2022
FINANCIAL REPORT

RESONAC
Chemistry for Change

Resonac Holdings Corporation

The Origin of Resonac

The name Resonac is derived from the word resonate and the letter C from *chemistry*.

It represents our strong will to bring together our broad and agile cutting-edge material technology and our customers' technology and inspiration, sending a strong wave of *resonance* toward a shared future and meeting new partners as the wave extends its reach, in this way creating a major movement that could change society.

Our corporate color, Resonac Blue, is a combination of blue and green, which stands for the ocean and the sky as well as trees and forests. These two precious colors provided by the earth mix together and resonate in harmony, representing our commitment to contribute to the future of the global environment.

Contents

Corporate Philosophy

Purpose

Change society through the power of chemistry

Contribute to the sustainable development of global society by creating functions required of the times as an advanced material partner

Values

Passionate & Results Driven

By taking pride and passion to our work,
By focusing our strengths and performance,
We will became a globally recognized top player.

Agile & Flexible

By learning through trial-and-error,
By thinking flexibly and acting swiftly,
We will transform into a dynamic organization.

Open Minds & Open Connections

By showing mutual trust and respect,
By collaborating openly beyond boundaries,
We will co-create new value with all stakeholders.

Solid Vision & Solid Integrity

We truly recognize the power and potential of chemistry,
We prioritize sustainability for future generations,
We commit to upholding our values of integrity to all stakeholders and ethics in developing chemical technologies.

Profile

In January 2023, Showa Denko K.K. (SDK) and Showa Denko Materials Corporation, the former Hitachi Chemical Company, Ltd. (SDMC), integrated to make a new start as the Resonac Group.

SDK, the forerunner of Resonac Holdings Corporation (Resonac), was founded in 1939. Today, ranked as one of Japan's leading chemical companies, Resonac operates in four major segments for information disclosure: semiconductor and electronic materials, mobility, innovation-enabling materials, and chemicals.

In 2020, the SDK Group brought SDMC into the Group as a member. Following the integration, SDK and SDMC formulated Long-Term Vision (2021–2030) for the Newly Integrated Company (Long-Term Vision).

The Resonac Group is committed to providing new functionality and value as an integrated company in the chemicals industry, where global competition and changes in the market structure are expected to intensify. In this way, we will contribute the realization of a sustainable society.

Please Visit Our Website

Sustainability Site https://www.resonac.com/sustainability
Integrated Reports https://www.resonac.com/sustainability/report/report.html

Our Strengths

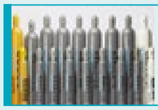
Resonac has many products maintaining high world market shares.

Here we introduce semiconductor materials where the Resonac Group has a special advantage. The semiconductor materials market is expected to continue growing rapidly due partly to the spread of 5G, IoT, an increase the xEVs' share of the car market, and more investment in data centers. The Resonac Group is one of the world's leading manufacturers of semiconductor materials and our annual sales of semiconductor materials comes to about ¥200 billion. The Group manufactures and sells a wide range of semiconductor materials used in wafer processes to packaging processes, including high-purity gases and solvents for electronics, CMP slurries, copper clad laminates, photosensitive films, and epoxy molding compounds.

The Group will continue developing leading-edge products by making the most of our technological strengths which have grown through the integration of former Showa Denko and former Showa Denko Materials, and responding to customers' expectations by providing one-stop solutions, in this way achieving growth of our semiconductor materials business that exceeds the growth of the market.

	Manufacturing process for semiconductors	Key products of the Resonac Group
Wafer Process	**Film formation** Photoresist application Exposure	**High-purity gases and solvents for electronics**
Wafer Process	**Etching** Photoresist removal	**High-purity gases for electronics**
Wafer Process	**CMP** Cleaning	**CMP slurries**
Packaging Process	**Substrate** Rewiring layer formation Dicing	**Copper clad laminates** **Photosensitive films** **Solder resist**
Packaging Process	**Die bonding** Wire bonding	**Die bonding materials**
Packaging Process	**Molding**	**Epoxy molding compounds**

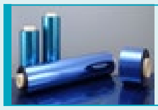
85% of sales of semiconductor materials are earned from products with a top-three global market share


World No. 1
High-purity gases


High-purity solvents


Ceria slurry World No. 1
CMP slurries


Packaging substrate materials World No. 1
Copper clad laminates


World No. 1
Photosensitive films


World No. 1
Die bonding materials


World No. 2
Epoxy molding compounds

Note: The global market positions shown on this page are Resonac estimates.

Consolidated 11-Year Summary

Financial Highlights

Resonac Holdings Corporation and Consolidated Subsidiaries

December 31	2012	2013	2014	2015	2016	2017 (Note 2)
	Millions of yen					
For the year						
Net sales	¥739,675	¥847,803	¥ 872,785	¥775,732	¥671,159	¥ 780,387
Operating income (loss)	28,108	25,953	20,551	33,508	42,053	77,708
Net income (loss) attributable to owners of the parent	9,368	9,065	2,929	921	12,305	37,404
Net cash provided by operating activities	53,310	63,565	66,996	61,170	68,949	67,235
Net cash provided by (used in) investing activities	(41,741)	(55,203)	(46,876)	(42,497)	(53,754)	(29,866)
Free cash flow	11,569	8,362	20,120	18,674	15,195	37,369
R&D expenditures	20,633	20,435	20,362	20,289	17,313	18,539
Capital expenditures	42,503	44,370	47,318	44,059	39,276	41,787
Depreciation and amortization	46,232	39,779	40,673	42,137	38,761	38,565
At year-end						
Total assets	933,162	985,771	1,009,843	940,494	932,698	1,026,999
Total net assets	314,966	345,811	319,087	308,142	311,231	368,994
Interest-bearing debt	342,262	353,686	383,124	368,835	359,929	346,726
Debt/equity ratio (to FY2018, gross; from FY2019, net) (times) (Note 4)	1.09	1.02	1.20	1.20	1.16	0.94
	Yen					
Per share (Note 5)						
Net income (loss)—primary (Note 6)	¥ 6.26	¥ 6.06	¥ 1.99	¥ 6.45	¥ 86.27	¥ 262.44
Net income (loss)—fully diluted (Note 6)	6.26	6.06	1.99	6.45	86.27	262.44
Net assets	182.24	201.27	209.76	2,076.05	2,080.85	2,473.06
Cash dividends (applicable to the period) (Note 7)	3.00	3.00	3.00	3.00	—	80.00
Number of employees at year-end	9,890	10,234	10,577	10,561	10,146	10,864

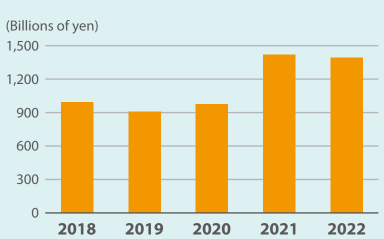
Notes: 1. Yen amounts have been translated into U.S. dollars, for convenience only, at the rate of ¥132.70 to US$1.00, the approximate rate of exchange at December 31, 2022.

2. The tentative accounting policy applied to calculation of 2017 financial results due to consolidation of former SGL GE Holding GmbH was finalized when the Company settled accounts for the third quarter of 2018. Accordingly, the amounts of depreciation and amortization and some other costs for the year ending December 2017 were changed. The amount in the above table includes those retroactively changed numbers for the year ending December 2017.

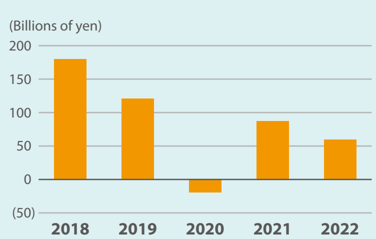
3. The former Showa Denko K.K. (SDK) started on July 1, 2020 to incorporate Showa Denko Materials' sales figures and incomes/losses into its financial statements.

4. In accordance with the consolidation of the former Showa Denko Materials Co., Ltd. (SDMC), SDK calculated the D/E ratio with an assumption as follows, starting from the third quarter of the fiscal year ended December 31, 2020. For the preferred shares issued by HC Holdings K.K., which was a subsidiary of SDK, we added the amount equivalent to 50% of the value of issued preferred shares to interest-bearing debts and the remaining 50% of it to the equity capital of SDK. SDK also added lease liability to the equity capital of SDK, and used the net interest-bearing debt (interest-bearing debt minus cash and deposits) in calculation of D/E ratio. The assumption that we consider 50% of the total value of issued preferred stocks as equity capital is based on the credit rating given by Japan Credit Rating Agency, Ltd.

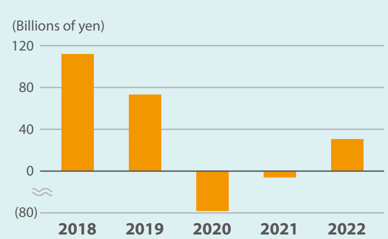
Net Sales



Operating Income (loss)



Net Income (loss) Attributable to Owners of the Parent



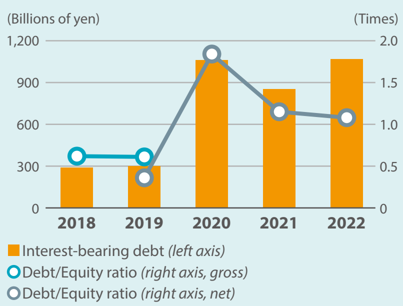
Resonac Holdings Corporation and Consolidated Subsidiaries

December 31	2018	2019	2020 (Note 3)	2021	2022 (Millions of yen)	2022 (Thousands of U.S. dollars (Note 1))
For the year						
Net sales	¥ 992,136	¥ 906,454	¥ 973,700	¥1,419,635	**¥1,392,621**	**$10,494,509**
Operating income (loss)	180,003	120,798	(19,449)	87,198	**59,371**	**447,410**
Net income (loss) attributable to owners of the parent	111,503	73,088	(76,304)	(12,094)	**30,793**	**232,051**
Net cash provided by operating activities	149,785	78,554	109,286	115,283	**100,349**	**756,207**
Net cash provided by (used in) investing activities	(49,338)	(48,156)	(930,047)	28,606	**(54,667)**	**(411,962)**
Free cash flow	100,447	30,397	(820,761)	143,889	**45,681**	**344,246**
R&D expenditures	19,735	20,605	34,379	46,750	**47,135**	**355,203**
Capital expenditures	41,727	50,216	69,052	78,647	**107,074**	**806,890**
Depreciation and amortization	39,459	37,704	68,643	97,726	**92,716**	**698,690**
At year-end						
Total assets	1,074,983	1,076,381	2,203,606	2,142,390	**2,100,421**	**15,828,342**
Total net assets	465,340	519,433	718,080	818,452	**574,677**	**4,330,649**
Interest-bearing debt	287,968	298,524	1,060,146	850,603	**1,066,119**	**8,034,054**
Debt/equity ratio (to FY2018, gross; from FY2019, net) (times) (Note 4)	0.62	0.36	1.84	1.15	**1.08**	
			Yen			U.S. dollars (Note 1)
Per share (Note 5)						
Net income (loss)—primary (Note 6)	¥ 758.15	¥ 501.03	¥ (523.06)	¥ (77.40)	**¥ 170.03**	**$ 1.28**
Net income (loss)—fully diluted (Note 6)	758.15	501.03	(523.06)	(77.40)	**170.03**	**1.28**
Net assets	3,057.16	3,423.25	2,782.79	2,838.51	**3,038.12**	**22.89**
Cash dividends (applicable to the period) (Note 7)	120.00	130.00	65.00	65.00	**65.00**	**0.49**
Number of employees at year-end	10,476	10,813	33,684	26,054	**25,803**	

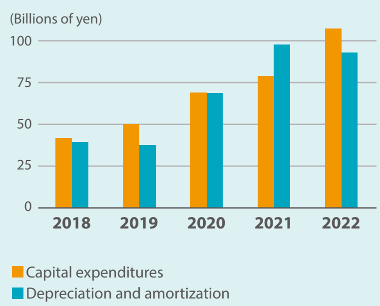
on April 21, 2020. Futhermore, D/E ratio for 2019 was adjusted in the same way. In addition, 50% of the subordinated loans raised during 2022 to purchase preferred stock were deducted from interest-bearing debt and added to equity capital. The 50% equity recogniton for subordinated loans is based on the rating by Japan Credit Rating Agency, Ltd., dated October 4, 2022.

5. SDK consolidated every ten shares of common stock into one share on July 1, 2016. “Per share” indicators for 2015 and 2016 (except for cash dividends) are calculated on the basis of the number of outstanding shares after this consolidation.
6. Net income per share has been computed based on the average number of shares of common stock outstanding during the respective fiscal year. Fully diluted net income per share additionally assumes the conversion of the convertible bonds.
7. SDK resolved payment of dividends of ¥30.00 per share based on the record date of May 11, 2017 at the extraordinary general meeting of shareholders held in June 2017. Cash dividends applicable to 2017 includes this amount.

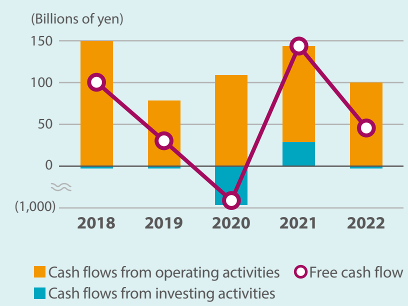
Interest-Bearing Debt Debt/Equity Ratio



Capital Expenditures Depreciation and Amortization



Cash Flows



Message from CEO

Change society through the power of chemistry

Following integration of Showa Denko K.K. and Showa Denko Materials Co., Ltd., the newly integrated company "Resonac" was established effective on January 1, 2023. The launch of the new corporation means "the second inauguration" for the two companies. We will now make a big step forward, aiming to become a global top-level functional chemicals manufacturer that can compete on the world stage.

Our business model has changed substantially following the integration. The semiconductor business accounts for 30% of our total sales, making us a world-leading materials supplier in scale. At the same time, we have established an integrated system of production from designing of materials to assembly/blending into product.

Meanwhile, the global business environment has seen drastic changes, including accelerated digitalization, efforts toward carbon neutrality, and a sharp rise in energy prices. We have also experienced heightened geopolitical tensions and supply chain disruptions in recent years with trade frictions and conflict among nations as background. Furthermore, our lifestyle and way of working have changed considerably because of COVID-19.

Amid these changes in the world situation, chemical manufacturers now need to consider their impacts on the global environment and contribute to sustainable society, in addition to contributing to enrichment of people's lives. Resonac has defined its Purpose as "Change society through the power of chemistry," and set four Values for its employees, namely, "Passionate & Results-Driven," "Agile & Flexible," "Open Minds & Open Connections," and "Solid Vision and Solid Integrity." Our corporate philosophy is comprised of this Purpose and Values. We are working to solve social issues through business activities under the corporate philosophy.

The Resonac Group is continuing to reform its business portfolio based on its Long-term Vision upgraded in February 2022. According to this management strategy, we have classified our businesses into several categories, such as the Semiconductor and Electronic Materials business and the Mobility business (serving growth markets), the Chemicals business (providing stable earnings), and the Innovation Enabling Materials business (supporting technological development in respective businesses). We will work to achieve sustainable growth by ensuring that each business will appropriately play its role and meet its EBITDA goal.

For Resonac, sustainability forms the basis of its management strategy. We are proceeding with our business strategies by conducting sustainable business activities. To contribute to sustainable society by solving technical issues as a chemical manufacturer, in addition to our own efforts, we need collaboration and partnership with various stakeholders beyond the boundary of business types and industry segments. The Resonac Group aims at becoming a "Co-Creative Chemical Company," striving to create new synergy through co-creative efforts inside and outside the company.

To carry out such transformation and business strategies, each employee is essential. We will develop a corporate culture that fosters autonomous and creative human resources as well as an organizational culture that helps each employee flourish as a professional.

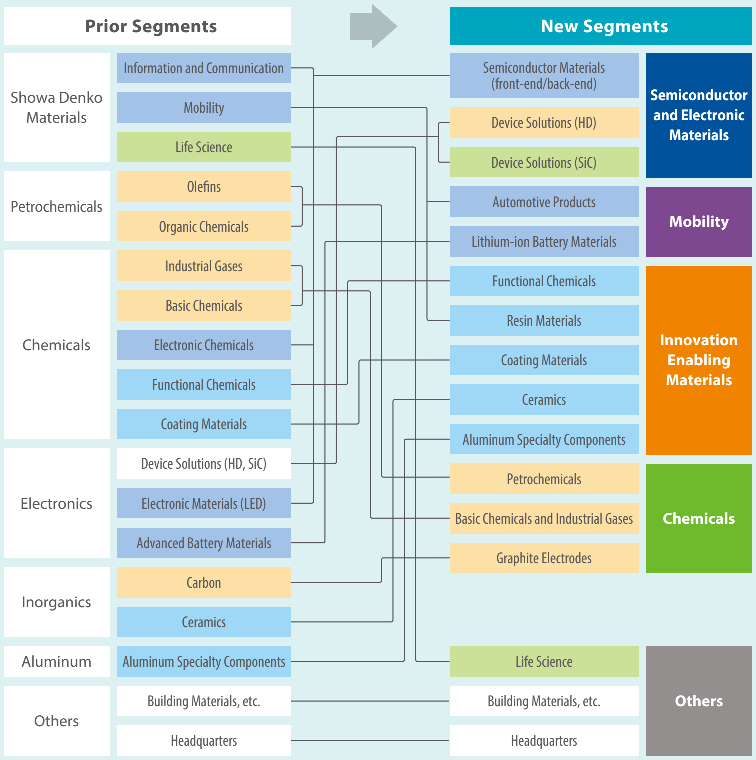
The Resonac Group will create functions that meet the needs of the times as an advanced material partner and contribute to sustainable development of global society through co-creative efforts with all stakeholders, including employees, shareholders, customers, and local communities. We hope you will have high expectations of the Resonac Group, which has just made a new start.

January 2023

Hidehito Takahashi
President and CEO

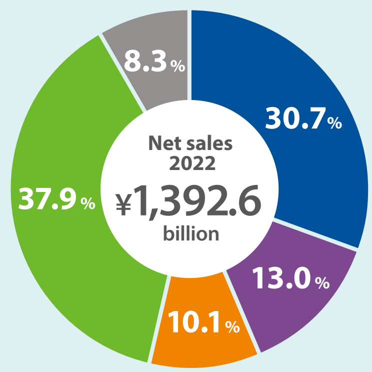
At a Glance

Rearrangement of Segments



Core Growth: Invests massively in businesses with huge growth potential
Fundamental Technologies/Materials: Technology platform business to support innovation of other businesses
Stable Earnings: Earns a stable profit and generates investment capital for the entire Group
Next-Generation: Promotes investment while verifying viability to develop next-generation pillar businesses

The Company's reportable segments were revised (effective from 2022) to more accurately display the benefits of the strategic allocation of management resources and ongoing revision and asset replacement of business portfolios. The defined Core Growth businesses, Fundamental Technologies/Materials businesses, Stable Earnings businesses, and Next-Generation businesses all have a distinctive role within our portfolio. By fulfilling this role with a high degree of competitiveness, these businesses will help us to continue to supply the market with new functions and in this way achieve continual growth.



Note: The ratios of respective segments have been calculated based on sales to external customers.

