.
(2) Transaction price allocated to the remaining performance obligations
The Group does not have any significant transactions for which individual contract durations are expected to exceed one year. Therefore, the practical expedient is applied, and information regarding remaining performance obligations is omitted.
In addition, there are no significant amounts of consideration arising from contracts with customers that are not included in the transaction price.

(Segment Information, etc.)
[Segment Information]
1. Outline of Reportable Segments
(1) Methods for Determining Reportable Segments
The reportable segments of the Company and its consolidated subsidiaries are defined as operating segments for which discrete financial information is available and reviewed by the Board of Directors regularly in order to make decisions about resources to be allocated to individual segments and assess performance.
Group operating divisions are organized based on products and services and the operating divisions are responsible for comprehensive domestic and overseas comprehensive plans as to the products and services. The five reportable segments of the Company are "Commodity Chemicals," "Polymer & Oligomer," "Adhesive Material," "Performance Chemicals," and "Plastics" based on similarity of economic characteristics, and nature of products and services.

(2) Major products attributable to each reportable segment

Reportable segment	Major products
Commodity Chemicals	Caustic soda, caustic potash, sodium hypochlorite and other electrolytic products, sulfuric acid, industrial gases, acrylic acids, acrylate esters and other acrylic monomers
Polymer & Oligomer	Acrylic polymers, polymer flocculants, UV-Curable Resins and other acrylic oligomers, etc.
Adhesive Material	Instant glues, functional adhesives, etc.

Performance Chemicals	High purity inorganic chemicals, inorganic functional materials, etc.
Plastics	Piping equipment products, products for construction and civil engineering, nursing care products, elastomer compounds, etc.

(3) Matters related to changes in reportable segments

(Changes in reportable segment classification)

From the current fiscal year, the classification of reportable segments has been partially changed. Some of the developed products that were previously included in the “Adhesive Material” segment have been transferred to the “Performance Chemicals” segment. This change is in accordance with the Company’s organizational change aimed at promoting cross-departmental development activities, and is intended to appropriately indicate the actual state of the Group’s business management.

The segment information for the previous fiscal year has been prepared according to the reportable segment classification after the change.

2. Method of calculating net sales, income and loss, assets, liabilities and others

The accounting method applied to the reportable segments is the same as described in “Basis for Preparation of Consolidated Financial Statements.”

Segment income of the reportable segments is based on operating income.

Intersegment sales or transfer amounts are determined chiefly on the basis of market prices.

As described in “(Changes in Accounting Policies)” in the Notes to (1) Consolidated Financial Statements, the Company has applied the Revenue Recognition Standard, etc. from the beginning of the current fiscal year, and changed the accounting method for revenue recognition. Accordingly, the method for measuring profit or loss for each reportable segment has similarly been changed.

As a result of this change, compared with the previous method, net sales by segment for the current fiscal year decreased by ¥2,246 million in the Commodity Chemicals segment, ¥2,150 million in the Polymer & Oligomer segment, ¥461 million in the Adhesive Material segment, ¥706 million in the Plastics segment, and ¥2,478 million in the Others segment, and increased by ¥103 million in the Performance Chemicals segment.

In addition, segment income decreased by ¥130 million in the Polymer & Oligomer segment, ¥5 million in the Adhesive Material segment, and ¥2 million in the Others segment, and increased by ¥1 million in the Commodity Chemicals segment and ¥42 million in the Performance Chemicals segment.

3. Information about the amounts of net sales, profit (loss), assets and other items for each reportable segment

(Millions of yen)

Year ended December 31, 2021	Reportable segments: Commodity Chemicals	Polymer & Oligomer	Adhesive Material	Performance Chemicals	Plastics	Total	Others (Note 1)	Total	Adjustments (Note 2)	Consolidated (Note 3)
Sales										
Sales to third parties	70,312	34,904	11,336	9,779	26,131	152,465	3,847	156,313	—	156,313
Intersegment sales	3,559	1,463	89	207	278	5,598	1,480	7,078	(7,078)	—
Net sales	73,872	36,367	11,426	9,986	26,410	158,063	5,328	163,391	(7,078)	156,313
Segment income	7,992	5,276	844	2,449	1,433	17,996	(299)	17,696	(20)	17,676
Segment assets	63,083	33,379	16,025	12,866	44,591	169,930	1,521	171,452	87,503	258,955
Other items										
Depreciation	4,395	1,907	600	1,088	1,795	9,788	195	9,984	639	10,623
Investment in associates accounted for using equity method	721	—	—	—	—	721	—	721	—	721
Increase in tangible and intangible fixed assets	4,537	2,328	1,441	1,096	1,612	11,015	311	11,327	624	11,951