Semiconductor and Electronic Materials

(Millions of yen)

	2022	2021	Difference	Rate
Sales	¥ 427,171	¥ 422,941	¥ 4,230	1.0 %
Operating Income	¥ 44,228	¥ 49,563	¥ (5,334)	(10.8 %)

Front-end Semiconductor Materials (electronic chemicals (high purity gases for electronics), CMP slurries), **Back-end Semiconductor Materials** (epoxy molding compounds, die bonding materials, copper clad laminates, photosensitive dry films, photosensitive solder resists), **Device Solutions** (Hard disk media, SiC epitaxial wafers for power devices, compound semiconductors (LED chips))

Mobility

(Millions of yen)

	2022	2021	Difference	Rate
Sales	¥ 180,626	¥ 173,804	¥ 6,822	3.9 %
Operating Income	¥ (1,489)	¥ (2,021)	¥ 532	—

Automotive Products (plastic molded products, friction materials, powder metal products), **Lithium-ion Battery Materials** (Aluminum laminated film SPALF, additive to cathodes and anodes, carbon anodes materials)

Innovation Enabling Materials

(Millions of yen)

	2022	2021	Difference	Rate
Sales	¥ 141,081	¥ 143,319	¥ (2,238)	(1.6 %)
Operating Income	¥ 9,838	¥ 13,636	¥ (3,799)	(27.9 %)

Functional chemicals (polymer emulsion and unsaturated polyester resin), **Functional resins, Coating Materials, Ceramics** (Alumina, abrasives, and fine-ceramics), **Aluminum Specialty Components** (cylinders for laser beam printers [LBPs], extrusions, forged products, and heat exchangers)

Chemicals

(Millions of yen)

	2022	2021	Difference	Rate
Sales	¥ 527,825	¥ 431,018	¥ 96,806	22.5 %
Operating Income	¥ 24,910	¥ 37,907	¥ (12,997)	(34.3 %)

Petrochemicals (Olefins (ethylene and propylene), Organic chemicals (vinyl acetate monomer, ethyl acetate, and allyl alcohol)), **Chemicals** (Industrial gases (liquified carbon dioxide, dry ice, oxygen, nitrogen, and hydrogen), Basic chemicals (liquified ammonia, acrylonitrile, and chloroprene rubber)), **Graphite Electrodes**

Management’s Discussion and Analysis

Results of Operations

Consolidated sales for 2022 decreased to ¥1,392,621 million (US$10,495 million), down 1.9% from the fiscal year ended December 31, 2021 (“2021”). Although strong demand for semiconductors, a recovery in automobile production, and higher selling prices contributed to more sales, there was a decline of approximately ¥160,000 million yen in sales in divestment, which was implemented in the previous fiscal year. The previous fiscal year figures for the Energy Storage Devices and Systems business, Aluminum Can business, Aluminum Rolled Products business, which were divested, and SHOKO CO., LTD. which was excluded from consolidated accounting due to a reduction in our stake, are included in the Others segment.

Cost of sales rose by ¥7,997 million (US$60 million) from 2021 to ¥1,089,639 million (US$8,211 million) due to higher raw material prices.

Selling, general and administrative expenses (SG&A) decreased by ¥7,184 million (US$54 million) to ¥243,611 million (US$1,836 million) due to the divestment that was implemented in the previous fiscal year.

R&D expenditures increased by ¥386 million, or 0.8%, to ¥47,135 million (US$355 million).

Consolidated operating income for 2022, decreased to ¥59,371 million (US$447million), down 31.9% from 2021. The delay in raising product prices after the rise in raw material prices and the divestments had a negative impact.

Information by Business Segment

A breakdown of net sales and operating income by business segment follows.

Semiconductor and Electronic Materials

In the Semiconductor and Electronic Materials segment, sales of both the Front-end Semiconductor Materials and Back-end Semiconductor Materials subsegments increased due to strong demand for semiconductors since the beginning of the year, despite recent adjustments in semiconductor back-end production. In the Device Solutions subsegment, sales remained unchanged as HD media volume decreased by a slowdown in demand for data centers from the fourth quarter while sales of SiC epitaxial wafers increased. Sales and operating income for the previous fiscal year include the Printed Wiring Board business, which was divested in the fourth quarter of the previous fiscal year, 2021.

As a result, the segment posted sales of ¥427,171 million (US$3,219 million), up 1.0% from 2021, and operating income of ¥44,228 million (US$333 million), down 10.8% from 2021, due to the impact of rising raw material prices.

Mobility

In the Mobility segment, sales in the Automotive Products subsegment increased due to a recovery in automobile production from the second half of the year and the increase in demand from some customers. Sales of the Lithium-ion Battery Materials subsegment decreased due to a decline in consumer demand.

As a result, this segment posted sales of ¥180,626 million (US$1,361 million), up 3.9% from 2021, and there was an operating loss of ¥1,489 million (US$11 million), up ¥532 million from 2021, due in part to the impact of rising raw material prices.

Innovation Enabling Materials

In the Innovation Enabling Materials segment, sales decreased due to a lower sales volume, although selling prices were up due to higher raw material prices.

As a result, the segment posted sales of ¥141,081 million (US$1,063 million), up 1.6% from 2021, and operating income was ¥9,838 million (US$74 million), down 27.9% from 2021.

Chemicals Segment

In the Chemicals segment, sales in the Petrochemicals subsegment increased, mainly due to higher selling prices caused by the sharp rise in naphtha prices, despite once-in-four-year largescale maintenance with a shutdown. On the other hand, operating income decreased due to a lower sales volume caused by a largescale maintenance shutdown and an inventory valuation difference. Sales in the Basic Chemicals subsegment rose due to higher selling prices affected by higher raw material prices. However, operating income declined due to an increase in costs mainly caused by higher fuel prices. Sales and operating income in the Graphite Electrodes subsegment increased due mainly to higher selling prices.

As a result, the segment posted sales of ¥527,825 million (US$3,978 million), up 22.5% from 2021, and operating income of ¥24,910 million (US$188 million), down 34.3% from 2021.

Information by Geographic Area

The table shows sales by region. In each business segment, sales increased due to higher selling prices caused by higher raw material prices. However, sales in Asia, including Japan and China, decreased significantly due to the divestment of the business, and overall sales decreased.

	Millions of yen			
	2022	2021	Difference	Rate
Sales in Japan	**¥ 617,309**	¥ 657,369	¥ (40,060)	(6.1%)
Sales in China	**190,346**	202,936	(12,590)	(6.2%)
Sales in Asia exd. Jpn, Chn	**340,418**	346,069	(5,651)	(1.6%)
Sales in rest of the world	**244,548**	213,261	31,287	14.7%
Total	**¥1,392,621**	¥1,419,635	¥ (27,014)	(1.9%)

Other Income (Expenses) and Net Incomes

The financial account balance increased by ¥6,171 million from 2021 to ¥13,910 million (US$105 million), mainly due to an increase in interest expenses resulting from financing the acquisition of preferred stock.

Equity in earnings of affiliates decreased by ¥1,622 million to ¥3,630 million (US$27 million), mainly due to the delay of price adjustments at a synthetic resin production company.

Foreign exchange gains amounted to ¥10,632 million (US$80 million), an increase of ¥6,351 million from 2021, due to the depreciation of the yen against the US dollar.

Gains or losses on sale and retirement of non-current assets increased by ¥11,158 million to ¥7,424 million (US$56 million) on a net basis.

Gain on sales of investment securities decreased by ¥1,082 million to ¥4,731 million (US$36 million).

Impairment loss decreased by ¥1,474 million from 2021 to ¥10,091 million (US$76 million), caused by the impairment of assets whose recoverable amount was less than their book value due to a significant deterioration in the operating environment, operations being idle, and other factors.

Business restructuring expenses were not recorded in the current fiscal year, an improvement of ¥32,767 million from 2021, when expenses related to the transfer of the Energy Storage Devices and Systems business were recorded.

Overall, other income/loss (non-operating and extraordinary income/loss) decreased by ¥53,483 million from 2021 to a net loss of ¥10,788 million (US$81 million).

As a result, net income before income taxes increased by ¥25,657 million from 2021 to ¥48,583 million (US$366 million).

And net income attributable to owners of the parent improved by ¥42,887 million from 2021 to ¥30,793 million (US$232 million).

Financial Position

Total Assets

Total assets at the end of the current fiscal year, 2022, decreased by ¥41,969 million from the end of the previous fiscal year, 2021, to ¥2,100,421 million (US$15,828 million) due to decreases in cash and deposits, and intangible fixed assets including goodwill, despite increases in inventories as well as property, plant and equipment.

Cash and deposits decreased by ¥49,111 million from the end of 2021 to ¥187,126 million (US$1,410 million).

Net property, plant and equipment increased by ¥22,397 million to ¥681,918 million (US$5,139 million).

Total investments and other assets decreased by ¥54,019 million to ¥630,320 million (US$4,750 million), including goodwill which decreased by ¥16,411 million to ¥295,355 million (US$2,226 million).

Liabilities

Total liabilities increased by ¥201,806 million to ¥1,525,744 million (US$11,498 million), as a result of loans for financing the acquisition of preferred stocks issued by a subsidiary which increased interest-bearing debts by ¥215,516 million to ¥1,066,119 million (US$8,034 million).

Net Assets

Net assets decreased by ¥243,775 million, to ¥574,677 million (US$4,331 million), due to a decrease in non-controlling interests resulting from the repurchase of preferred stock held by financial institutions, despite an increase in the foreign currency translation adjustments account.

Capital Expenditures

Capital expenditures increased by ¥28,427 million from 2021 to ¥107,074 million (US$807 million), mainly in the Semiconductor and Electronic Materials segment.

Cash Flows

Net cash provided by operating activities during the current fiscal year, 2022, was ¥100,349 million (US$756 million), a decrease of ¥14,934 million from the previous fiscal year, mainly due to an increase in working capital and income taxes paid.

Net cash used in investing activities decreased by ¥83,273 million from the previous fiscal year to ¥54,667 million (US$412 million). This was mainly due to an increase in expenditures of ¥20,115 million from the acquisition of property, plant and equipment, an increase in income of ¥18,737 million for the sale of property, plant and equipment, and the impact of expenditures of 84,133 million yen for the sale of subsidiary shares accompanying a change in the scope of consolidation in the previous fiscal year.

As a result, free cash flow was ¥45,681 million (US$344 million), a decrease of ¥98,208 million from the previous fiscal year.

Net cash used in financing activities was ¥103,964 million (US$783 million), a decrease of ¥17,777 million, including an increase of ¥409,600 million income from long-term borrowings, ¥287,635 million yen used for the acquisition of shares of subsidiaries without changes in the scope of consolidation, and the effect of ¥82,405 million in proceeds from the issuance of shares in the previous fiscal year.

As a result, cash and cash equivalents at the end of the fiscal year, including the impact of currency fluctuations, decreased by ¥48,255 million from the end of the previous fiscal year to ¥186,683 million (US$1,407 million).

Risk Factors

The Resonac Group faces risks that could adversely affect our future performance, financial position, and cash flows, and we are working to put in place an improved risk management system to minimize these risks. The details will be explained in the next paragraphs.

The following covers those risks considered material as of March 30, 2023. This list is not exhaustive.

The Group will continue to monitor the impact on our operations of the novel coronavirus (COVID-19) and the situation in Ukraine.

1 Risk management initiatives

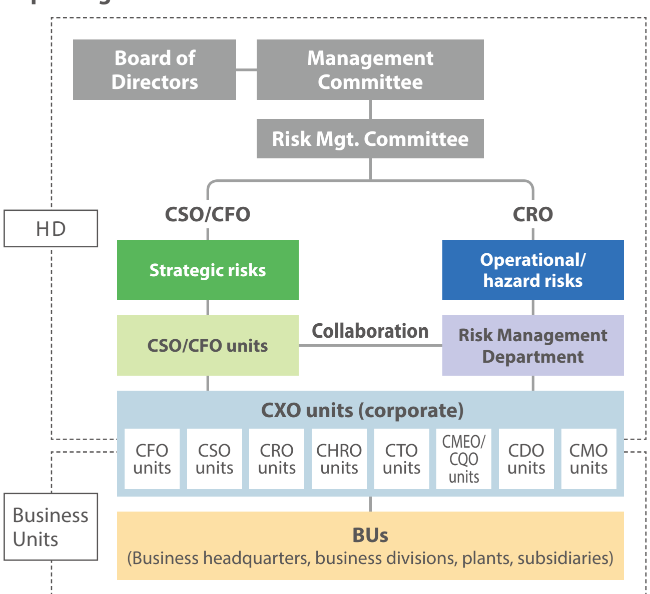
(1) Risk management system

The Group has established a risk management system following the ISO 31000 guidelines to clarify the risks and their impact on business management and for the effective allocation of management resources.

The Risk Management Committee, chaired by the CEO, was established to conduct cross-functional deliberations by top management, including the risk management system and the Group's important risks and countermeasures. The items discussed by the Risk Management Committee are deliberated on and approved by the Management Committee, and then reported to the Board of Directors, where directors assess the appropriateness and effectiveness of the risk management system and supervise the progress of its implementation.

Risk owners, risk officers, and risk managers who are responsible for identifying risks in each division as well as for promoting our response to risk are assigned to domestic business divisions, business offices, and major group companies. At the same time, each organization under a CXO (Chief X Officer) reviews and supports risk assessment and response measures for each division from a bird's-eye view across the entire company, and has established a system to promote integrated risk management through collaboration between management and employees in the field.

Reporting line



(2) Definition of risk

Risk can be divided into strategic, operational, and hazard risk. And strategic risk can be further divided into two categories: the risk of changes in planning assumptions and the risk that the strategy developed will not be implemented. In order to achieve sustainable growth in corporate value, we need not only traditional defensive risk management, which emphasizes safety and compliance, but also aggressive risk management, which encourages appropriate risk-taking.

(3) Risk identification and assessment

Once a year, organizational units, such as divisions and groups, conduct comprehensive risk identification and assessment, including potential risks from business activities. The results are reviewed by the top management at each business unit, office, and group company, then registered in the system. We classify the registered risks based on frequency of occurrence and degree of impact, then rank highly significant and high-priority risks as important risks, report these to the Risk Management Committee, and discuss the important risks for the Group and their countermeasures.

2 Substantial fluctuations in the performances of individual businesses

The Group manufactures and sells a range of products in these categories: electronics, device solutions, mobility, ceramics, functional chemicals, aluminum specialty components, coating materials, petrochemicals, graphite, basic chemicals, and life sciences.

(1) Semiconductor and Electronic Materials

The Group's products in the Semiconductor and Electronic Materials segment are used in mobile devices, data centers, power modules, IT infrastructure, electric vehicles and vehicles with advanced driver assistance systems. The demand for these products is significantly affected by changes in demand for end-products based on global macroeconomic and industry trends. Moreover, these markets have highly competitive businesses that are affected by rapid technological changes and price declines due to the deteriorating functionality of products. Further, the global supply chain network has been prepared to develop and provide products that meet market needs quickly and effectively but there is a possibility that the cost of raw materials, energy, and logistics will rise due to geopolitical risks, etc., and that the supply chain will be disrupted.

As a consequence, the Group's operating results and financial condition could be affected by significant variations in demand and competitive conditions, fluctuations in foreign exchange rates, or the occurrence of significant risks in the supply chain.

For this reason, we strive to identify customer needs and market trends, develop new products and technologies, and improve manufacturing processes, while continually working to strengthen our supply chain management system to detect risks early on and to ensure a stable supply of products to our customers.

(2) Mobility

The Group is influenced by trends in the global mobility market, such as stricter regulations on fuel economy and CO_2 emissions to protect the global environment as well as technological advances for CASE (Connected, Autonomous, Shared and Service, and Electric) vehicles. This market is promising and is expected to grow over the medium to long term because the realization of carbon neutrality and the advancement of CASE vehicles require the development of products for electrification, weight reduction, and improvements in safety and comfort. On the other hand, the business environment with competitors and new entrants is also intensifying. Other risks include the risk of delay in responding to changes in the level and needs of customers—such as the development of new technologies and products and the shortening of development lead times—so new technologies and products could make existing businesses obsolete, impact market competitiveness, and could require lower sales prices. There is also a risk that the profitability of existing businesses will decline as the internal combustion engine vehicle market shrinks due to the shift to EVs. In addition, the decline in automobile production caused by the global shortage of semiconductors and other components is having an impact, forcing the Group to adjust production.

Consequently, the Group's operating results and financial condition could be affected by significant fluctuations in demand and by the competitive environment.

Therefore, in order to capture new technological needs coming from the progress of CASE, the Group will further promote the growth of adoption of new models among existing customers and the development of new customers by providing solutions related to materials and modularization, such as weight reduction and miniaturization, batteries related to electrification, as well as the control of heat, sound, and electromagnetic waves.

(3) Innovation enabling materials

Aluminum

The Group imports a large amount of aluminum metal from overseas sources. When the aluminum ingot price rises due to higher London Metal Exchange (LME) prices, a rise in the premiums on aluminum, or a weaker yen, and when we cannot absorb the manufacturing cost increase in the form of higher product prices, the Group's performance and financial position can be affected. Furthermore, most of our products are sold as materials and components for the automobile, electric appliance, and electronics sectors. Trends in those industries, which are beyond our control, can substantially affect our businesses.

In response, the Group hedges against the risk of fluctuations in aluminum raw material prices by hedging on the LME and other currency exchanges, and we are working to build a more stable revenue structure by reducing costs and by taking other steps.

(4) Chemicals

Petrochemicals

The Group purchases and imports a large amount of feedstock, including naphtha. When the price of naphtha or other types of feedstock fluctuates due to a change in crude oil prices, a change in the supply-demand balance, or a currency fluctuation, and when we cannot secure sufficient spreads between the manufacturing cost and selling prices of products, the Group's performance and financial position can be affected. Furthermore, earnings from petrochemicals largely depend on the supply-demand balance. Construction of large plants by competitors and the resultant oversupply as well as a sharp decrease in demand due to unfavorable changes in the Japanese or world economies can affect the Group's performance and financial position. In addition, the amount of investment and expenditure necessary for the Group to cope with global movement toward carbon neutrality that aims to mitigate climate change could be affected if there is any change in the schedule for implementation of countermeasures.

To deal with these risks, the Group is stabilizing revenue, including by reviewing sales methods and by working to reduce costs.

Graphite

The Group produces graphite electrodes in Asia, North America, and Europe, and sells those products globally. When the demand for graphite electrodes suddenly decreases due to unfavorable changes in the Japanese or world economies, deterioration in the supply-demand balance may not allow us to secure sufficient spreads between the manufacturing cost and selling prices of products, and can affect the Group's performance and financial position.

In response to these risks, the Group is working to strengthen the revenue base through such initiatives as maintaining inventory at levels appropriate to market conditions and by further reducing costs.

(5) Global operations

The Group is producing and selling in Asia, North America, and Europe. Operations overseas involve such special risks as unexpected changes in laws and regulations, deterioration in political/economic situations, and social disorder due to war and terrorism.

As the impact of the situation in Ukraine becomes more apparent there is a risk that the impact will stretch out into the future, and spread to other regions, leading to further increases in raw fuel prices and logistics costs, as well as the possibility of supply chain disruptions due to changes in the international situation surrounding economic security.

These risks can become real and affect our overseas operations, resulting in an adverse impact on the Group's performance and financial position.

(6) Mergers, acquisitions, capital tie-ups, business reorganization and restructuring

The Group implements mergers, acquisitions, capital tie-ups, business reorganization and restructuring at home and overseas to expand the scope of businesses and improve profitability. The Group undertakes careful due diligence for companies being considered as acquisition targets, and scrupulously verifies post-merger plans to mitigate risk. However, if changes in the business environment for the Group or companies that the Group invests in effectively prevent the desired results from being achieved, this could have a negative impact on the Group's performance and financial position. The Group's performance and financial position could also be affected if the Group restructures businesses, such as withdrawing from unprofitable businesses or reorganizing affiliated companies.

3 Unexpected fluctuations in financial position and cash flows

(1) Substantial fluctuations in exchange rates

For foreign-currency-based transactions centered on exports/imports, the Group makes best efforts to minimize exchange rate fluctuation risks, mainly through exchange contracts. In particular, a sharp appreciation of the yen against the US dollar and other currencies could weaken the price competitiveness of products exported from Japan to overseas markets, while a weaker yen could increase the price of raw materials that are imported. Both of these currency fluctuations could have a negative impact on the Group's business performance.

Exchange rate fluctuations can also affect the Group's performance and financial position through the conversion of overseas subsidiaries' financial statements into yen.

(2) Trends in financial markets and changes in the fund-raising environment

The trends in the financial markets and deterioration in the Group's financial indexes can affect the Group's fund-raising and interest expenses: for example, in the form of prompt repayment of a loan owing to the terms of financial covenants. In that event, the Group's performance and financial position could be affected.

In the event that the financial results, financial position, and financial indicators, etc. originally expected are not achieved, credit ratings could be reduced, which could in turn negatively affect the refinancing of existing debt and the terms for new borrowing.

In response to these risks, we are working to strengthen the Group's financial standing, as well as to secure liquidity through commitment lines and other agreements with financial institutions, to smooth out fluctuations in repayments and redemptions, and to take an effective approach to fundraising that balances fixed and variable interest rates, among other factors.

(3) Employees' severance indemnities

The Group's employees' severance indemnities and expenses are calculated based on various basic rates and the yield of pension assets used in pension calculations. Fluctuations in the current price of pension assets, trends in interest rates, and changes in the retirement benefit/pension systems can affect the Group's performance and financial position.

(4) Accounting for impairment of fixed assets

The Group could incur additional losses from the impairment of fixed assets including goodwill, intangible assets, and land, due to lower profitability resulting from aggravation in the business environment, due to a considerable reduction in the current prices of land and other fixed assets. These losses can affect the Group's performance and financial position.

Further, the takeover of Hitachi Chemical Company, Ltd. led to an increase in the amount of goodwill and intangible assets. When the Group's performance deteriorates, an impairment loss could occur and the Group's operating results and financial condition could be affected.

Looking at the impact of COVID-19, in the event that the spread of infection is prolonged, some businesses could incur impairment losses, which could negatively affect the business performance and financial position of the Group.

(5) Deferred tax assets

The Group's financial statements include deferred tax assets in relation to temporary differences (differences between the assets/liabilities on the consolidated financial statements and the assets/liabilities in calculation of taxable income). The calculation of deferred tax assets is based on various projections for future taxable income. Thus, when actual taxable income differs from the projections or in case of a revision of the taxation system (including tax rates), it becomes necessary to revise deferred tax assets. That situation could affect the Group's performance and financial position.

Also, regarding the impact of COVID-19, in the event that the spread of infection is prolonged, some businesses might need to revise their assumptions in relation to the recoverability of these deferred tax assets, which could negatively affect the business performance and financial position of the Group.

4 Specific regulations

The Group's businesses are subject to various restrictions as required by laws and regulations. These restrictions relate to industrial safety (such as the Law for Prevention of Disasters at Petroleum Complexes, Etc.; the Fire Service Law; and the High Pressure Gas Safety Law) and the environment and chemical substances (such as the Basic Environment Law; the Air Pollution Control Law; and the Law concerning the Examination and Regulation of Manufacture, Etc. of Chemical Substances). The Group observes these laws and regulations when conducting business. The Group shares information on laws and regulations that relate to manufacturing plants, and confirms the state of compliance when updating existing plants or building new ones. Nevertheless, in the event that the Group fails to observe any of the laws and regulations, the Group's activities could be restricted. In case stricter regulations are introduced, resulting in higher costs, the Group's performance and financial position can be affected.

5 Important lawsuits

While the Group makes best efforts to observe laws and agreements, the Group may be sued when conducting a wide range of businesses.

6 Others

(1) R&D

As a hybrid advanced material company combining midstream materials technology and downstream application technology, the Group focuses on achieving innovation through integration. The Group will continue to provide a broad range of solutions to the market, while focusing on research and development that strengthens existing businesses and creates new businesses. This will be accomplished by integrating three specific technologies: chemistry to synthesize for midstream materials, chemistry to formulate for downstream applications, and chemistry to think for evaluation/simulation, structural analysis, and computational science.

However, in case the actual results differ materially from the original plans, the Group's performance and financial position could be affected.

(2) Intellectual property

The Group is making best efforts to obtain, use, and protect intellectual property, such as industrial property rights and know-how, in recognition of the ability to make the Group's businesses more competitive. The Group also respects other companies' rights. However, in the event of failure to duly obtain or use the rights, infringement by a third party, or if the Group is considered to have infringed a third party's intellectual property, or in the event that know-how, etc. owned by the Group is leaked unlawfully to a third party, the Group's operations can be hindered and the Group's performance and financial position could be affected.

(3) Quality assurance and product liability

The Group has established internal rules on quality assurance and quality control, as well as organizations for managing and promoting quality assurance. Furthermore, the Group has obtained certification under ISO 9001 standards to ensure strict quality control. However, in the event of a serious quality defect or being sued for product liability, the Group's reputation could be damaged and the Group may be forced to pay compensation to customers. This could affect the Group's performance and financial position.

In response to these risks, the Group implements procedures, such as maintaining facilities for reliable process management, installing measuring equipment, providing operating manuals, and training employees. In addition to building a system to prevent defective goods from being shipped, the Group maintains manufactured goods liability insurance policies both in Japan and overseas.

(4) Accidents and disasters

The Group is committed to securing steady and safe operations. The Group conducts regular inspections of all manufacturing facilities in an effort to minimize any risk factors pertaining to the suspension of operations or accidents due to problems with manufacturing facilities. In the event of injury or damage to property due to an accident, a large-scale natural disaster, a cyberattack, etc., the Group's reputation could be damaged. The Group may incur substantial costs in dealing with the situation and may lose business opportunities due to the suspension of production. This could affect the Group's performance and financial position.

To mitigate these risks, effective risk management, including risk assessment, is implemented to prevent and minimize damage from an accident.

(5) Impact on the environment

The Group is committed to the principles of Responsible Care, which means that we are working to ensure the health and safety of everyone and to protect the environment from harm caused by chemical substances throughout their life cycles, namely, the development, production, distribution, use, and disposal. In the event of causing impact on the environment, the Group's reputation can be damaged. The Group could incur costs, including compensation, lose business opportunities due to the suspension of production, and/or pay compensation to customers. These factors can affect the Group's performance and financial position.

In response to these risks, the Group has implemented environmental risk evaluations after performing exhaustive risk assessments at every business location, and we are promoting safety at environmental sites. In addition, we have implemented a systematic program of inspections and repairs to prevent environmental pollution caused by age-related deterioration.

Moreover, the need to respond to the demands of society in relation to environmental issues, which has been increasing steadily in recent years, as well as strengthened environmental laws and regulations could have a negative impact on the Group's results of operations and financial position.

(6) Infectious disease pandemics

If another global pandemic occurs, such as the one caused by the novel coronavirus, the operating results and financial position of the Group could be affected by suspended production at manufacturing plants and suspended activity at sales offices, etc.

In response to the spread of COVID-19, the Group has established a COVID-19 Countermeasures Headquarters to review information from Japan and overseas, deliver regular alerts to employees, and provide instruction on ways to counter infection. The Group CEO sent this message to all Group employees: (1) We have assigned the highest priority to the health of employees and of all employees at cooperating companies; (2) We will fulfill our social responsibility to provide goods that are indispensable to life in society; and (3) We are preparing for the growth of the Group after we have conquered COVID-19.

In addition, a business continuity plan (BCP) has been drawn up, and measures are being taken to minimize the impact of risks on our business operations.

(7) Impact of climate change

The Group is making every effort to become carbon neutral by 2050.

The Group uses petrochemical materials and fuels to make products, and production emits greenhouse gases (GHGs), so we are taking appropriate measures to reduce our 2030 GHG emissions by 30% from the 2013 level (Scope 1 and 2). Achieving carbon neutrality through co-creation with customers is also becoming increasingly important in business transactions, so we are incorporating into our business and technology strategies more efficiency improvements and the development of products that contribute to energy conservation and the carbon cycle. As well, we are calculating the carbon footprint of every major product at the technology development stage. In terms of risks, there are risks during a shift toward carbon neutrality, such as the response to increasingly severe laws and regulations in each country in addition to customer requirements as well as associated capital investment and external purchases of renewable energy. Also, we are expecting more assessments of physical risk responses, including preparedness for large natural disasters, and our costs for responding are expected to rise. In 2019, we agreed to the guidelines set by the Task Force on Climate-related Financial Disclosures (TCFD), especially the response to climate change, as an important management issue for both risk and opportunity. Through scenario analyses, we assess the risks and opportunities to our company from addressing climate change. We then consider and implement countermeasures, and, in order to boost resilience, we are working in sequence through every business, and we then disclose information.

For climate change initiatives, company-wide carbon neutrality projects are regularly discussed by the Sustainability Promotion Council, comprising the Chief X Officers (CXOs), including the CEO, and the head of each business unit. Important issues are discussed and decided on by the Management Council and reported to the Board of Directors.

(8) Respect for human rights

In 2021, the Group formulated our Human Rights Policy based on international norms, declaring respect for human rights as the foundation for business activities in all countries and regions where we operate.

Understanding that the business of the Group and all of our business partners, including suppliers, can directly or indirectly affect human rights for each "link" in the value chain—from product development through purchasing, manufacturing, distribution, use and final consumption to disposal—the Group has incorporated this policy into our Code of Conduct (revised in 2022). We are making our Code of Conduct the standard for all employees and have begun to lobby all business partners, including suppliers, to comply with this policy through *Sustainable Procurement Guidelines* (revised in 2022). Recognizing the need to reexamine the human rights risks associated with the new organizational operations (after our company's integration), we are continuing and deepening human rights due diligence within our own group and in our supply chain. Further, we are working to identify risks and provide remedial measures by establishing a reporting channel that is available not only to employees but also to all stakeholders, among all business partners, including suppliers and local communities.

For human rights initiatives, company-wide human rights projects are regularly discussed by the Sustainability Promotion Council, which includes the Chief X Officers (CXOs), among them the CEO, and the heads of every business unit. Important issues are discussed and decided on by the Management Council and reported to the Board of Directors.

(9) Human resources

One of our company's material issues, with an eye on 2030, is to foster a corporate culture that nurtures autonomy and creativity. The development of talented employees to carry out reforms of our portfolio is essential as we change into a top-level global functional chemical company. To achieve these developments, sustainable growth of people and organizations is the key component, and we believe it is important to recruit, retain, and develop co-creative human resources with excellent management or technical skills while the competition is intensifying.

In order to recruit, retain, and develop professional human resources, we will focus on diversifying recruitment methods, expanding education and training programs, and improving talent management and fast track programs, as well as enhancing engagement, providing workplaces with high psychological safety, and fostering a culture of co-creation.

(10) Supply chain

A good business relationship with suppliers is essential for the Group to achieve stable purchasing in order to continue doing business. However, due to illegal and antisocial activities, including a lack of respect for human rights and environmental protection, etc., at suppliers, it is anticipated that unfavorable situations could arise not only in our company but also in society. With the aim of reducing the occurrence of these situations and fulfilling our social responsibilities with others, we have prepared and published the *Sustainable Procurement Guidelines,* and we are asking suppliers to comply with these guidelines and use regular questionnaires and door-to-door surveys to assess their compliance.

In addition, our company's business activities could be affected by the suspension of suppliers' operations or a disruption of distribution networks due to natural disasters, accidents, infectious diseases, etc. To minimize these impacts, the Procurement Division has developed a manual that specifies procedures for gathering information on the state of supplier damage in the event of an emergency and grasping the impact on our company's business activities. Training for BCPs (business continuity plans) is based on this manual.

(11) Cybersecurity

If there were damage or information leaks due to cyberattacks on the Group's internal systems or manufacturing facilities, the Group's operating results and financial condition could be affected due to a decline in social credibility, the cost of countermeasures, and any suspension of production.

To help prevent and mitigate these risks, we have implemented global standard security solutions that provide a defense network against cyber risks, which are becoming more sophisticated. At the same time, we have established the Group's global standard operations for information security and have implemented improvements through education and monitoring to ensure complete information management and to take actions that minimize the impact of any incident.

Financial Data

Consolidated Balance Sheets

Resonac Holdings Corporation and Consolidated Subsidiaries
As at December 31, 2022 and 2021

	Millions of yen		Thousands of U.S. dollars (Note 6)
ASSETS	**2022**	2021	**2022**
Current assets			
Cash and deposits (Notes 7, 8, and 12)	**¥ 187,126**	¥ 236,237	**$ 1,410,140**
Notes and accounts receivable (Notes 8, 11, and 29)	**297,681**	319,546	**2,243,262**
Allowance for doubtful accounts	**(1,254)**	(1,426)	**(9,449)**
Inventories	**250,574**	203,879	**1,888,273**
Other current assets (Notes 8 and 10)	**54,057**	40,295	**407,363**
Total current assets	**788,183**	798,531	**5,939,588**
Property, plant and equipment (Notes 12 and 15)			
Land (Note 20)	**234,425**	242,556	**1,766,577**
Buildings and structures	**361,289**	343,574	**2,722,599**
Machinery, equipment and vehicles	**1,039,169**	955,138	**7,830,963**
Leased assets (Note 17)	**28,740**	30,429	**216,580**
Construction in progress	**50,866**	38,782	**383,313**
	1,714,488	1,610,479	**12,920,032**
Less : Accumulated depreciation	**(1,032,570)**	(950,958)	**(7,781,238)**
Net property, plant and equipment	**681,918**	659,521	**5,138,794**
Investments and other assets			
Goodwill	**295,355**	311,766	**2,225,735**
Customer related assets	**133,639**	141,141	**1,007,079**
Investment securities (Notes 8 and 9)	**84,041**	103,798	**633,318**
Long-term loans	**777**	674	**5,853**
Net defined benefit asset (Note 13)	**18,046**	33,088	**135,990**
Deferred tax assets (Note 14)	**17,169**	15,207	**129,379**
Other (Notes 8, 10, and 15)	**81,915**	79,131	**617,291**
Allowance for doubtful accounts	**(622)**	(466)	**(4,687)**
Total investments and other assets	**630,320**	684,338	**4,749,959**
Total assets	**¥ 2,100,421**	¥ 2,142,390	**$ 15,828,342**

See notes to financial statements.

LIABILITIES AND NET ASSETS	Millions of yen 2022	Millions of yen 2021	Thousands of U.S. dollars (Note 6) 2022
Current liabilities			
Short-term debt (Notes 8 and 12)	**¥ 72,419**	¥ 74,451	**$ 545,734**
Current portion of long-term debt (Notes 8, 12, and 21)	**42,677**	72,857	**321,603**
Notes and accounts payable (Note 8)	**263,402**	239,897	**1,984,947**
Income taxes payable	**5,983**	17,180	**45,083**
Provision for repairs	**19**	4,848	**143**
Provision for bonuses	**9,489**	8,815	**71,505**
Provision for bonuses for directors	**47**	71	**356**
Provision for stock payments (Note 4)	**21**	39	**155**
Other current liabilities (Notes 8, 10, 12, 21, and 29)	**68,495**	70,492	**516,167**
Total current liabilities	**462,551**	488,650	**3,485,693**
Noncurrent liabilities			
Long-term debt less current portion (Notes 8, 12, and 21)	**932,400**	683,448	**7,026,372**
Deferred tax liabilities (Note 14)	**51,416**	60,144	**387,457**
Provision for repairs	**1,260**	96	**9,495**
Provision for stock payments (Note 4)	**302**	196	**2,272**
Provision for business structure improvement	**772**	812	**5,819**
Net defined benefit liability (Note 13)	**9,981**	17,523	**75,212**
Deferred tax liabilities for land revaluation (Note 20)	**29,525**	30,128	**222,497**
Other noncurrent liabilities (Notes 8 and 10, and 29)	**37,538**	42,941	**282,877**
Total noncurrent liabilities	**1,063,192**	835,287	**8,011,999**
Contingent liabilities (Note 18)			
Net assets (Note 19)			
Shareholders' equity			
Capital stock			
Authorized, 330,000,000 shares			
Issued (2022): 184,901,292 shares	**182,146**	—	**1,372,616**
Issued (2021): 184,901,292 shares	**—**	182,146	**—**
Capital surplus	**108,140**	119,772	**814,922**
Retained earnings	**163,425**	143,335	**1,231,540**
Less: Treasury stock at cost (2022): 3,784,720 shares	**(11,612)**	—	**(87,505)**
Less: Treasury stock at cost (2021): 3,824,243 shares	**—**	(11,655)	**—**
Total shareholders' equity	**442,100**	433,598	**3,331,573**
Accumulated other comprehensive income			
Valuation difference on available-for-sale securities	**559**	2,838	**4,214**
Deferred gains or losses on hedges	**1,461**	1,167	**11,007**
Revaluation reserve for land (Note 20)	**27,915**	28,928	**210,362**
Foreign currency translation adjustments	**72,008**	38,421	**542,638**
Remeasurements of defined benefit plans (Note 13)	**6,211**	9,036	**46,804**
Total accumulated other comprehensive income	**108,154**	80,391	**815,026**
Non-controlling interests	**24,423**	304,463	**184,050**
Total net assets	**574,677**	818,452	**4,330,649**
Total liabilities and net assets	**¥ 2,100,421**	¥ 2,142,390	**$ 15,828,342**

Consolidated Statements of Operations

Resonac Holdings Corporation and Consolidated Subsidiaries

For the years ended December 31, 2022 and 2021

	Millions of yen		Thousands of U.S. dollars (Note 6)
	2022	2021	**2022**
Net sales (Note 29)	**¥ 1,392,621**	¥ 1,419,635	**$ 10,494,509**
Cost of sales (Notes 23 and 24)	**1,089,639**	1,081,642	**8,211,295**
Gross profit	**302,983**	337,994	**2,283,214**
Selling, general and administrative expenses (Notes 22 and 23)	**243,611**	250,796	**1,835,805**
Operating income	**59,371**	87,198	**447,410**
Other income (expenses)			
Interest and dividends income	**1,834**	2,267	**13,821**
Equity in earnings of unconsolidated subsidiaries and affiliates	**3,630**	5,251	**27,352**
Gain on sales of investment securities, net (Note 9)	**4,731**	5,814	**35,654**
Foreign exchange gain	**10,632**	4,281	**80,124**
Gain on sales of noncurrent assets, net	**13,470**	1,104	**101,505**
Interest expenses	**(15,744)**	(10,006)	**(118,642)**
Loss on retirement of noncurrent assets	**(6,045)**	(4,838)	**(45,555)**
Impairment loss (Note 15)	**(10,091)**	(11,564)	**(76,042)**
Business structuring expenses (Note 26)	**—**	(32,767)	**—**
Loss on sale of businesses (Note 25)	**(3,504)**	(12,078)	**(26,405)**
Loss related to the Antimonopoly Act (Note 27)	**(5,579)**	—	**(42,042)**
Other, net	**(4,123)**	(11,737)	**(31,068)**
Total	**(10,788)**	(64,272)	**(81,299)**
Income before income taxes	**48,583**	22,926	**366,111**
Income taxes (Note 14)			
Current	**18,617**	26,957	**140,291**
Deferred	**(8,092)**	(6,688)	**(60,976)**
Net income	**38,058**	2,657	**286,796**
Net income attributable to non-controlling interests	**7,265**	14,751	**54,746**
Net income (loss) attributable to owners of the parent	**¥ 30,793**	¥ (12,094)	**$ 232,051**

	Yen		U.S. dollars (Note 6)
Per share amounts			
Net income (loss) attributable to owners of the parent: Basic	**¥ 170.03**	¥ (77.40)	**$ 1.28**
Net income (loss) attributable to owners of the parent: Diluted	**170.03**	(77.40)	**1.28**
Cash dividends (applicable to the period)	**65.00**	65.00	**0.49**

Notes: Net income per share has been computed based on the average number of shares of common stock outstanding during the respective fiscal year.
See notes to financial statements.

Consolidated Statements of Comprehensive Income

Resonac Holdings Corporation and Consolidated Subsidiaries

For the years ended December 31, 2022 and 2021

	Millions of yen		Thousands of U.S. dollars (Note 6)
	2022	2021	**2022**
Net income	**¥ 38,058**	¥ 2,657	**$ 286,796**
Other comprehensive income:			
Valuation difference on available-for-sale securities, net of tax	**(2,246)**	(949)	**(16,925)**
Deferred gains or losses on hedges, net of tax	**294**	259	**2,213**
Foreign currency translation adjustments	**32,932**	39,074	**248,170**
Remeasurements of defined benefit plans, net of tax	**(2,805)**	8,927	**(21,140)**
Share of other comprehensive income of unconsolidated subsidiaries and affiliates accounted for using equity method	**1,763**	958	**13,285**
Total other comprehensive income (Note 16)	**¥ 29,937**	¥ 48,268	**$ 225,602**
Comprehensive income	**¥ 67,995**	¥ 50,925	**$ 512,399**
Comprehensive income attributable to:			
Owners of the parent	**59,569**	35,111	**448,899**
Non-controlling interests	**8,426**	15,814	**63,499**

See notes to financial statements.