(Notes)
1. The Others segment includes business operations relative to research and development, transportation and trading firm business.
2. “Adjustments” were as follows:
   (1) The adjustments to segment income include intersegment eliminations.
   (2) The adjustments to segment assets include corporate assets of ¥115,766 million that are not allocated to any reportable segments, and intersegment eliminations.
   (3) The adjustments to depreciation include mainly corporate expenses that are not allocated to any reportable segments.
   (4) The adjustments to increase in tangible and intangible fixed assets include mainly capital investment in corporate assets that are not allocated to any reportable segments.
3. Segment income is reconciled with operating income on the consolidated statements of income.
4. Depreciation in the table above includes amortization of long-term prepaid expense.

(Millions of yen)

Year ended December 31, 2022	Reportable segments						Others (Note 1)	Total	Adjustments (Note 2)	Consolidated (Note 3)
	Commodity Chemicals	Polymer & Oligomer	Adhesive Material	Performance Chemicals	Plastics	Total				
Sales										
Sales to third parties	74,225	35,807	11,134	10,466	27,754	159,388	1,436	160,825	—	160,825
Intersegment sales	4,537	1,515	103	255	364	6,776	1,516	8,292	(8,292)	—
Net sales	78,763	37,322	11,237	10,722	28,118	166,165	2,953	169,118	(8,292)	160,825
Segment income (loss)	6,691	4,258	(255)	2,361	1,759	14,814	(434)	14,379	3	14,382
Segment assets	83,551	37,117	15,983	13,795	45,322	195,770	1,686	197,457	67,677	265,135
Other items										
Depreciation	3,528	1,988	758	1,153	1,738	9,168	220	9,388	1,068	10,457
Investment in associates accounted for using equity method	713	—	—	—	—	713	—	713	—	713
Increase in tangible and intangible fixed assets	17,141	835	841	1,734	748	21,301	164	21,466	1,378	22,844

(Notes)

1. The Others segment includes business operations relative to research and development, transportation and trading firm business.
2. “Adjustments” were as follows:
   (1) The adjustments to segment income (loss) include intersegment eliminations.
   (2) The adjustments to segment assets include corporate assets of ¥95,963 million that are not allocated to any reportable segments, and intersegment eliminations.
   (3) The adjustments to depreciation include mainly corporate expenses that are not allocated to any reportable segments.
   (4) The adjustments to increase in tangible and intangible fixed assets include mainly capital investment in corporate assets that are not allocated to any reportable segments.
3. Segment income (loss) is reconciled with operating income on the consolidated statements of income.
4. Depreciation in the table above includes amortization of long-term prepaid expense.

[Related Information]

Year ended December 31, 2021

1. Information related to geographic region

(1) Net sales

(Millions of yen)

Japan	Asia	North America	Other	Total
127,302	20,830	4,540	3,639	156,313

(Note) Net sales are classified into countries and regions based on geographic location of the customer.

(2) Information related to property, plant and equipment
This information is not required to be disclosed because the amount of property, plant and equipment in Japan exceeded 90% of the amount on the consolidated balance sheet.

2. Information on major customer
This information is not required to be disclosed because net sales to any particular customer are less than 10% of the net sales on the consolidated statements of income.

Year ended December 31, 2022

1. Information related to geographic region

(1) Net sales

(Millions of yen)

Japan	Asia	North America	Other	Total
129,783	22,552	5,126	3,362	160,825

(Note) Net sales are classified into countries and regions based on geographic location of the customer.

(2) Information related to property, plant and equipment
This information is not required to be disclosed because the amount of property, plant and equipment in Japan exceeded 90% of the amount on the consolidated balance sheet.

2. Information on major customer
This information is not required to be disclosed because net sales to any particular customer are less than 10% of the net sales on the consolidated statements of income.

[Impairment loss on non-current assets by reportable segment]

Year ended December 31, 2021 (Millions of yen)

Commodity Chemicals	Polymer & Oligomer	Adhesive Material	Performance Chemicals	Plastics	Others	Corporate	Total
1,032	—	—	—	—	—	—	1,032

Year ended December 31, 2022 (Millions of yen)

Commodity Chemicals	Polymer & Oligomer	Adhesive Material	Performance Chemicals	Plastics	Others	Corporate	Total
—	—	—	—	—	—	959	959

(Note) Impairment loss of ¥959 million under Corporate is related to land and buildings for company housing and dormitories.

[Balance of goodwill by reportable segment]
This information is not required to be disclosed due to its immateriality.

[Gain on negative goodwill by reportable segment]
Not applicable.