Consolidated Statements of Changes in Net Assets

Resonac Holdings Corporation and Consolidated Subsidiaries

For the years ended December 31, 2022 and 2021

	Thousands	Millions of yen										
	Number of shares of capital stock	Capital stock	Capital surplus	Retained earnings	Treasury stock	Valuation difference on available-for-sale securities	Deferred gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustments	Remeasure-ments of defined benefit plans	Non-controlling interests	Total net assets
Balance as at December 31, 2020	149,711	¥ 140,564	¥ 78,190	¥ 165,572	¥ (11,657)	¥ 3,728	¥ 908	¥ 29,034	¥ (506)	¥ 128	¥ 312,119	¥ 718,080
Issuance of new shares	35,190	41,583	41,583	—	—	—	—	—	—	—	—	83,165
Dividends from surplus	—	—	—	(9,500)	—	—	—	—	—	—	—	(9,500)
Net loss attributable to owners of the parent	—	—	—	(12,094)	—	—	—	—	—	—	—	(12,094)
Purchase of treasury stock	—	—	—	—	(6)	—	—	—	—	—	—	(6)
Disposal of treasury stock	—	—	0	—	7	—	—	—	—	—	—	7
Increase by increase of consolidated subsidiaries	—	—	—	45	—	—	—	—	—	—	—	45
Increase by decrease of consolidated subsidiaries	—	—	—	—	—	—	—	—	—	—	—	—
Decrease by decrease of consolidated subsidiaries	—	—	—	(690)	—	—	—	—	—	—	—	(690)
Change in treasury shares of the parent arising from transactions with non-controlling shareholders	—	—	—	—	—	—	—	—	—	—	—	—
Changes in liabilities for written put options over non-controlling interests	—	—	—	—	—	—	—	—	—	—	—	—
Reversal of revaluation reserve for land	—	—	—	1	—	—	—	—	—	—	—	1
Net changes of items other than shareholders' equity	—	—	—	—	—	(890)	259	(106)	38,928	8,909	(7,656)	39,443
Balance as at December 31, 2021	184,901	¥ 182,146	¥ 119,772	¥ 143,335	¥ (11,655)	¥ 2,838	¥ 1,167	¥ 28,928	¥ 38,421	¥ 9,036	¥ 304,463	¥ 818,452
Issuance of new shares	—	—	—	—	—	—	—	—	—	—	—	—
Dividends from surplus	—	—	—	**(11,788)**	—	—	—	—	—	—	—	**(11,788)**
Net income attributable to owners of the parent	—	—	—	**30,793**	—	—	—	—	—	—	—	**30,793**
Purchase of treasury stock	—	—	—	—	**(3)**	—	—	—	—	—	—	**(3)**
Disposal of treasury stock	—	—	**(0)**	—	**46**	—	—	—	—	—	—	**46**
Increase by increase of consolidated subsidiaries	—	—	—	—	—	—	—	—	—	—	—	—
Increase by decrease of consolidated subsidiaries	—	—	—	**72**	—	—	—	—	—	—	—	**72**
Decrease by decrease of consolidated subsidiaries	—	—	—	—	—	—	—	—	—	—	—	—
Change in treasury shares of the parent arising from transactions with non-controlling shareholders	—	—	**(29)**	—	—	—	—	—	—	—	—	**(29)**
Changes in liabilities for written put options over non-controlling interests	—	—	**(11,603)**	—	—	—	—	—	—	—	—	**(11,603)**
Reversal of revaluation reserve for land	—	—	—	**1,013**	—	—	—	—	—	—	—	**1,013**
Net changes of items other than shareholders' equity	—	—	—	—	—	**(2,279)**	**294**	**(1,013)**	**33,587**	**(2,826)**	**(280,040)**	**(252,277)**
Balance as at December 31, 2022	**184,901**	**¥182,146**	**¥108,140**	**¥163,425**	**¥(11,612)**	**¥ 559**	**¥1,461**	**¥27,915**	**¥72,008**	**¥6,211**	**¥ 24,423**	**¥574,677**

	Thousands	Thousands of U.S. dollars (Note 6)										
	Number of shares of capital stock	Capital stock	Capital surplus	Retained earnings	Treasury stock	Valuation difference on available-for-sale securities	Deferred gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustments	Remeasure-ments of defined benefit plans	Non-controlling interests	Total net assets
Balance as at December 31, 2021	184,901	$ 1,372,616	$ 902,579	$ 1,080,141	$ (87,830)	$ 21,390	$ 8,794	$ 217,996	$ 289,535	$ 68,097	$ 2,294,372	$ 6,167,688
Issuance of new shares	—	—	—	—	—	—	—	—	—	—	—	—
Dividends from surplus	—	—	—	**(88,829)**	—	—	—	—	—	—	—	**(88,829)**
Net loss attributable to owners of the parent	—	—	—	**232,051**	—	—	—	—	—	—	—	**232,051**
Purchase of treasury stock	—	—	—	—	**(23)**	—	—	—	—	—	—	**(23)**
Disposal of treasury stock	—	—	**(1)**	—	**349**	—	—	—	—	—	—	**347**
Increase by increase of consolidated subsidiaries	—	—	—	—	—	—	—	—	—	—	—	—
Increase by decrease of consolidated subsidiaries	—	—	—	**544**	—	—	—	—	—	—	—	**544**
Decrease by decrease of consolidated subsidiaries	—	—	—	—	—	—	—	—	—	—	—	—
Change in treasury shares of the parent arising from transactions with non-controlling shareholders	—	—	**(218)**	—	—	—	—	—	—	—	—	**(218)**
Changes in liabilities for written put options over non-controlling interests	—	—	**(87,438)**	—	—	—	—	—	—	—	—	**(87,438)**
Change due to merger	—	—	—	—	—	—	—	—	—	—	—	—
Reversal of revaluation reserve for land	—	—	—	**7,634**	—	—	—	—	—	—	—	**7,634**
Net changes of items other than shareholders' equity	—	—	—	—	—	**(17,175)**	**2,213**	**(7,634)**	**253,103**	**(21,292)**	**(2,110,322)**	**(1,901,107)**
Balance as at December 31, 2022	**184,901**	**$1,372,616**	**$ 814,922**	**$1,231,540**	**$ (87,505)**	**$ 4,214**	**$ 11,007**	**$210,362**	**$542,638**	**$ 46,804**	**$ 184,050**	**$ 4,330,649**

See notes to financial statements.

Consolidated Statements of Cash Flows

Resonac Holdings Corporation and Consolidated Subsidiaries

For the years ended December 31, 2022 and 2021

	Millions of yen		Thousands of U.S. dollars (Note 6)
	2022	2021	**2022**
Cash flows from operating activities			
Income before income taxes	**¥ 48,583**	¥ 22,926	**$ 366,111**
Adjustments for:			
Depreciation and amortization	**92,716**	97,726	**698,690**
Impairment loss	**10,091**	11,564	**76,042**
Amortization of goodwill	**16,843**	17,720	**126,923**
Increase (decrease) in net defined benefit liability	**(2,383)**	4,038	**(17,960)**
Interest and dividends income	**(1,834)**	(2,267)	**(13,821)**
Interest expenses	**15,744**	10,006	**118,642**
Equity in (earnings) losses of unconsolidated subsidiaries and affiliates	**(3,630)**	(5,251)	**(27,352)**
Loss (gain) on sales and valuation of investment securities	**(4,952)**	(5,101)	**(37,318)**
Loss on retirement of noncurrent assets	**6,045**	4,838	**45,555**
Loss (gain) on sales of noncurrent assets	**(13,470)**	(1,104)	**(101,505)**
Loss (gain) on sales of businesses	**3,504**	(3,045)	**26,405**
Business structuring expenses	**—**	32,767	**—**
Loss related to the Antimonopoly Act	**5,579**	—	**42,042**
Decrease (increase) in notes and accounts receivable-trade	**23,653**	(51,628)	**178,242**
Decrease (increase) in inventories	**(40,083)**	(43,739)	**(302,058)**
Increase (decrease) in notes and accounts payable-trade	**(18,592)**	72,694	**(140,106)**
Other, net	**1,157**	(34,230)	**8,721**
Subtotal	**138,971**	127,914	**1,047,260**
Interest and dividends income received	**8,686**	7,266	**65,454**
Interest expenses paid	**(15,641)**	(9,999)	**(117,865)**
Income taxes (paid) refund	**(31,667)**	(9,898)	**(238,635)**
Net cash provided by (used in) operating activities	**100,349**	115,283	**756,207**
Cash flows from investing activities			
Payments into time deposits	**(1,606)**	(1,666)	**(12,105)**
Proceeds from withdrawal of time deposits	**2,570**	1,507	**19,368**
Purchase of property, plant and equipment	**(87,857)**	(67,741)	**(662,069)**
Proceeds from sales of property, plant and equipment	**20,960**	2,223	**157,947**
Purchase of investment securities	**(1,667)**	(3,270)	**(12,561)**
Proceeds from sales of investment securities	**22,019**	9,318	**165,929**
Proceeds from sales of investments in subsidiaries resulting in change in scope of consolidation (Note 7)	**—**	84,133	**—**
Net decrease (increase) in short-term loans receivable	**774**	(1,230)	**5,830**
Payments of long-term loans receivable	**(410)**	(246)	**(3,088)**
Collection of long-term loans receivable	**251**	14,271	**1,893**
Other, net	**(9,701)**	(8,693)	**(73,106)**
Net cash provided by (used in) investing activities	**(54,667)**	28,606	**(411,962)**
Cash flows from financing activities			
Net increase (decrease) in short-term debt	**(3,162)**	11,352	**(23,832)**
Proceeds from long-term loans payable	**409,600**	24,300	**3,086,662**
Repayments of long-term loans payable	**(285,642)**	(307,247)	**(2,152,536)**
Proceeds from share issuance of bonds	**112,536**	99,539	**848,045**
Redemption of bonds	**(20,000)**	(25,000)	**(150,716)**
Proceeds from issuance of preferred stock	**—**	82,405	**—**
Purchase of treasury stock	**(3)**	(7)	**(23)**
Cash dividends paid	**(11,758)**	(9,479)	**(88,609)**
Proceeds from stock issuance to non-controlling shareholders	**—**	29,766	**—**
Cash dividends paid to non-controlling shareholders	**(13,025)**	(16,117)	**(98,152)**
Purchase of investments in subsidiaries without change in scope of consolidation	**(287,635)**	(5,293)	**(2,167,558)**
Other, net	**(4,875)**	(5,960)	**(36,745)**
Net cash provided by (used in) financing activities	**(103,964)**	(121,741)	**(783,451)**
Effect of exchange rate changes on cash and cash equivalents	**10,027**	14,634	**75,565**
Net increase (decrease) in cash and cash equivalents	**(48,255)**	36,782	**(363,641)**
Cash and cash equivalents at the beginning of the year	**234,938**	197,928	**1,770,446**
Increase in cash and cash equivalents resulting from newly consolidated subsidiaries	**—**	229	**—**
Cash and cash equivalents at the end of the year (Note 7)	**¥ 186,683**	¥ 234,938	**$ 1,406,805**

See notes to financial statements.

Notes to Financial Statements

Resonac Holdings Corporation and Consolidated Subsidiaries

1. BASIS OF REPORTING AND FINANCIAL STATEMENTS

The accompanying consolidated financial statements have been prepared in accordance with accounting principles and practices generally accepted in Japan, which are different in certain respects as to the application and disclosure requirements from International Financial Reporting Standards ("IFRS"), and restructured and translated into English from the consolidated financial statements which have been filed with the Kanto Local Finance Bureau as required by the Financial Instruments and Exchange Law of Japan.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(a) Principles of Consolidation

The consolidated financial statements for the years ended December 31, 2022 and 2021 include the accounts of Showa Denko K.K. ("the Company") and its 108 and 124 significant subsidiaries, respectively (collectively "the Companies").

For the purposes of the consolidated financial statements, all significant intercompany transactions, account balances and unrealized profits among the Companies are eliminated and the portions thereof attributable to non-controlling interests are credited or charged to non-controlling interests.

The Company applies the "Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries, etc. for Consolidated Financial Statements" (ASBJ Practical Issues Task Force [PITF] No. 18, June 28, 2019) and makes necessary adjustments for the consolidated settlement of accounts of its foreign subsidiaries.

Of the consolidated subsidiaries, GMM Coatings Private Limited and 6 subsidiaries of Showa Denko Materials Co., Ltd. have business year ends on March 31. For these companies, financial statements based on the provisional settlement of accounts implemented on the date of consolidated settlement of accounts are used in the preparation of the consolidated financial statements.

The business year ends of all other consolidated subsidiaries are on December 31. From the fiscal year ended December 31, 2022, the business year ends of Showa Denko Singapore (Pte.) Ltd. have been changed from September 30 to December 31, the same date as the date of consolidated settlement of accounts. Accordingly, the performance for the fifteen-month period from October 1, 2021 to December 31, 2022 for this company has been included in the consolidated financial statements for the fiscal year ended December 31, 2022.

In the initial consolidation, assets and liabilities of subsidiaries including those attributable to non-controlling interests are recorded based on fair value in the accompanying consolidated financial statements.

Goodwill is amortized on a straight-line basis over a period during which the effect of such goodwill lasts but does not exceed 20 years from recognition. In addition, negative goodwill arising from business combinations prior to April 1, 2010 is amortized on a straight-line basis over a period during which the effect of such negative goodwill lasts but does not exceed 20 years from recognition.

(b) Investments in Unconsolidated Subsidiaries and Affiliates

The Company applied the equity method of accounting for investments in 1 unconsolidated subsidiary in 2022 and 1 in 2021, as well as 12 affiliates in 2022 and 12 in 2021.

All underlying intercompany profits obtained from transactions among the Companies and unconsolidated subsidiaries and affiliates to which the equity method is applied are eliminated in the consolidated financial statements.

(c) Translation of Foreign Currency Accounts

All receivables and payables denominated in foreign currencies at the balance sheet date are translated into Japanese yen at the current exchange rates.

The resulting exchange gains or losses are credited or charged to income.

The financial statements of certain consolidated foreign subsidiaries are translated into Japanese yen at the year-end rate for assets and liabilities, at historical rates for the other balance sheet accounts exclusive of the current year's net income, and at the average annual rate for revenue and expense accounts and net income.

Translation adjustments resulting from the process of translating the financial statements of foreign subsidiaries into Japanese yen are accumulated and reported as a component of net assets on the consolidated balance sheets.

(d) Cash and Cash Equivalents

Cash and cash equivalents in the consolidated statements of cash flows are composed of cash on hand, bank deposits available for withdrawal on demand, and short-term investments with original maturities of three months or less and minor risk of value fluctuation.

(e) Securities

Debt securities that are intended to be held to maturity ("held-to-maturity debt securities") are stated at amortized cost on the balance sheets. Available-for-sale securities with available fair market values are stated at fair market values. Unrealized gains and unrealized losses on these available-for-sale securities are reported, net of applicable income taxes, as a separate component of the net assets.

Realized gains or losses on the sale of the available-for-sale securities are computed using primarily the moving-average cost.

Available-for-sale securities with no available fair market values are stated primarily at the moving-average cost.

(f) Allowance for Doubtful Accounts

To provide for losses from bad debts, the allowance is provided according to the actual rate of default for ordinary receivables and in view of the probability of recovery for specific doubtful receivables.

(g) Inventories

Inventories are stated at the lower of cost or market, using principally the gross-average cost method. The carrying value on the consolidated balance sheets is stated by the devaluation method based on declines in profitability.

(h) Property, Plant and Equipment

Property, plant and equipment is stated at cost, in principle. Property, plant and equipment is depreciated using the straight-line method.

(i) Intangible Assets

The Company and some of the consolidated subsidiaries principally apply the straight-line method over 5 years to amortize intangible assets.

(j) Leased Assets

Leased assets in finance lease transactions that do not transfer ownership to the lessee are depreciated using the straight-line method on the assumption that the useful life is equal to the lease term and the residual value is equal to zero. For leases with a residual value guarantee, the contracted residual value is considered to be the residual value for financial accounting purposes.

Subsidiaries that have adopted IFRS have applied IFRS 16 "Leases." With the application of IFRS 16, lessees record all leases as assets and liabilities on their balance sheets, in principle. Capitalized right-of-use assets are depreciated using the straight-line method.

(k) Provision for Business Structure Improvement
The Company and some of the consolidated subsidiaries record the provision for business structure improvement on an accrual basis to provide for expenses and losses resulting from their restructuring programs.

(l) Provision for Bonuses
A provision for bonuses is provided at an amount estimated based on the bonus to be paid subsequent to the balance sheet date.

(m) Provision for bonuses for directors
A provision for bonuses for directors is provided at an amount estimated based on the bonus to be paid subsequent to the balance sheet date.

(n) Provision for Repairs
The Company and some of the consolidated subsidiaries provide a provision for repairs in an amount estimated to be necessary for the scheduled maintenance for certain production equipment.

(o) Provision for Stock Payments
To provide for the Company's share payments to its Directors (excluding outside Directors), Corporate Officers, and Councilors, the provision is based on the Director Share Payment Regulations.

(p) Accounting Policy for Retirement Benefits
(1) Method of attributing expected benefits to periods
The attribution of expected benefits to periods up to the current consolidated fiscal year, upon calculating the retirement benefit obligations, is done on the benefit formula basis.

(2) Method of amortization of actuarial gain or loss and past service costs
The actuarial gain or loss is amortized starting from the year after such an actuarial loss is determined on a straight-line basis over certain periods (mainly 10 years) within the average remaining service periods.

Past service costs are amortized on a straight-line basis over certain periods (mainly 10 years) within the average remaining service periods.

(3) Application of a simplified method to small businesses
For the calculation of liabilities concerning retirement benefits and retirement benefit expenses, some consolidated subsidiaries have adopted a simplified method, which deems term-end amounts payable for voluntary retirement related to retirement benefits as retirement benefit obligations.

(q) Significant Revenue and Expense Recognition Standards
The Group's main business is the manufacturing and sales of products: semiconductor and electronic materials, mobility, innovation enabling materials, and chemicals. For the sales of these products, revenue is recognized when control of the goods is transferred, since the performance obligation is satisfied primarily at the time an acceptance inspection is completed during the sale of products to customers, based on a contract. However, in domestic sales, if the time period between the shipment and the transfer of control of the products to the customers is within a normal range, revenue is recognized at the time of shipment.

The transaction price is recorded as the amount of consideration that the Company expects to receive in exchange for the transfer of the promised goods or services to the customer. The consideration set out under the sales contract for products is received usually within one year from the delivery of the products when the performance obligations are satisfied and does not include a significant financial component.

(r) Income Taxes
Income taxes consist of taxes on corporation, enterprises, and inhabitants. The provision for income taxes is computed based on the pretax income of the Company and each of its consolidated subsidiaries with certain adjustments required for consolidation and tax purposes. The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. (Valuation allowances are recorded to reduce deferred tax assets based on the assessment of the realizability of the tax benefits.)

Application of the Consolidated Taxation System
The Company and certain domestic subsidiaries adopt the consolidated taxation system.

Application of Tax Effect Accounting for the Transition from the Consolidated Taxation System to the Group Tax Sharing System
The Company and certain domestic subsidiaries will transition from the consolidated taxation system to the group tax sharing system from the following fiscal year. However, with regard to the items subject to the transition to the group tax sharing system created under the "Act on Partial Revision of the Income Tax Act, etc." (Act No. 8 of 2020) and a review of the non-consolidated taxation system in line with the transition to the group tax sharing system, the Company and certain domestic subsidiaries have not applied the provisions of Paragraph 44 of the "Implementation Guidance on Tax Effect Accounting" (ASBJ Guidance No. 28, February 16, 2018) and have recorded the amounts of deferred tax assets and deferred tax liabilities based on the provisions of the tax laws before the revision, as allowed in the treatment of Paragraph 3 of the "Treatment of Tax Effect Accounting for the Transition from the Consolidated Taxation System to the Group Tax Sharing System" (ASBJ PITF No. 39, March 31, 2020).

In addition, from the beginning of the following fiscal year, the Company and certain domestic subsidiaries plan to apply the "Practical Solution on the Accounting and Disclosure under the Group Tax Sharing System" (ASBJ PITF No. 42, August 12, 2021), which sets out the treatment of the accounting and disclosure for corporate taxes and local corporate taxes as well as tax effect accounting when the group tax sharing system is applied.

(s) Derivative Financial Instruments and Hedge Accounting
The Company and certain subsidiaries state all derivative financial instruments at fair value and recognize changes in fair value as gains or losses unless the derivative financial instruments are used for hedging purposes.

If the derivative financial instruments meet certain hedging criteria, the Company and certain subsidiaries defer the recognition of gains or losses resulting from changes in the fair value of derivative financial instruments until the related gains or losses on hedged items are recognized.

However, when forward exchange contracts meet certain hedging criteria, the hedged items are stated by the forward exchange contract rate. If interest rate swap contracts meet certain hedging criteria, the net amount to be paid or received under the interest rate swap contracts is added to or deducted from the interest on the assets or liabilities for which the interest rate swap contracts were executed.

Subsidiaries that have adopted IFRS use fair value hedges and cash flow hedges.

(t) Reclassifications
Certain reclassifications have been made in the 2021 financial statements to conform to the presentation of 2022.

3. SIGNIFICANT ACCOUNTING ESTIMATES

Appropriateness of the Company's judgment concerning the identification of an impairment indicator for intangible fixed assets including goodwill recognized as a result of acquiring Showa Denko Materials Co., Ltd. as a consolidated subsidiary

(a) Amounts Recorded in the Consolidated Financial Statements for the Current Consolidated Fiscal Year

In the consolidated balance sheets for the current consolidated fiscal year, goodwill related to making Showa Denko Materials Co., Ltd. (hereinafter referred to as "SDMC") a consolidated subsidiary of ¥296,184 million (US$2,231,982 thousand), customer related assets of ¥133,461 million (US$1,005,733 thousand), and other intangible fixed assets of ¥36,760 million (US$277,016 thousand) have been recorded.

(b) Information on the Contents of Significant Accounting Estimates Related to Identified Items

The Companies use a larger unit that includes goodwill allocated to the asset group related to the business (hereinafter referred to as the "Asset Group Including Goodwill") to identify an indication of impairment of goodwill, decide whether to recognize impairment losses, and measure them.

Intangible fixed assets including goodwill recognized as the excess earnings potential of SDMC are amortized on a systematic basis. However, it is determined that an impairment indicator exists, if the business performance set forth in the original business plan developed when the Company acquired SDMC as its consolidated subsidiary has not been achieved, and therefore there have been, or are expected to be, events such as operating losses or continuous negative cash flows, a significant deterioration of the business environment and a change that may significantly decrease the recoverable amount. Whenever there is an impairment indicator for these intangible fixed assets including goodwill, they need to be tested for impairment by comparing the undiscounted future cash flows that are expected to be generated from the related Asset Group Including Goodwill with their carrying amounts. If the recognition of an impairment loss is deemed necessary, the carrying amount is reduced to the recoverable amount, and the resulting decrease in the carrying amount is measured as an impairment loss.

The Group considered the business results particularly of the Asset Group Including Goodwill through this fiscal year and the business plans for the subsequent fiscal years, in terms of whether the aforementioned events had occurred or are expected to occur, and determined that there was an impairment indicator for this fiscal year.

The business plan used in decisions on indication of impairment includes key assumptions such as sales increase associated with growth of the markets related to the Asset Group Including Goodwill. This assumption, which is affected by factors such as changes in the market environment, involves uncertainties and is likely to have a significant impact on the evaluation of intangible fixed assets including goodwill in the consolidated financial statements for the following consolidated fiscal year. The Group assesses that there is little possibility of the occurrence of impairment losses in relation to the Asset Group Including Goodwill as long as the above assumption changes within a reasonable range.

4. ADDITIONAL INFORMATION

(a) Board Benefit Trust (BBT)

Based on the resolution at the 107th ordinary general meeting of shareholders on March 30, 2016, the Company introduced on May 11, 2016 a performance-linked stock compensation plan, the "Board Benefit Trust (BBT)" (hereinafter the "Scheme") for Directors (excluding outside Directors) and Corporate Officers, which was revised by the resolution at the 113th ordinary general meeting of shareholders held on March 30, 2022.

(1) Outline of the transaction

In the Scheme, shares of the Company are granted to Directors and Corporate Officers who meet certain requirements, based on the Director Share Grant Regulations set out by the Company.

The Company grants performance-linked points to Directors and Corporate Officers each year, then grants shares of the Company to them based on the number of points granted when they resign from the Company. The Company's shares that are granted to Directors and Corporate Officers are acquired by the trust using the assigned funds and separately managed as trusted assets. For the accounting treatment related to this trust agreement, the Company applied the gross method where the assets and liabilities of the trust are recorded as assets and liabilities on the balance sheet by referring to the Practical Solution on Transactions of Delivering the Company's Own Stock to Employees etc. through Trusts (ASBJ PITF No. 30, issued on March 26, 2015), by applying the provisions conversely for Directors and Corporate Officers in place of employees.

(2) Residual shares of the company in the trust

Residual shares of the Company in the trust have been recorded as treasury stock under net assets at the book value in the trust (excluding the amount of ancillary expenses). The book value and the number of such treasury stock were ¥259 million (US$1,951 thousand) and 230,300 shares at the end of the fiscal year ended December 31, 2022, and ¥305 million and 271,000 shares at the end of the fiscal year ended December 31, 2021, respectively.

(b) Accounting Estimates in Conjunction with the Spread of the COVID-19 pandemic

While uncertainty is expected to remain on how the pandemic will continue to spread and when it will come to an end, accounting estimates are made for the valuation of noncurrent assets, such as goodwill and the recoverability of deferred tax assets, based on the assumption that the pandemic will have a limited impact on the business performance of the Group from the next fiscal year onward.

5. CHANGES IN ACCOUNTING POLICIES

Application of the Accounting Standard for Revenue Recognition, etc.

The Company has applied the "Accounting Standard for Revenue Recognition" (ASBJ Statement No. 29, March 31, 2020; hereinafter referred to as "Revenue Recognition Standard") and others from the beginning of the current consolidated fiscal year. For this reason, the Company now recognizes revenue when control over promised goods or services is transferred to the customer in an amount equal to that expected to be received for these goods or services.

The cumulative effect of retroactively applying the new accounting policies prior to the beginning of the current consolidated fiscal year has been added to or subtracted from the retained earnings at the beginning of the current consolidated fiscal year. This action follows the application of the Revenue Recognition Standard and others, in line with the transitional treatment set out in paragraph 84 of the Revenue Recognition Standard. In addition, the new accounting policies have been applied to the opening balance at the start of the period. The impact of this application on the profit and loss for the current consolidated fiscal year is considered immaterial, so there is no impact on the beginning balance of retained earnings.

Notes on "Revenue Recognition" for the previous fiscal year are not provided, following the transitional treatment set out in Paragraph 89-3 of the Revenue Recognition Standard.

Application of the Accounting Standard for Fair Value Measurement, etc.
The Company has applied the "Accounting Standard for Fair Value Measurement" (ASBJ Statement No. 30, July 4, 2019; hereinafter referred to as the "Fair Value Measurement Standard") and others from the beginning of the current consolidated fiscal year. As a result, the new accounting policies set out under the Fair Value Measurement Standard and others have been applied. This move follows the transitional guidelines set out in Paragraph 19 of the Fair Value Measurement Standard, as well as Paragraph 44-2 of the "Accounting Standard for Financial Instruments" (ASBJ Statement No. 10, July 4, 2019). There is no impact from this application of the new standard on the consolidated financial statements.

In addition, in the notes on "Financial Instruments," the Company has decided to provide notes on some items, such as the breakdown by level of the fair value of financial instruments. However, notes for the previous fiscal year are not included, following the transitional treatment set out in Paragraph 7-4 of the "Implementation Guidance on Disclosure about Fair Value of Financial Instruments" (ASBJ Guidance No. 19, July 4, 2019).

Change in the Period for Amortizing Actuarial Gains and Losses, as Well as Past Service Costs in Accounting for Retirement Benefits
To account for retirement benefits, actuarial gains and losses and past service costs were previously amortized over a fixed period of 12 years, while not exceeding the average remaining service periods of employees. This period has been changed to 10 years from the current consolidated fiscal year.

Given the transition into a holding company structure on January 1, 2023, where Showa Denko K.K. became the holding company and Showa Denko Materials Co., Ltd. became the operating company, the Company has decided that the unification of the amortization periods that had been used by the two companies would more closely match the actual situation, given the integration of retirement benefits and pension plans as part of this transition.

As the impact from this change is immaterial, it has not been applied retroactively.

6. JAPANESE YEN AND TRANSLATION INTO U.S. DOLLARS

The Companies' accounting records are maintained in yen. Yen amounts included in the financial statements are rounded to the nearest one million unit. Therefore, the total and subtotal amounts presented in the financial statements may not equal the exact sum of the individual balances. The U.S. dollar amounts appearing in the accompanying financial statements and notes thereto represent the arithmetical results of translating yen into U.S. dollars at the rate of ¥132.70 to US$1.00, the approximate rate of exchange as at December 31, 2022. The inclusion of such U.S. dollar amounts is solely for the convenience of readers; it does not carry with it any implication that yen amounts have been or could be converted into U.S. dollars at that rate.

7. CASH FLOW STATEMENTS

(a) Cash and Cash Equivalents
Cash and deposits as of December 31, 2022 and 2021 on the consolidated balance sheets and cash equivalents as at December 31, 2022 and 2021 on the consolidated statements of cash flows were reconciled as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Cash and deposits	**¥ 187,126**	¥ 236,237	**$ 1,410,140**
Original maturities more than three months	**(442)**	(1,299)	**(3,334)**
Cash and cash equivalents	**¥ 186,683**	¥ 234,938	**$ 1,406,805**

(b) Assets and Liabilities of Companies that Ceased to be Consolidated Subsidiaries of the Company due to Sale of Shares
As of December 31, 2022
Not applicable.

As of December 31, 2021
(1) Transfer of investments in subsidiaries
A breakdown of the assets and liabilities at the time of the sale of shares in SHOKO CO., LTD. and its 4 subsidiaries, when they ceased to be consolidated subsidiaries due to the sale, the sale price of the shares, and proceeds from the sale were as follows:

	Millions of yen
Current assets	¥ 42,918
Noncurrent assets	6,344
Current liabilities	(21,179)
Noncurrent liabilities	(15,935)
Non-controlling interests	(7,155)
Investment accounts after sales of shares	(1,168)
Decrease in retained earnings due to exclusion from consolidation	(690)
Loss on sales of shares in subsidiaries and associates	(332)
Other	(287)
Sale price of shares in the sold company	¥ 2,515
Cash and cash equivalents of the sold company	(2,297)
Less: Proceeds from sale of the sold company	¥ 218

(2) Transfer of aluminum can business
A breakdown of assets and liabilities at the time of the sale due to the transfer of the aluminum can business, the sale price of the shares, and proceeds from the sale were as follows:

	Millions of yen
Current assets	¥ 27,135
Noncurrent assets	26,385
Current liabilities	(14,317)
Noncurrent liabilities	(584)
Non-controlling interests	(29,766)
Gain on sale of businesses	9,061
Other	184
Sale price of shares in the sold company	¥ 18,099
Cash and cash equivalents of the sold company	(4,200)
Less: Proceeds from sale of the sold company	¥ 13,898

(3) Transfer of aluminum rolling business

A breakdown of assets and liabilities at the time of the sale due to the transfer of the aluminum rolling business, the sale price of the shares, and proceeds from the sale were as follows:

	Millions of yen
Current assets	¥ 8,999
Noncurrent assets	9,514
Current liabilities	(978)
Noncurrent liabilities	(101)
Loss on sale of businesses	(10,345)
Other	(559)
Sale price of shares in the sold company	¥ 6,531
Securities received as consideration	(2,312)
Cash and cash equivalents of the sold company	(1,944)
Less: Proceeds from sale of the sold company	¥ 2,275

(4) Transfer of printed wiring board business

A breakdown of assets and liabilities at the time of the sale due to the transfer of the printed wiring board business, the sale price of the shares, and proceeds from the sale were as follows:

	Millions of yen
Current assets	¥ 19,316
Noncurrent assets	19,465
Current liabilities	(7,555)
Noncurrent liabilities	(2,787)
Accumulated other comprehensive income	2,466
Loss on sale of businesses	(1,733)
Other	(17)
Sale price of shares in the sold company	¥ 29,155
Cash and cash equivalents of the sold company	(6,103)
Less: Proceeds from sale of the sold company	¥ 23,052

(5) Transfer of energy storage devices and systems business

A breakdown of assets and liabilities at the time of the sale due to the transfer of the energy storage devices and systems business, the sale price of the shares, and proceeds from the sale were as follows:

	Millions of yen
Current assets	¥ 57,524
Noncurrent assets	31,698
Current liabilities	(36,280)
Noncurrent liabilities	(4,619)
Accumulated other comprehensive income	(3,650)
Gain on sale of businesses	4,289
Other	(198)
Sale price of shares in the sold company	¥ 48,764
Cash and cash equivalents of the sold company	(7,707)
Less: Proceeds from sale of the sold company	¥ 41,057

8. FINANCIAL INSTRUMENTS

(a) Overview

(1) Management policy relating to financial instruments

The Companies finance necessary long-term funds by bank loans and bond issues following the capital investment plans and finance short-term operating funds by bank loans and commercial paper. Temporary excess funds are invested exclusively in financial instruments which have fixed returns and low risk of falling below par values. The Companies use derivative transactions to hedge the following risks and do not enter into derivative transactions for speculative purposes.

(2) Types of financial instruments and related risks

Operating receivables, such as notes and accounts receivable, are exposed to credit risk. Foreign-currency-denominated accounts receivable incurred through exports are exposed to foreign currency fluctuation risk. However, the Companies hedge the risk by utilizing forward exchange contracts, currency options, and currency swaps based on internal policies that set out foreign currency risk management principles.

Marketable securities and investment securities mainly consist of the stocks of partner companies to maintain and strengthen their business relationships and are exposed to market fluctuation risk.

Operating payables, such as notes and accounts payable-trade and other, are due within one year. Foreign-currency-denominated accounts payable incurred through imports of raw materials are exposed to foreign currency fluctuation risk. The Companies hedge the risk by utilizing forward exchange contracts following internal policies that set out the foreign currency risk management principles. Short-term debt and commercial paper are mainly used to finance short-term operating funds, and long-term debts and bonds are mainly used to finance equipment funds. Since some loans have financial covenants attached, they may affect liquidity risk related to financing. Variable interest rate loans are exposed to interest rate fluctuation risk. However, certain loans use interest rate swaps to hedge the risk.

The Companies utilize derivative transactions, such as forward exchange contracts, currency options, and currency swaps, to hedge the foreign currency fluctuation risk of operating receivables and payables denominated in foreign currencies and financing transactions denominated in foreign currencies. Interest rate swaps are utilized to hedge the interest rate fluctuation risk, and forward contracts and commodity swaps are utilized to hedge the market fluctuation risk.

(3) Risk management relating to financial instruments

(i) Credit risk management (risk of default by the counterparties)

The Company follows internal policies that set out accounts receivable management principles. The compliance department works with the sales division in each sector and monitors the customers' credit conditions periodically and reviews the sales policy checking the sales volume and balances. The Company takes measures to obtain information on and minimize the credit risk that may arise due to the deterioration in the financial condition of their customers. Consolidated subsidiaries monitor their customers' financial and credit conditions based on their internal policies.

The held-to-maturity debts are limited to only highly rated securities.

The Companies utilize derivative transactions only with creditworthy financial institutions and trading companies to minimize credit risk.

The maximum credit risk as of December 31, 2022 is disclosed as the balance sheet amount of financial instruments exposed to credit risk.

(ii) Market risk management (risk of fluctuations in foreign currency and interest rates)

For operating receivables and payables and loans denominated in foreign currencies, the Company and certain consolidated subsidiaries utilize forward exchange contracts, currency options, and currency swaps to hedge some of the foreign currency fluctuation risk, which is categorized by currency and maturity date. The Company and certain consolidated subsidiaries utilize currency swaps to hedge the interest rate fluctuation risk of loans.

For marketable securities and investment securities, the Companies regularly review the fair value and issuers' financial conditions, and review the Companies' portfolio on an ongoing basis, except for held-to-maturity debt securities, according to market conditions and the business relationships with counterparties.

The Company has internal management policies that set out the approval authorities and procedures of the derivative transactions.

The derivative transactions are carried out based on the appropriate approver set out in the internal policies. For currency-related derivative transactions, each division and the treasury department perform and manage transactions and report to the director in charge periodically. For interest-related derivative transactions, the treasury department performs and manages the transactions and reports to the director in charge periodically. For commodity-related derivative transactions, each division performs and manages the transactions, and reports to the director in charge periodically. Consolidated subsidiaries perform and manage derivative transactions based on their internal management standards.

(iii) Liquidity risk management (risk of default on payment due dates)

The Company manages liquidity risk by requiring the treasury department to prepare and update cash plans, based on the schedule for cash inflows and disbursements in each division. In addition, the Company signs commitment line contracts and makes other arrangements with financial institutions to secure the necessary liquidity. Consolidated subsidiaries manage their liquidity risk through similar procedures.

(4) Supplemental explanation on fair value of financial instruments

As the calculation of fair value of financial instruments uses certain assumptions, those values may vary in the case of different assumptions being applied. Also, for the contract amount and others regarding derivative transactions described in Note 10. DERIVATIVE FINANCIAL INSTRUMENTS, the contract amount itself does not indicate market risk related to derivative transactions.

(b) Fair Value of Financial Instruments

As at December 31, 2022 and 2021, book value, fair value, and difference were as follows.

Year ended December 31, 2022	Millions of yen		
	Book value	Fair value	Difference
(1) Marketable securities and investment securities	**¥ 3,336**	**¥ 3,336**	**¥ —**
Total assets	**¥ 3,336**	**¥ 3,336**	**¥ —**
(1) Current portion of long-term debt	**¥ 42,677**	**¥ 42,656**	**¥ (21)**
(2) Long-term debt less current portion	**932,400**	**921,029**	**(11,371)**
Total liabilities	**¥ 975,076**	**¥ 963,685**	**¥ (11,391)**
Derivative transactions*	**¥ 2,480**	**¥ 2,480**	**¥ —**

Year ended December 31, 2021	Millions of yen		
	Book value	Fair value	Difference
(1) Marketable securities and investment securities	¥ 19,738	¥ 19,738	¥ —
Total assets	¥ 19,738	¥ 19,738	¥ —
(1) Current portion of long-term debt	¥ 72,857	¥ 72,907	¥ 50
(2) Long-term debt less current portion	683,448	682,953	(495)
Total liabilities	¥ 756,304	¥ 755,860	¥ (444)
Derivative transactions*	¥ 1,160	¥ 1,160	¥ —

Year ended December 31, 2022	Thousands of U.S. dollars		
	Book value	Fair value	Difference
(1) Marketable securities and investment securities	**$ 25,138**	**$ 25,138**	**$ —**
Total assets	**$ 25,138**	**$ 25,138**	**$ —**
(1) Current portion of long-term debt	**$ 321,603**	**$ 321,445**	**$ (158)**
(2) Long-term debt less current portion	**7,026,372**	**6,940,684**	**(85,688)**
Total liabilities	**$ 7,347,975**	**$ 7,262,129**	**$ (85,846)**
Derivative transactions*	**$ 18,686**	**$ 18,686**	**$ —**

*Derivative assets and liabilities are on a net basis.

Notes: 1. "Cash and deposits," "Notes and accounts-receivable trade," "Notes and accounts-payable trade," "Short-term debt," "Accounts payable-other," are omitted because their fair values approximate their book values due to their short maturities.