[Related party information]
Not applicable.

(Per Share Information)

Years ended December 31,	2021	2022
		(Yen)
Net assets per share	1,613.90	1,700.75
Net income per share	108.14	101.31

(Notes)

1. Diluted net income per share is not disclosed because no potential shares exist.
2. The basis for calculation of "net income per share" is as follows:

Years ended December 31,	2021	2022
Net income per share		
Net income attributable to owners of parent (Millions of yen)	13,771	12,494
Amounts not belonging to shareholders of common stock (Millions of yen)	—	—
Net income attributable to owners of parent relating to common stock (Millions of yen)	13,771	12,494
Average number of common shares during the fiscal year (Thousands of shares)	127,347	123,329

3. The basis for calculation of "net assets per share" is as follows:

December 31,	2021	2022
Total amount of net assets (Millions of yen)	206,612	210,807
Amount deducted from the total amount of net assets (Millions of yen)	4,848	4,837
(including non-controlling interests)	(4,848)	(4,837)
Amount of net assets at the end of the fiscal year attributable to common stock (Millions of yen)	201,764	205,969
Number of common shares used for calculating net assets per share (Thousands of shares)	125,016	121,105

(Subsequent Events)
Treasury stock acquisition
At the Board of Directors meeting held on February 10, 2023, the Company resolved to acquire its treasury stock, in accordance with the provisions of Article 156 of the Companies Act, as applied by replacing terms pursuant to the provisions of Article 165, Paragraph 3 of the said Act.

1. Reasons for treasury stock acquisition
To strengthen returns to shareholders, improve capital efficiency, raise the corporate value and implement flexible capital policies.

2. Acquisition details

(1) Type of stock to be acquired	Common stock of the Company
(2) Total number of shares that can be acquired	6,000,000 shares (maximum) (4.95% of total number of shares issued [excluding treasury stock])
(3) Total acquisition cost	¥6.0 billion (maximum)
(4) Acquisition period	February 13, 2023 to December 31, 2023
(5) Acquisition method	Market purchase on the Tokyo Stock Exchange (Based on a discretionary investment agreement and through share repurchase by extended-hours trading)

v) [Supplementary Financial Schedules]

[Schedule of bonds and debentures]
Not applicable.

[Schedule of borrowings, etc.]

Classification	Beginning balance (Millions of yen)	Ending balance (Millions of yen)	Average interest rate (%)	Due date of repayment
Short-term bank loans	2,334	2,335	0.475	—
Long-term debt scheduled to be repaid within one year	143	140	1.750	—
Lease obligations scheduled to be repaid within one year	148	173	—	—
Long-term debt (excluding debt scheduled to be repaid within one year)	8,730	8,590	0.521	From 2024 to 2027
Lease obligations (excluding obligations scheduled to be repaid within one year)	140	1,137	—	From 2024 to 2032
Other interest-bearing debt	—	—	—	—
Total	11,497	12,376	—	—

(Notes)

1. "Average interest rate" presents the weighted average interest rate against the term-end balance of borrowings.
2. "Average interest rate" for lease obligations is not required to be disclosed because lease obligations are stated in the consolidated balance sheets in the amount before deducting the amount equivalent to related interest expenses, which are included in the total lease payments.
3. The projected repayment amounts of long-term debt and lease obligations (excluding debt and obligations scheduled to be repaid within one year) within five years after the consolidated balance sheet date are as follows.

(Millions of yen)

	Over 1 year to 2 years	Over 2 years to 3 years	Over 3 years to 4 years	Over 4 years to 5 years
Long-term debt	140	3,840	4,540	70
Lease obligations	157	136	131	121

[Schedule of asset retirement obligations]
Not applicable.

(2) [Other]

Quarterly data for the current fiscal year ended December 31, 2022

Cumulative periods	First quarter (From January 1 to March 31, 2022)	Second quarter (From January 1 to June 30, 2022)	Third quarter (From January 1 to September 30, 2022)	Current fiscal year (From January 1 to December 31, 2022)
Net sales (Millions of yen)	37,750	77,977	118,717	160,825
Income before income taxes (Millions of yen)	5,593	10,178	14,174	17,314
Net income attributable to owners of parent (Millions of yen)	4,015	7,391	10,294	12,494
Net income per share (Yen)	32.17	59.36	83.05	101.31

Accounting period	First quarter (From January 1 to March 31, 2022)	Second quarter (From April 1 to June 30, 2022)	Third quarter (From July 1 to September 30, 2022)	Fourth quarter (From October 1 to December 31, 2022)
Net income per share (Yen)	32.17	27.19	23.61	18.12