2. Shares, etc. that have no market price are not included in "(1) Marketable securities and investment securities." Financial instruments of this type are stated on the consolidated balance sheet as:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Non-listed equity securities	**¥ 80,709**	¥ 84,063	**$ 608,203**

Notes: 3. Redemption schedule for financial assets and securities with maturities

Year ended December 31, 2022	Millions of yen			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Cash and deposits	**¥ 187,126**	**¥ —**	**¥ —**	**¥ —**
Notes and accounts receivable-trade	**265,466**	**—**	**—**	**—**
Total	**¥ 452,592**	**¥ —**	**¥ —**	**¥ —**

Year ended December 31, 2021	Millions of yen			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Cash and deposits	¥ 236,237	¥ —	¥ —	¥ —
Notes and accounts receivable-trade	278,641	—	—	—
Total	¥ 514,877	¥ —	¥ —	¥ —

Year ended December 31, 2022	Thousands of U.S. dollars			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Cash and deposits	**$ 1,410,140**	**$ —**	**$ —**	**$ —**
Notes and accounts receivable-trade	**2,000,500**	**—**	**—**	**—**
Total	**$ 3,410,639**	**$ —**	**$ —**	**$ —**

Notes: 4. Scheduled maturities of bonds and long-term debt after December 31, 2022 and 2021

Year ended December 31, 2022	Millions of yen					
	Due in 1 year or less	Due after 1 year through 2 years	Due after 2 years through 3 years	Due after 3 years through 4 years	Due after 4 years through 5 years	Due after 5 years
(1) Short-term debt	**¥ 72,419**	**¥ —**	**¥ —**	**¥ —**	**¥ —**	**¥ —**
(2) Long-term debt	**42,677**	**63,406**	**84,645**	**82,470**	**251,879**	**450,000**
Total	**¥115,096**	**¥ 63,406**	**¥ 84,645**	**¥ 82,470**	**¥251,879**	**¥450,000**

Year ended December 31, 2021	Millions of yen					
	Due in 1 year or less	Due after 1 year through 2 years	Due after 2 years through 3 years	Due after 3 years through 4 years	Due after 4 years through 5 years	Due after 5 years
(1) Short-term debt	¥ 74,451	¥ —	¥ —	¥ —	¥ —	¥ —
(2) Long-term debt	72,858	54,461	80,488	185,284	68,770	294,500
Total	¥ 147,308	¥ 54,461	¥ 80,488	¥ 185,284	¥ 68,770	¥ 294,500

Year ended December 31, 2022	Thousands of U.S. dollars					
	Due in 1 year or less	Due after 1 year through 2 years	Due after 2 years through 3 years	Due after 3 years through 4 years	Due after 4 years through 5 years	Due after 5 years
(1) Short-term debt	**$ 594,679**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
(2) Long-term debt	**321,603**	**477,811**	**637,867**	**621,477**	**1,898,109**	**3,391,108**
Total	**$ 916,282**	**$ 477,811**	**$ 637,867**	**$ 621,477**	**$ 1,898,109**	**$ 3,391,108**

(c) Breakdown by Level of Fair Values of Financial Instruments

The fair values of financial instruments are classified into the following three levels according to the observability and importance of the inputs used for measuring fair value.

Level 1 fair value: Fair value measured by using quoted prices for assets or liabilities that are subject to the fair value measurement that is made in active markets using observable inputs for fair value measurement

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

Level 3 fair value: Fair value measured by using unobservable inputs for fair value measurement

If multiple inputs that have a material impact on fair value measurement are used, the fair value is classified into the lowest priority level in the fair value measurement, among the levels that each input belongs to.

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

Year ended December 31, 2022	Millions of yen			
	Level 1	Level 2	Level 3	Total
(1) Marketable securities and investment securities				
Other marketable securities	¥ 3,336	¥ —	¥ —	¥ 3,336
(2) Derivative transactions				
Currency-related	—	2,517	—	2,517
Total assets	¥ 3,336	¥ 2,517	¥ —	¥ 5,853
(1) Derivative transactions				
Commodity-related	¥ —	¥ 37	¥ —	¥ 37
Total liabilities	¥ —	¥ 37	¥ —	¥ 37

Year ended December 31, 2022	Thousands of U.S. dollars			
	Level 1	Level 2	Level 3	Total
(1) Marketable securities and investment securities				
Other marketable securities	$ 25,138	$ —	$ —	$ 25,138
(2) Derivative transactions				
Currency-related	—	18,968	—	18,968
Total assets	$ 25,138	$ 18,968	$ —	$ 44,106
(1) Derivative transactions				
Commodity-related	$ —	$ 279	$ —	$ 279
Total liabilities	$ —	$ 279	$ —	$ 279

(2) Financial instruments other than financial instruments recorded at fair value in the consolidated balance sheet

Year ended December 31, 2022	Millions of yen			
	Level 1	Level 2	Level 3	Total
(1) Current portion of long-term debt	¥ —	¥ 42,656	¥ —	¥ 42,656
(2) Long-term debt less current portion	—	921,029	—	921,029
Total liabilities	¥ —	¥ 963,685	¥ —	¥ 963,685

Year ended December 31, 2022	Thousands of U.S. dollars			
	Level 1	Level 2	Level 3	Total
(1) Current portion of long-term debt	$ —	$ 321,445	$ —	$ 321,445
(2) Long-term debt less current portion	—	6,940,684	—	6,940,684
Total liabilities	$ —	$7,262,129	$ —	$7,262,129

Note: Description of the valuation methods and inputs used in the fair value measurement
Marketable securities and investment securities:
Measured based on the quoted prices in active markets, and classified into Level 1 fair value

Derivative transactions:
Measured using the prices quoted by the concerned financial institutions and other factors, and classified into Level 2 fair value.
(refer to Note 10. DERIVATIVE FINANCIAL INSTRUMENTS)

Current portion of long-term debt and long-term debt less current portion
These fair values of current portion of long-term loans payable and long-term loans payable less current portion are measured by discounting the sum of the loans payable and interest, by using the interest rate assumed to be applicable to similar new loans taken out, and are classified into Level 2 fair value. The fair value of some of the variable rate long-term loans payable that are eligible for the interest-rate swap special provisions (refer to Note 10. DERIVATIVE FINANCIAL INSTRUMENTS) is measured by discounting the sum of the loans payable and interest treated on a combined basis with the relevant interest rate swap, by using the interest rate assumed to be applicable to similar new loans taken out. The fair value of bonds is measured based on market price (Reference Statistical Prices for OTC Bond Transactions), and classified into Level 2 fair value.

9. SECURITIES

(a) Available-for-sale Securities

Year ended December 31, 2022	Millions of yen		
	Book value	Acquisition cost	Difference
Available-for-sale securities whose book value exceeds their acquisition cost			
Equity securities	**¥ 3,157**	**¥ 1,632**	**¥ 1,525**
Other	**179**	**177**	**1**
Available-for-sale securities whose book value is less than their acquisition cost			
Equity securities	**—**	**—**	**—**
Total	**¥ 3,336**	**¥ 1,809**	**¥ 1,527**

Year ended December 31, 2021	Millions of yen		
	Book value	Acquisition cost	Difference
Available-for-sale securities whose book value exceeds their acquisition cost			
Equity securities	¥14,962	¥10,050	¥ 4,912
Other	183	164	20
Available-for-sale securities whose book value is less than their acquisition cost			
Equity securities	4,593	5,243	(650)
Total	¥19,738	¥15,456	¥ 4,283

Year ended December 31, 2022	Thousands of U.S. dollars		
	Book value	Acquisition cost	Difference
Available-for-sale securities whose book value exceeds their acquisition cost			
Equity securities	**$ 23,792**	**$ 12,296**	**$ 11,496**
Other	**1,346**	**1,336**	**11**
Available-for-sale securities whose book value is less than their acquisition cost			
Equity securities	**—**	**—**	**—**
Total	**$ 25,138**	**$ 13,632**	**$ 11,506**

(b) Available-for-sale Securities Sold in the Years Ended December 31, 2022 and 2021:

Year ended December 31, 2022	Millions of yen		
	Sales	Gross gain	Gross loss
Equity securities	**¥ 21,677**	**¥ 5,192**	**¥ (456)**
Total	**¥ 21,677**	**¥ 5,192**	**¥ (456)**

Year ended December 31, 2021	Millions of yen		
	Sales	Gross gain	Gross loss
Equity securities	¥ 7,402	¥ 4,727	¥ (154)
Total	¥ 7,402	¥ 4,727	¥ (154)

Year ended December 31, 2022	Thousands of U.S. dollars		
	Sales	Gross gain	Gross loss
Equity securities	**$ 163,354**	**$ 39,125**	**$ (3,434)**
Total	**$ 163,354**	**$ 39,125**	**$ (3,434)**

(c) Impairment of securities

For the years ended December 31, 2022 and 2021, the Companies recorded an impairment loss of ¥203 million (US$1,531 thousand) on available-for-sale securities and ¥713 million on available-for-sale securities with fair market values, respectively.

Securities are deemed to have "substantially declined" when their fair values have declined 30% or more. When their fair values have declined 50% or more, the impairment losses are recorded on those securities. When their fair values have declined between 30% and 50%, the impairment losses are recorded on those securities unless such values are considered to be recoverable on an individual basis.

10. DERIVATIVE FINANCIAL INSTRUMENTS

(a) Derivative Transactions to Which Hedge Accounting is Not Applied

	Millions of yen								Thousands of U.S. dollars			
	2022				2021				**2022**			
	Contract amount	Contract amount over 1 year	Fair value	Valuation gain (loss)	Contract amount	Contract amount over 1 year	Fair value	Valuation gain (loss)	Contract amount	Contract amount over 1 year	Fair value	Valuation gain (loss)
Currency related:												
Forward exchange contracts:												
Selling												
U.S. Dollar	**¥ 475**	**¥ —**	**¥ 71**	**¥ 71**	¥ 9,099	¥ —	¥ (102)	¥ (102)	**$ 3,580**	**$ —**	**$ 535**	**$ 535**
Euro	**5,709**	**—**	**114**	**114**	5,670	—	(69)	(69)	**43,020**	**—**	**861**	**861**
Swiss Franc	**—**	**—**	**—**	**—**	—	—	—	—	**—**	**—**	**—**	**—**
Yuan Renminbi	**—**	**—**	**—**	**—**	19	—	(0)	(0)	**—**	**—**	**—**	**—**
Currency options:												
Buying and selling												
U.S. Dollar	**¥ —**	**¥ —**	**¥ —**	**¥ —**	¥12,206	¥ —	¥ (151)	¥ (151)	**$ —**	**$ —**	**$ —**	**$ —**

Notes: Fair value calculation method:
1. Fair values of forward exchange contracts are stated by the forward exchange rates.
2. Fair values of currency options are measured at the quoted price obtained from the financial institutions.
3. Currency options are zero-cost option contracts, and call options and put options are shown as a lump sum because they are included in the integrated contract.

(b) Derivative Transactions to Which Hedge Accounting is Applied

	Millions of yen						Thousands of U.S. dollars		
	2022			2021			**2022**		
	Contract amount	Contract amount over 1 year	Fair value	Contract amount	Contract amount over 1 year	Fair value	Contract amount	Contract amount over 1 year	Fair value
(1) Currency related:									
Principle method									
Forward exchange contracts:									
Buying									
U.S. Dollar	**¥ 1,915**	**¥ —**	**¥ 2,011**	¥ 11,329	¥ —	¥ 309	**$ 14,432**	**$ —**	**$ 15,155**
Euro	**—**	**—**	**—**	—	—	—	**—**	**—**	**—**
Selling									
U.S. Dollar	**1,787**	**—**	**72**	7,643	—	(82)	**13,467**	**—**	**540**
Euro	**—**	**—**	**—**	—	—	—	**—**	**—**	**—**
Allocation method									
Forward exchange contracts:									
Buying									
U.S. Dollar	**¥ 2,985**	**¥ —**	**¥ —**	¥ 1,553	¥ —	¥ —	**$ 22,496**	**$ —**	**$ —**
Euro	**221**	**—**	**—**	32	—	—	**1,668**	**—**	**—**
Selling									
U.S. Dollar	**1,714**	**—**	**—**	8,167	—	—	**12,916**	**—**	**—**
Euro	**704**	**—**	**—**	754	—	—	**5,304**	**—**	**—**
Yuan Renminbi	**—**	**—**	**—**	38	—	—	**—**	**—**	**—**
Currency swaps:									
Receipt U.S. Dollar									
Payment Yen	**¥ —**	**¥ —**	**¥ —**	¥ 2,000	¥ —	¥ —	**$ —**	**$ —**	**$ —**
Cash flow hedge									
Forward exchange contracts:									
Selling									
U.S. Dollar	**¥ 3,731**	**¥ —**	**¥ 170**	¥ 3,419	¥ —	¥ (24)	**$ 28,116**	**$ —**	**$ 1,281**
Fair value hedge									
Forward exchange contracts:									
Selling									
U.S. Dollar	**¥ 991**	**¥ —**	**¥ 67**	¥ 2,269	¥ —	¥ (31)	**$ 7,468**	**$ —**	**$ 505**
Euro	**13,956**	**—**	**12**	10,142	—	(90)	**105,170**	**—**	**90**
Mexican Peso	**2,453**	**—**	**—**	2,053	—	(38)	**18,485**	**—**	**—**
(2) Interest rate related:									
Special method									
Interest rate swaps:									
Receipt-variable rate/Payment-fixed rate	**¥ 2,550**	**¥ 2,550**	**¥ —**	¥ 2,600	¥ 2,600	¥ —	**$ 19,216**	**$ 19,216**	**$ —**
(3) Commodity related:									
Principle method									
Aluminum forward contracts:									
Buying	**¥ 6,100**	**¥ —**	**¥ (115)**	¥ 5,953	¥ —	¥ 1,469	**$ 45,965**	**$ —**	**$ (869)**
Selling	**2,245**	**—**	**(8)**	1,235	—	(80)	**16,919**	**—**	**(61)**
Cash flow hedge									
Commodity swaps:									
Buying	**¥ —**	**¥ —**	**¥ —**	¥ —	¥ —	¥ —	**$ —**	**$ —**	**$ —**
Commodity future contracts:									
Buying	**¥ 1,369**	**¥ —**	**¥ 86**	¥ 1,012	¥ —	¥ 37	**$ 10,317**	**$ —**	**$ 648**
Selling	**14**	**—**	**—**	267	—	(2)	**106**	**—**	**—**

Notes: 1. The main items hedged by forward exchange contracts are accounts payable for buying, accounts receivable for selling and long-term debt by interest rate swaps.
The main items hedged by aluminum forward transactions are aluminum metal transactions.
The main items hedged by commodity swaps and commodity future contracts are copper and lead purchase transactions.

2. Fair value calculation method:
The fair values of forward exchange contracts are stated by the forward exchange rates. The fair values of currency swaps are measured at the quoted price obtained from the financial institutions. The fair values of aluminum forward transactions are stated by forward quotations of the London Metal Exchange.
The fair values of commodity swaps and commodity future contracts are measured at the quoted price obtained from the financial institutions.

3. The fair values of forward exchange contracts and currency swaps that meet the allocation method criteria are reflected in the fair values of accounts receivable, accounts payable and debts of their hedged items.

4. The fair values of interest rate swaps that meet the special treatment criteria are reflected in the fair values of long-term debt of their hedged item.

11. EFFECT OF YEAR-END DATE ON FINANCIAL STATEMENTS

The year-end date of 2022, December 31, 2022, was a bank holiday. Although notes receivable and payable maturing on this date were accordingly settled on January 4, 2023, the Companies accounted for those notes in their financial statements as if they had been settled on the maturity date.

Notes outstanding as at December 31, 2022 and 2021 dealt with in the above-mentioned manner were as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	2022
Notes receivable	¥ 627	¥ 351	$ 4,725

12. SHORT-TERM DEBT AND LONG-TERM DEBT

As at December 31, 2022 and 2021, the short-term debt of the Companies consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	2022
Bank loans at the average interest rate of 0.81%	¥ 72,419	¥ 59,451	$ 545,734
Commercial paper	—	15,000	—
Total	¥ 72,419	¥ 74,451	$ 545,734

As at December 31, 2022 and 2021, the long-term debt of the Companies consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	2022
0.734% bonds due 2022 (*1)	¥ —	¥ 10,000	$ —
0.500% bonds due 2026 (*1)	7,000	7,000	52,751
0.190% bonds due 2024 (*1)	10,000	10,000	75,358
0.430% bonds due 2029 (*1)	10,000	10,000	75,358
0.040% bonds due 2024 (*1)	30,000	30,000	226,074
0.200% bonds due 2026 (*1)	20,000	20,000	150,716
0.300% bonds due 2028 (*1)	5,000	5,000	37,679
0.550% bonds due 2031 (*1)	45,000	45,000	339,111
0.210% bonds due 2025 (*1)	60,000	—	452,148
0.510% bonds due 2027 (*1)	45,000	—	339,111
0.740% bonds due 2032 (*1)	8,000	—	60,286
1.191% bonds due 2022 (*2)	—	9,999	—
0.375% bonds due 2027 (*2)	19,954	19,945	150,369
Loans principally from banks and insurance companies due 2023 to 2030 at the average interest rate of 1.52% (*3)	715,122	589,360	5,389,015
	975,076	756,304	7,347,975
Less: current portion	(42,677)	(72,857)	(321,603)
Total	¥932,400	¥ 683,448	$ 7,026,372

*1 Showa Denko K.K.
*2 Showa Denko Materials Co., Ltd.
*3 The balance of long-term debt as at December 31, 2022 includes ¥275,000 million in a subordinated loan. The maturities indicate the maturities of long-term debt excluding the subordinated loan.

The aggregate annual maturities of the noncurrent portion of long-term debt were as follows:

Years ending December 31	Millions of yen	Thousands of U.S. dollars
2023	¥ 63,406	$ 477,811
2024	84,645	637,867
2025	82,470	621,477
2026	251,879	1,898,109
2027 and thereafter	450,000	3,391,108
Total	¥ 932,400	$ 7,026,372

As at December 31, 2022 and 2021, the assets pledged as collateral for long-term debt were as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	2022
Assets pledged as collateral			
Cash and deposits	¥ —	¥ 5,471	$ —
Property, plant and equipment, less accumulated depreciation	8,085	114,013	60,927
Total	¥ 8,085	¥ 119,484	$ 60,927

In addition to the above, the following assets that have been eliminated as intercompany transactions have been pledged as collateral.

	Millions of yen		Thousands of U.S. dollars
	2022	2021	2022
Investments in subsidiaries	¥ —	¥ 983,957	$ —
Loans receivable from subsidiaries and affiliates	—	141,625	—

As at December 31, 2022 and 2021, the liabilities with collateral were as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	2022
Secured short-term debt and long-term debt			
Long-term debt	¥ 1,000	¥ 209,951	$ 7,536
Other debt	—	121	—
Total	¥ 1,000	¥ 210,072	$ 7,536

As at December 31, 2022 and 2021, the non-recourse liabilities were as follows.
The following amounts are included in the amounts stated as collateral assets and secured liabilities above:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	2022
Long-term debt	¥ —	¥ 209,700	$ —
Other debt	—	121	—
Total	¥ —	¥ 209,821	$ —

As at December 31, 2022 and 2021, the assets corresponding to the non-recourse liabilities were as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Cash and deposits	**¥ —**	¥ 5,471	**$ —**

In addition to the above, the following assets that have been eliminated as intercompany transactions have been pledged as collateral.

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Investments in subsidiaries	**¥ —**	¥ 983,957	**$ —**
Loans receivable from subsidiaries and affiliates	**—**	141,625	**—**

13. RETIREMENT BENEFITS

(a) Defined benefit pension plan, including the plans using the simplified method

(1) Reconciliation of opening and closing balance of retirement benefit obligation for the years ended December 31, 2022 and 2021 was as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Balance of retirement benefit obligation at the beginning of the year	**¥167,155**	¥192,099	**$1,259,646**
Service cost	**5,808**	6,768	**43,766**
Interest cost	**712**	932	**5,367**
Actuarial gain and loss	**(5,066)**	(4,285)	**(38,178)**
Retirement benefits paid	**(11,221)**	(12,444)	**(84,557)**
Past service cost	**(594)**	115	**(4,473)**
Increase from changes in scope of consolidation	**—**	112	**—**
Decrease from changes in scope of consolidation	**(542)**	(16,627)	**(4,084)**
Other	**1,362**	484	**10,266**
Balance of the retirement benefit obligation at the end of the year	**¥157,615**	¥167,155	**$1,187,753**

(2) Reconciliation of opening and closing balance of plan assets for the years ended December 31, 2022 and 2021 was as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Balance of plan assets at the beginning of the year	**¥182,719**	¥188,533	**$1,376,933**
Expected return on plan assets	**1,773**	2,257	**13,363**
Actuarial gain and loss	**(8,982)**	8,205	**(67,687)**
Contribution from employer	**4,057**	6,330	**30,573**
Retirement benefits paid	**(9,923)**	(11,233)	**(74,781)**
Increase from changes in scope of consolidation	**—**	—	**—**
Decrease from changes in scope of consolidation	**—**	(11,895)	**—**
Other	**(3,963)**	522	**(29,866)**
Balance of plan assets at the end of the year	**¥165,681**	¥182,719	**$1,248,535**

(3) Reconciliation of the ending balance of retirement benefit obligations and plan assets, and the net defined benefit liability and the net defined benefit asset for the years ended December 31, 2022 and 2021 was as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Funded retirement benefit obligations	**¥ 153,859**	¥ 164,088	**$1,159,447**
Plan assets	**(165,681)**	(182,719)	**(1,248,535)**
	(11,822)	(18,631)	**(89,088)**
Unfunded retirement benefit obligations	**3,757**	3,067	**28,309**
Net amount of relevant liabilities and assets on the consolidated balance sheets	**(8,065)**	(15,565)	**(60,779)**
Net defined benefit liability	**9,981**	17,523	**75,212**
Net defined benefit asset	**(18,046)**	(33,088)	**(135,990)**
Net amount of relevant liabilities and assets on the consolidated balance sheets	**(8,065)**	(15,565)	**(60,779)**

(4) Retirement benefit expenses and the components of the amounts thereof for the years ended December 31, 2022 and 2021 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Service cost	**¥ 5,808**	¥ 6,768	**$ 43,766**
Interest cost	**712**	932	**5,367**
Expected return on plan assets	**(1,773)**	(2,257)	**(13,363)**
Amortization of actuarial gain and loss	**(853)**	29	**(6,430)**
Amortization of past service cost	**124**	108	**933**
Retirement benefit expenses related to the defined benefit pension plan	**¥ 4,017**	¥ 5,581	**$ 30,273**

(5) Remeasurements of defined benefit plans

The components of items (before tax) reported under remeasurements of defined benefit plans for the years ended December 31, 2022 and 2021 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Past service cost	**¥ (717)**	¥ 7	**$ (5,407)**
Actuarial gain and loss	**4,997**	(12,852)	**37,655**
Total	**¥ 4,279**	¥ (12,845)	**$ 32,248**

(6) Accumulated remeasurements of defined benefit plans
The components of items (before tax) reported under accumulated remeasurements of defined benefit plans for the years ended December 31, 2022 and 2021 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Unrecognized past service cost	**¥ (726)**	¥ (8)	**$ (5,468)**
Unrecognized actuarial gain and loss	**(7,810)**	(12,806)	**(58,851)**
Total	**¥ (8,535)**	¥ (12,815)	**$ (64,320)**

(7) Matters regarding plan assets
(i) Major content of the plan assets
The percentages of major asset types that account for the total plan assets as of December 31, 2022 and 2021 were as follows:

	Ratio	
	2022	2021
Bonds	**43 %**	48 %
Stocks	**29**	28
General accounts of life insurance company	**10**	9
Cash and deposits	**12**	7
Other	**6**	8
Total	**100 %**	100 %

(ii) Method for setting the long-term rate of expected return on plan assets
To determine the long-term rate of expected return on plan assets, the current and anticipated long-term yield rates of various assets that constitute the plan assets as well as the current and projected distribution of plan assets, have been taken into account.

(8) Matters regarding the assumptions for actuarial calculations
Key assumptions for actuarial calculations as of December 31, 2022 and 2021 were as follows:

	Ratio	
	2022	2021
Discount rate	**Mainly 0.6%**	Mainly 0.4%
Long-term rate of expected return on plan assets	**Mainly 1.8%**	Mainly 1.8%

(b) Defined contribution pension plan
The amounts required to be contributed by consolidated subsidiaries for the years ended December 31, 2022 and 2021 were ¥1,482 million (US$11,166 thousand), and ¥1,819 million, respectively.

14. INCOME TAXES

(a) As at December 31, 2022 and 2021, significant components of deferred tax assets and liabilities were as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Deferred tax assets:			
Tax loss carryforwards (Note 2)	**¥ 34,062**	¥ 24,589	**$ 256,683**
Impairment loss	**17,835**	16,674	**134,401**
Depreciation and amortization	**6,983**	9,542	**52,622**
Write-down of marketable and investment securities	**4,665**	12,509	**35,155**
Net defined benefit liability	**4,255**	6,977	**32,065**
Deduction of foreign corporation tax carried forward	**3,911**	481	**29,471**
Loss on valuation of inventories	**2,465**	2,466	**18,577**
Provision for bonuses	**2,170**	2,070	**16,355**
Undetermined accrued liabilities	**1,642**	1,946	**12,371**
Allowance for doubtful accounts	**629**	694	**4,742**
Other	**11,946**	15,992	**90,023**
Subtotal of deferred tax assets	**90,563**	93,940	**682,466**
Valuation allowance related to tax loss carryforwards (Note 2)	**(16,945)**	(14,464)	**(127,697)**
Valuation allowance related to the total of deductible temporary differences	**(32,107)**	(39,555)	**(241,949)**
Total valuation allowance (Note 1)	**(49,052)**	(54,019)	**(369,646)**
Total deferred tax assets	**41,511**	39,921	**312,820**
Deferred tax liabilities:			
Amount of revaluation from the book value	**(54,500)**	(58,505)	**(410,700)**
Special depreciation reserve	**(7,169)**	(7,880)	**(54,021)**
Net defined benefit asset	**(6,419)**	(9,608)	**(48,369)**
Foreign subsidiaries' undistributed retained earnings	**(5,315)**	(4,333)	**(40,052)**
Valuation difference on available-for-sale securities	**(926)**	(1,658)	**(6,975)**
Deferred gains or losses on hedges	**(621)**	(508)	**(4,680)**
Other	**(810)**	(2,368)	**(6,101)**
Total deferred tax liabilities	**(75,758)**	(84,859)	**(570,898)**
Net deferred tax assets (liabilities)	**¥ (34,247)**	¥ (44,938)	**$ (258,078)**

Notes: 1. Valuation allowance decreased by ¥4,967 million (US$37,429 thousand). The main reason for this decrease was the decrease in valuation allowance and others related to the amount of deductible temporary differences, as a result of the sales of available-for-sale securities held by the Company etc.
2. A breakdown of tax loss carryforwards and valuation allowance by expiry date as of December 31, 2022 and 2021 were as follows.

Year ended December 31, 2022	Millions of yen						
	Due in 1 year or less	Due after 1 year through 2 years	Due after 2 years through 3 years	Due after 3 years through 4 years	Due after 4 years through 5 years	Due after 5 years	Total
Tax loss carryforwards*1	**¥ 422**	**¥ 863**	**¥ 661**	**¥ 1,000**	**¥ 1,044**	**¥ 30,070**	**¥ 34,062**
Valuation allowance	**(82)**	**(363)**	**(152)**	**(189)**	**(330)**	**(15,829)**	**(16,945)**
Deferred tax assets	**340**	**501**	**509**	**811**	**714**	**14,241**	**17,118** *2

*1. Tax loss carryforwards are multiplied by the statutory effective tax rate.
*2. For the tax loss carryforwards of ¥34,062 million (US$256,683 thousand), the amount obtained by multiplying by the statutory tax rate, ¥17,118 million (US$128,986 thousand) was booked as deferred tax assets.
The Company does not recognize valuation allowances for the portion of the tax loss carryforwards deemed to be recoverable due to the prospect of future taxable income.

Year ended December 31, 2021	Millions of yen						
	Due in 1 year or less	Due after 1 year through 2 years	Due after 2 years through 3 years	Due after 3 years through 4 years	Due after 4 years through 5 years	Due after 5 years	Total
Tax loss carryforwards*1	¥ 367	¥ 298	¥ 378	¥ 536	¥ 814	¥ 19,405	¥ 24,589
Valuation allowance	(210)	(141)	(221)	(380)	(90)	(10,101)	(14,464)
Deferred tax assets	157	157	157	157	724	9,304	10,126*2

*1. Tax loss carryforwards are multiplied by the statutory effective tax rate.
*2. For the tax loss carryforwards of ¥24,589 million, the amount obtained by multiplying by the statutory tax rate, ¥10,126 million was booked as deferred tax assets.
The Company does not recognize valuation allowances for the portion of the tax loss carryforwards deemed to be recoverable due to the prospect of future taxable income.

Year ended December 31, 2022	Thousands of U.S. dollars						
	Due in 1 year or less	Due after 1 year through 2 years	Due after 2 years through 3 years	Due after 3 years through 4 years	Due after 4 years through 5 years	Due after 5 years	Total
Tax loss carryforwards	**$ 3,180**	**$ 6,506**	**$ 4,985**	**$ 7,533**	**$ 7,870**	**$ 226,598**	**$ 256,686**
Valuation allowance	**(616)**	**(2,733)**	**(1,147)**	**(1,424)**	**(2,490)**	**(119,282)**	**(127,699)**
Deferred tax assets	**2,564**	**3,773**	**3,838**	**6,108**	**5,380**	**107,316**	**128,987**

(b) Significant items in the reconciliation of the statutory tax rate with the effective tax rate as at December 31, 2022 and 2021 were as follows:

	2022	2021
Statutory tax rate	**30.6%**	30.6%
Amortization of goodwill	**10.6**	23.7
Effect on the reexamination of recoverability	**(10.2)**	20.6
Differences of statutory tax rate in subsidiaries	**(8.8)**	(11.0)
Permanently non-taxable dividends received	**6.2**	(3.6)
Effect on the restructuring of the organization	**(5.6)**	—
Foreign taxes	**1.9**	1.9
Tax credit	**0.5**	(10.2)
Unrealized income on inventories	**0.5**	(4.0)
Transfer of business	**—**	38.3
Other	**(4.0)**	2.2
Effective tax rate	**21.7%**	88.4%

15. IMPAIRMENT LOSS

As at December 31, 2022, major impairment losses on fixed assets were as follows:

Location	Major use	Asset category	Millions of yen	Thousands of U.S. dollars
Yokohama City, Kanagawa Prefecture	Production facilities for regenerative medicine, etc.	Buildings and structures, etc.	**¥ 4,112**	**$ 30,987**
Zhengzhou, China	Production facilities for molded resins, etc.	Machinery and equipment, etc.	**1,596**	**12,027**
Indiana, America	Production facilities for powdered metal products, etc.	Machinery and equipment	**1,332**	**10,038**
Minato Ward, Tokyo Prefecture	Welfare facilities	Land, etc.	**1,010**	**7,611**
Omachi City, Nagano Prefecture	Welfare facilities	Land, etc.	**906**	**6,827**
Other			**1,135**	**8,551**
Total			**¥ 10,091**	**$ 76,042**

16. CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Reclassification adjustments and tax effects for components of other comprehensive income for the year ended December 31, 2022, were as follows:

	Millions of yen	Thousands of U.S. dollars
Valuation difference on available-for-sale securities		
Increase during the year	**¥ 1,676**	**$ 12,631**
Reclassification adjustments	**(5,207)**	**(39,242)**
Amount before income tax effect	**(3,531)**	**(26,611)**
Income tax effect	**1,285**	**9,686**
Total	**¥ (2,246)**	**$ (16,925)**
Deferred gains or losses on hedges		
Increase during the year	**¥ 2,454**	**$ 18,493**
Reclassification adjustments	**26**	**196**
Adjustments of acquisition cost of assets	**(2,062)**	**(15,538)**
Amount before income tax effect	**418**	**3,151**
Income tax effect	**(124)**	**(938)**
Total	**¥ 294**	**$ 2,213**
Foreign currency translation adjustments		
Increase during the year	**¥ 35,594**	**$ 268,233**
Reclassification adjustments	**(2,662)**	**(20,063)**
Amount before income tax effect	**32,932**	**248,170**
Income tax effect	**—**	**—**
Total	**¥ 32,932**	**$ 248,170**
Remeasurements of defined benefit plans, net of tax		
Increase during the year	**¥ (3,279)**	**$ (24,711)**
Reclassification adjustments	**(1,000)**	**(7,537)**
Amount before income tax effect	**(4,279)**	**(32,248)**
Income tax effect	**1,474**	**11,108**
Total	**¥ (2,805)**	**$ (21,140)**
Share of other comprehensive income of unconsolidated subsidiaries and affiliates accounted for using the equity method		
Increase during the year	**¥ 1,763**	**$ 13,285**
Reclassification adjustments	**—**	**—**
Total	**¥ 1,763**	**$ 13,285**
Total other comprehensive income	**¥ 29,937**	**$ 225,602**

17. LEASES

(a) Finance Leases as a Lessee
Finance lease transactions other than those involving transfer of ownership to the lessee and right-of-use assets of subsidiaries that have applied IFRS 16

(1) Type of leased assets
a) Tangible fixed assets: Principally office buildings
b) Intangible fixed assets: Principally software

(2) Method of depreciation
The depreciation method of leased assets is described in Note 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (j) Leased Assets.

(b) Operating Leases as a Lessee
As at December 31, 2022 and 2021, assets leased under non-capitalized operating leases were as follows:
Future minimum lease payments for the remaining lease periods:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Due within 1 year	**¥ 114**	¥ 215	**$ 861**
Due over 1 year	**2,282**	2,425	**17,194**
Total	**¥ 2,396**	¥ 2,640	**$ 18,056**

(c) Operating Leases as a Lessor
As at December 31, 2022 and 2021, non-cancelable operating lease receivables for the remaining lease periods were as follows:
Future minimum lease receivables for the remaining lease periods:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Due within 1 year	**¥ 2**	¥ 1	**$ 14**
Due over 1 year	**53**	1	**400**
Total	**¥ 55**	¥ 1	**$ 415**

18. CONTINGENT LIABILITIES

As at December 31, 2022 and 2021, the Companies were guarantors for the borrowings below. The guarantees were principally for unconsolidated subsidiaries, affiliates and others.

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Guarantees	**¥ 1,741**	¥ 1,006	**$ 13,119**

19. NET ASSETS

The Corporation Law of Japan (the "Law") provides that the entire amount paid for new shares may be credited to the stated capital, with the provision that, by resolution of the Board of Directors, up to one-half of such amount paid for new shares may be credited to additional paid-in capital, which is included in capital surplus.

The Law provides that an amount equal to 10% of cash appropriations of retained earnings shall be set aside as additional paid-in capital or a legal earnings reserve until the total of such reserve and additional paid-in capital equals 25% of the stated capital. Additional paid-in capital and the legal earnings reserve may be used to eliminate or reduce a deficit, if any, or be capitalized by resolution at the ordinary general meeting of shareholders. All additional paid-in capital and the legal earnings reserve may be transferred to other capital surplus and retained earnings, respectively, which are potentially available for dividends. Additional paid-in capital and the legal earnings reserve are included in capital surplus and retained earnings, respectively.

The Law does not have a definition about the classification of paid-in capital between common stock and preferred stock. Accordingly, the Company states its capital in the total amount paid by issuing common stock and preferred stock.

The maximum amount that the Company can distribute as dividends is calculated based on the unconsolidated financial statements of the Company in accordance with Japanese laws and regulations.

20. REVALUATION RESERVE FOR LAND

The Company and some of its consolidated subsidiaries revalued the land they own for business in accordance with the Law concerning the Revaluation of Land. The difference between the revalued amount and the book value, after the deduction of applicable tax, is stated as a land revaluation reserve. The revaluation was conducted using methods stipulated in the ordinance for enforcement of the law, specifically, the method in Item 4 of Article 2 (Reasonable Adjustment of the Appraised Value Relating to Land Price Tax), and the method in Item 5 of Article 2 (Estimation by Experts). The excess of the carrying amount of the revalued land over the market value as at December 31, 2022 was ¥48,565 million (US$365,976 thousand).

21. FINANCIAL COVENANTS

As of December 31, 2022
Part of debt for the fiscal year ended December 31, 2022 contains certain financial covenants such as the maintenance of profits. There is no debt that is in contravention of the financial covenants as of the end of the fiscal year ended December 31, 2022.

As of December 31, 2021
Part of debt for the fiscal year ended December 31, 2021 contains certain financial covenants, mainly the maintenance of net assets and the maintenance of profits. There is no debt that is in contravention of the financial covenants as of the end of the fiscal year ended December 31, 2021.

22. SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative expenses for the years ended December 31, 2022 and 2021 were summarized as follows:

	Millions of yen		Thousands of U.S. dollars
	2022	2021	**2022**
Freight	**¥ 50,161**	¥ 51,106	**$ 378,006**
Employees' compensation	**51,078**	49,834	**384,911**
Experiment and research expenses	**26,079**	28,619	**196,530**
Depreciation	**25,957**	27,616	**195,608**
Outsourcing expenses	**24,369**	22,042	**183,642**
Other	**65,966**	71,579	**497,108**
Total	**¥243,611**	¥250,796	**$1,835,805**

Research and development expenses included in selling, general and administrative expenses for the years ended December 31, 2022 and 2021 were ¥36,247 million (US$273,153 thousand) and ¥35,385 million, respectively.

23. RESEARCH AND DEVELOPMENT

Research and development costs included in manufacturing costs, selling, general and administrative expenses for the years ended December 31, 2022 and 2021 were ¥47,135 million (US$355,203 thousand) and ¥46,750 million, respectively.

24. INVENTORY WRITE-DOWNS

As at December 31, 2022 and 2021, inventory write-downs of ¥1,418 million (US$10,689 thousand) and ¥(19,941) million, respectively, based on the lower of the cost or market method were deducted from the carrying value of inventories.

25. LOSS ON SALE OF BUSINESS

Year ended December 31, 2022
Loss on transfer of business relates to the transfer of ISOLITE GmbH.

Year ended December 31, 2021
Loss on transfer of business relates to the transfer of the aluminum rolling business of the Companies.

26. BUSINESS STRUCTURING EXPENSES

Year ended December 31, 2022
Not applicable.

Year ended December 31, 2021
Business structuring expenses principally consist of impairment loss on goodwill, etc., due to decisions made to transfer the energy storage devices and systems business of Showa Denko Materials Co., Ltd.

27. LOSS RELATED TO THE ANTIMONOPOLY ACT

Year ended December 31, 2022
The loss is related to the civil litigation seeking damages for violations of the Antimonopoly Act relating to transactions of aluminum electrolytic and other capacitors by the Company's consolidated subsidiary in the United States.

Year ended December 31, 2021
Not applicable.

28. SEGMENT INFORMATION

In the current consolidated fiscal year, we accelerated the integration of the Company with Showa Denko Materials Co., Ltd., while implementing a restructuring of the organization with a view toward enabling the speedy management of the Showa Denko Group as a whole. In line with these developments, we have reclassified reportable segments from the current consolidated fiscal year from the seven previous reportable segments of "Petrochemicals," "Chemicals," "Electronics," "Inorganics," "Aluminum," "Showa Denko Materials," and "Others," to four reportable segments of "Semiconductor and Electronic Materials," "Mobility," "Innovation Enabling Materials," and "Chemicals." The segment information for the year ended December 2021 was prepared based on the segmentation after the change.

(a) Information about sales, operating income, assets, and other items by reportable segment

Year ended December 31, 2022	Millions of yen							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Sales								
Outside customers	¥ 427,171	¥ 180,626	¥ 141,081	¥ 527,825	¥ 1,276,702	¥ 115,919	¥ —	¥ 1,392,621
Inter-segment	5,358	209	6,432	14,318	26,317	3,831	(30,149)	—
Total	432,529	180,835	147,513	542,143	1,303,020	119,751	(30,149)	1,392,621
Operating income (loss)	¥ 44,228	¥ (1,489)	¥ 9,838	¥ 24,910	¥ 77,486	¥ (292)	¥ (17,823)	¥ 59,371
Assets	¥ 870,401	¥ 227,970	¥ 185,892	¥ 469,236	¥ 1,753,499	¥ 303,488	¥ 43,435	¥ 2,100,421
Depreciation and amortization	37,777	17,296	7,880	17,277	80,231	11,391	1,094	92,716
Amortization of goodwill	13,261	2,135	819	8	16,223	620	—	16,843
Investments in unconsolidated subsidiaries and affiliates	51,893	—	3,184	11,846	66,923	421	—	67,344
Increase in property, plant and equipment and intangible assets	44,336	8,900	7,550	19,510	80,296	15,870	10,909	107,074

Notes: 1. The "Others" is the business segment that is not included in the reportable segments and covers businesses involving life science products.
2. Adjustments are as follows:
(1) Elimination of inter-segment transactions of ¥655 million (US$4,935 thousand) and total corporate expenses of ¥(18,478) million (US$(139,243) thousand) that were not allocated to any reportable segment were included in "Adjustments" for "Operating income" of ¥(17,823) million (US$(134,308) thousand). The total corporate expenses principally consist of the total corporate common research expenses that are not attributable to any reportable segment.

(2) Elimination of inter-segment receivables and payables and assets of ¥(81,688) million (US$(615,584) thousand) and total corporate assets of ¥125,123 million (US$942,898 thousand) that were not allocated to any reportable segment were included in "Adjustments" for "Assets" of ¥43,435 million (US$327,314 thousand). The total corporate assets principally consist of surplus funds under management (in the form of cash and deposits), deferred tax assets and assets related to the total corporate common research and development expenses.

3. Amortization of negative goodwill was included in "Amortization of goodwill."

Year ended December 31, 2021	Millions of yen							
	Reportable segments					Others	Adjustments	Consolidated
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total			
Sales								
Outside customers	¥ 422,941	¥ 173,804	¥ 143,319	¥ 431,018	¥ 1,171,082	¥ 248,553	¥ —	¥ 1,419,635
Inter-segment	3,864	87	12,702	14,134	30,787	5,445	(36,232)	—
Total	426,805	173,891	156,021	445,152	1,201,869	253,998	(36,232)	1,419,635
Operating income (loss)	¥ 49,563	¥ (2,021)	¥ 13,636	¥ 37,907	¥ 99,085	¥ 7,361	¥ (19,248)	¥ 87,198
Assets	¥ 873,111	¥ 234,586	¥ 184,158	¥ 424,226	¥ 1,716,081	¥ 358,835	¥ 67,473	¥ 2,142,390
Depreciation and amortization	37,159	17,176	7,410	16,221	77,966	18,601	1,159	97,726
Amortization of goodwill	13,557	2,135	722	8	16,422	1,298	—	17,720
Investments in unconsolidated subsidiaries and affiliates	51,598	—	3,356	12,824	67,777	393	—	68,170
Increase in property, plant and equipment and intangible assets	33,280	9,530	7,887	14,108	64,805	13,078	764	78,647

Notes: 1. The "Others" is the business segment that is not included in the reportable segments and covers businesses involving energy storage devices and systems and life science products.

2. Adjustments are as follows:

(1) Elimination of inter-segment transactions of ¥(420) million and total corporate expenses of ¥(18,828) million that were not allocated to any reportable segment were included in "Adjustments" for "Operating income" of ¥(19,248) million. The total corporate expenses principally consist of the total corporate common research expenses that are not attributable to any reportable segment.

(2) Elimination of inter-segment receivables and payables and assets of ¥(90,531) million and total corporate assets of ¥158,005 million that were not allocated to any reportable segment were included in "Adjustments" for "Assets" of ¥67,473 million. The total corporate assets principally consist of surplus funds under management (in the form of cash and deposits), deferred tax assets and assets related to the total corporate common research and development expenses.

3. Amortization of negative goodwill was included in "Amortization of goodwill."

Year ended December 31, 2022	Thousands of U.S. dollars							
	Reportable segments					Others	Adjustments	Consolidated
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total			
Sales								
Outside customers	$ 3,219,070	$ 1,361,158	$ 1,063,160	$ 3,977,578	$ 9,620,967	$ 873,543	$ —	$ 10,494,509
Inter-segment	40,378	1,575	48,470	107,899	198,323	28,873	(227,195)	—
Total	3,259,449	1,362,733	1,111,630	4,085,477	9,819,289	902,415	(227,195)	10,494,509
Operating income (loss)	$ 333,296	$ (11,222)	$ 74,133	$ 187,714	$ 583,922	$ (2,204)	$ (134,308)	$ 447,410
Assets	$ 6,559,162	$ 1,717,936	$ 1,400,842	$ 3,536,068	$ 13,214,007	$ 2,287,020	$ 327,314	$ 15,828,342
Depreciation and amortization	284,678	130,341	59,385	130,197	604,601	85,843	8,246	698,690
Amortization of goodwill	99,933	16,085	6,169	63	122,251	4,672	—	126,923
Investments in unconsolidated subsidiaries and affiliates	391,054	—	23,994	89,266	504,315	3,175	—	507,489
Increase in property, plant and equipment and intangible assets	334,107	67,065	56,896	147,021	605,090	119,592	82,208	806,890

(b) Information about geographical areas

Year ended December 31, 2022	Millions of yen				
	Japan	China	Asia (exc. China)	Others	Total
Sales	**¥ 617,309**	**¥ 190,346**	**¥ 340,418**	**¥ 244,548**	**¥ 1,392,621**

Year ended December 31, 2021	Millions of yen				
	Japan	China	Asia (exc. China)	Others	Total
Sales	¥ 657,369	¥ 202,936	¥ 346,069	¥ 213,261	¥ 1,419,635

Year ended December 31, 2022	Thousands of U.S. dollars				
	Japan	China	Asia (exc. China)	Others	Total
Sales	**$ 4,651,912**	**$ 1,434,410**	**$ 2,565,322**	**$ 1,842,865**	**$ 10,494,509**

Year ended December 31, 2022	Millions of yen			
	Japan	Asia	Others	Total
Property, plant and equipment	**¥ 453,863**	**¥ 135,588**	**¥ 92,467**	**¥ 681,918**

Year ended December 31, 2021	Millions of yen			
	Japan	Asia	Others	Total
Property, plant and equipment	¥ 456,825	¥ 120,624	¥ 82,071	¥ 659,521

Year ended December 31, 2022	Thousands of U.S. dollars			
	Japan	Asia	Others	Total
Property, plant and equipment	**$ 3,420,217**	**$ 1,021,765**	**$ 696,813**	**$ 5,138,794**

(c) Information about impairment loss on property, plant and equipment by reportable segment

Year ended December 31, 2022	Millions of yen							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Impairment loss on assets	**¥ 121**	**¥ 3,357**	**¥ 385**	**¥ 953**	**¥ 4,816**	**¥ 5,275**	**¥ —**	**¥ 10,091**

Year ended December 31, 2021	Millions of yen							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Impairment loss on assets	¥ 1,576	¥ 9,524	¥ 205	¥ —	¥ 11,305	¥ 30,328	¥ —	¥ 41,633

Year ended December 31, 2022	Thousands of U.S. dollars							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Impairment loss on assets	**$ 911**	**$ 25,298**	**$ 2,902**	**$ 7,182**	**$ 36,293**	**$ 39,748**	**$ —**	**$ 76,042**

(d) Information about amortization of goodwill and unamortized balance by reportable segment

Year ended December 31, 2022	Millions of yen							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Amortization	**¥ 13,294**	**¥ 2,135**	**¥ 1,002**	**¥ 8**	**¥ 16,439**	**¥ 624**	**¥ —**	**¥ 17,062**
Unamortized balance	**231,930**	**37,354**	**16,054**	**4**	**285,342**	**10,912**	**—**	**296,255**

Year ended December 31, 2021	Millions of yen							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Amortization	¥ 13,590	¥ 2,135	¥ 968	¥ 8	¥ 16,701	¥ 1,328	¥ —	¥ 18,028
Unamortized balance	245,224	39,489	16,625	13	301,350	11,536	—	312,886

Year ended December 31, 2022	Thousands of U.S. dollars							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Amortization	**$ 100,178**	**$ 16,085**	**$ 7,553**	**$ 63**	**$ 123,880**	**$ 4,699**	**$ —**	**$ 128,579**
Unamortized balance	**1,747,777**	**281,493**	**120,979**	**32**	**2,150,280**	**82,234**	**—**	**2,232,514**

Amortization of negative goodwill arose from business combinations prior to April 1, 2010 and its unamortized balance are as follows:

Year ended December 31, 2022	Millions of yen							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Amortization	**¥ 33**	**¥ —**	**¥ 184**	**¥ —**	**¥ 216**	**¥ 4**	**¥ —**	**¥ 220**
Unamortized balance	**163**	**—**	**735**	**—**	**897**	**2**	**—**	**900**

Year ended December 31, 2021	Millions of yen							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Amortization	¥ 33	¥ —	¥ 246	¥ —	¥ 278	¥ 30	¥ —	¥ 309
Unamortized balance	195	—	918	—	1,113	6	—	1,119

Year ended December 31, 2022	Thousands of U.S. dollars							
	Reportable segments							
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total	Others	Adjustments	Consolidated
Amortization	**$ 245**	**$ —**	**$ 1,384**	**$ —**	**$ 1,629**	**$ 27**	**$ —**	**$ 1,656**
Unamortized balance	**1,225**	**—**	**5,537**	**—**	**6,762**	**17**	**—**	**6,779**

29. REVENUE RECOGNITION

(a) Disaggregating Revenue Arising from Contracts with Customers

Year ended December 31, 2022	Millions of yen						
	Reportable segments					Others	Consolidated
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total		
By region							
Japan	¥ 91,206	¥ 43,183	¥ 88,228	¥ 372,672	¥ 595,288	¥ 22,020	¥ 617,309
China	107,072	33,112	24,026	23,973	188,183	2,163	190,346
Asia (excluding China)	211,298	68,239	17,795	34,778	332,110	8,309	340,418
Others	17,594	36,092	11,033	96,402	161,122	83,427	244,548
Total	¥ 427,171	¥ 180,626	¥ 141,081	¥ 527,825	¥ 1,276,702	¥ 115,919	¥ 1,392,621

Notes: 1. The "Others" is the business segment that is not included in the reportable segments and covers businesses involving life science products.
2. Net sales consist primarily of revenue from contracts with clients. The amount of revenue from other sources is immaterial.
3. Geographical segments are determined based on the country/region of domicile of customers.

Year ended December 31, 2022	Thousands of U.S. dollars						
	Reportable segments					Others	Consolidated
	Semiconductor and Electronic Materials	Mobility	Innovation Enabling Materials	Chemicals	Total		
By region							
Japan	$ 687,312	$ 325,416	$ 664,865	$ 2,808,378	$ 4,485,971	$ 165,941	$ 4,651,912
China	806,874	249,525	181,056	180,652	1,418,107	16,303	1,434,410
Asia (excluding China)	1,592,298	514,235	134,096	262,081	2,502,711	62,612	2,565,322
Others	132,587	271,982	83,143	726,467	1,214,179	628,687	1,842,865
Total	$ 3,219,070	$ 1,361,158	$ 1,063,160	$ 3,977,578	$ 9,620,967	$ 873,543	$ 10,494,509

(b) Relationship between the Satisfaction of Performance Obligations Based on contracts with customers and the cash flows generated from these contracts, as well as the amount and timing of revenue expected to be recognized from the next fiscal year onward, from contracts with customers existing as of the end of the current consolidated fiscal year

(1) Balances of receivables and contract liabilities arising from contracts with customers, etc.

	Millions of yen	U.S. dollars
	2022	2022
Receivables arising from contracts with customers (beginning balance)	¥ 278,641	$ 2,099,778
Receivables arising from contracts with customers (ending balance)	265,466	2,000,500
Contract liabilities (beginning balance)	3,414	25,726
Contract liabilities (ending balance)	3,459	26,068

Contract liabilities relate mainly to advance consideration received from customers. For the amount of revenue recognized in the current consolidated fiscal year, the amount included in the beginning balance of contract liabilities is immaterial. The amount of revenue recognized after performance obligations are satisfied in the past periods is immaterial for the current consolidated fiscal year.

(2) Transaction price allocated to the remaining performance obligations

Since the main performance obligations of the Group are expected to be satisfied within one year, using the practical expedient method this information is not included in this disclosure. In addition, the consideration arising from contracts with customers does not contain any financially significant element that is not included in the transaction price.

30. Significant Subsequent Events

Absorption-type Merger and Company Split as part of the Transformation into a Holding Company Structure

The Company decided at a Board of Directors' meeting on August 4, 2022 to conclude the following three agreements. All three agreements were implemented with an effective date of January 1, 2023:

(i) An absorption-type merger agreement (Absorption-type Merger Agreement) between HC Holdings K.K. (HCHD, a wholly owned subsidiary of the Company: the Company Disappearing) and Showa Denko Materials Co., Ltd. (SDMC, a wholly owned subsidiary of HCHD: the Company Surviving)

(ii) An absorption-type company split agreement (Absorption-type Company Split Agreement ①) in which SDMC (the Company Succeeding) will succeed to all businesses of the Company (the Company Splitting)

(iii) An absorption-type company split agreement (Absorption-type Company Split Agreement ②) in which the Company (the Company Succeeding) will succeed to partial functions of SDMC (the Company Splitting)

Absorption-type Company Split ① and Absorption-type Company Split ② together are referred to here as "Absorption-type Company Split."

(1) Objectives

The Showa Denko Group's defined purpose is to "Change society through the power of chemistry." As a cocreation-style chemical company, we intend to be a world-class supplier of advanced functional materials. To reach this goal, we are not only engaged in business within the boundaries of the Group and the chemical industry, but are also promoting our transformation, in order to contribute to the development of a sustainable global society, while working together with our stakeholders and local communities that share the same ambition.

To create the scale and profitability appropriate for a company competing in the world market, we will focus on portfolio management through the prioritized allocation of resources, innovation for improving our competitive strengths, and human resource development. Through these initiatives, we will maximize our corporate value with the aim of achieving sustainable management. We will therefore implement an Absorption-type Merger and Absorption-type Company Split to establish an optimum organizational structure.

(2) Schedules for Absorption-type Merger Agreement

Board of Directors' meetings at the Company and SDMC for approval of Absorption-type Merger Agreement	Aug. 4, 2022
Decision by HCHD director to approve Absorption-type Merger Agreement	Aug. 4, 2022
Conclusion of the agreement	Aug. 4, 2022
Extraordinary shareholders' meetings for approval (HCHD, SDMC)	Sep. 29, 2022
Effective date	Jan. 1, 2023

(3) Schedules for Absorption-type Company Split Agreement

Record date for the Company's extraordinary shareholders' meeting	June 30, 2022
Board of Directors' meetings at the Company and SDMC for approval of Absorption-type Company Split Agreement	Aug. 4, 2022
Conclusion of Absorption-type Company Split Agreements ① and ②	Aug. 4, 2022
Extraordinary shareholders' meeting of the Company for approval of Absorption-type Company Split ①	Sep. 29, 2022
Effective date	Jan. 1, 2023

Note: Absorption-type Company Split ② meets the requirements of Simplified Absorption-type Company Split prescribed in Article 796, paragraph (2), of the Companies Act for the Company, and meets the requirements of a Summary Absorption-type Company Split prescribed in Article 784, paragraph (1), of the Companies Act for SDMC. So, the Absorption-type Split ② will be carried out without obtaining the approval of the general meetings of shareholders of the Company and SDMC.

(4) Outline of the business sector to be split (Absorption-type Company Split ①)

All of the Company's businesses (except Group management and the graphite electrode business that Shinshu Showa K.K. is to take over from the Company through an absorption-type company split).

(5) Outline of the business sector to be split (Absorption-type Company Split ②)

This does not involve a transfer of business.

Transfer of Graphite Electrode Business

The Company decided at a Board of Directors' meeting on August 4, 2022 to conclude an agreement on an absorption-type company split (Absorption-type Company Split (Shinshu)) with the wholly owned subsidiary, Shinshu Showa K.K. (Shinshu Showa), concerning the graphite electrode business. This Absorption-type Company Split was conducted with an effective date of January 1, 2023.

(1) Objectives

The Company's graphite electrode business is conducted through a virtual global-scale controlling organization as well as a regional control system involving North/South America, Europe/Middle East/Africa, and Asia. Each regional unit assumes responsibility for earnings. Furthermore, the Company is working to establish common ground for global operations.

Shinshu Showa is an important subsidiary playing a central role in our graphite electrode manufacturing. Through the company split (Shinshu) and use of common ground for global operations, Shinshu Showa will serve as a globalized controlling company. This will enable us to increase the speed of decision-making, stabilize, optimize, and further strengthen our graphite electrode business.

(2) Schedules for Absorption-type Company Split Agreement (Shinshu)

Board of Directors' meetings at the Company and Shinshu Showa for approval of Absorption-type Company Split Agreement (Shinshu)	Aug. 4, 2022
Conclusion of the agreement	Aug. 4, 2022
Shareholders' meeting for approval (Company Succeeding)	Sep. 29, 2022
Effective date	Jan. 1, 2023

Note: Absorption-type Company Split (Shinshu) falls into the category of Simplified Absorption-type Company Split prescribed in Article 784, paragraph (2), of the Companies Act. So, the Absorption-type Split ② will be carried out without obtaining the approval of the general meetings of shareholders of the Company and SDMC.

(3) Business scope of the sector to be split

The Company's graphite electrode business.

Transfer of investments in subsidiaries

On March 31, 2023, Resonac Corporation (hereinafter called "REC", a wholly owned subsidiary of the Company), concluded a stock transfer agreement with Canon Medical Systems Corporation (hereinafter called "Canon Medical Systems") to transfer all of issued shares in Minaris Medical Co., Ltd. (hereinafter called "MMC") and Minaris Medical America, Inc. (hereinafter called "MMA", and MMC , MMA and Minaris Medical (Shanghai) Co., Ltd. collectively called "Minaris Medical"), which are currently held by REC directly or indirectly, to Canon Medical Systems (hereinafter called "this deal").

(1) Objectives

REC is a manufacturing company organized through integration of the Company and Showa Denko Materials Co., Ltd. In 2018, former Hitachi Chemical Company, Ltd. (hereinafter called "former Hitachi Chemical"), which is the predecessor of Showa Denko Materials Co., Ltd., acquired Kyowa Medex Co., Ltd. (hereinafter called "former Kyowa Medex", which is current Minaris Medical Co., Ltd.), which had firm position in the market for lipids tests, aiming to strengthen the company's foundation for in-vitro diagnostics (IVD) business. At the time of the acquisition, former Hitachi Chemical's key products consisted of diagnostic reagents and instruments for allergy testing. Former Kyowa Medex had a complementary product portfolio consisting of in-vitro diagnostics reagent for use in the fields of clinical chemistry and immunology. The acquisition of former Kyowa Medex contributed to the expansion of former Hitachi Chemical's product lineup. The acquisition made it possible for former Kyowa Medex to utilize former Hitachi Chemical's global sales network and promote marketing of its products worldwide. The acquisition brought synergies to MMC business overall. The domestic market for clinical testing had reached maturity, and some of other global IVD manufacturers had expanded their market shares. It had become challenging for Minaris Medical to formulate growth strategies based on the current product lines to achieve rapid growth through the unfavorable macroeconomic environment. Thus, it has become difficult for the Resonac Group to expect further synergies between Minaris Medical's business and other Group companies' businesses.

As we have stated in the "Long-term Vision for Newly Integrated Company (2021~2030)", the Resonac Group aims to contribute to the realization of sustainable society as a whole by becoming a "A world-class manufacturer of functional chemical materials". To achieve this target, the Group aims to realize steadfast growth by continuously reworking its business portfolio. The Group considered carefully all alternatives concerning Minaris Medical's future, while simultaneously reworking allocation of management resources and managing the business portfolio in an effort to optimize them. As a result, the management of REC concluded that it is in the best interest of all stakeholders of Minaris Medical, including its business partners, employees, and end-users of Minaris Medical's products, to transfer ownership of Minaris Medical from REC to Canon Medical Systems, a leading medical equipment manufacturer. Canon Medical Systems is expected to support Minaris Medical's growth as the best owner due to synergies in business strategy. Thus, the management of REC decided to promote this deal with Canon Medical Systems.

The IVD market is now facing drastic changes in the competitive environment inside and outside of Japan. The management of REC concluded that Canon Medical Systems, a leading medical equipment manufacturer in Japan, can produce synergies between their automated analysis equipment technologies and Minaris Medical's products lineup of diagnostic reagents, thereby creating added value. Canon Medical Systems has placed a high value on Minaris Medical's technical capabilities, product appeal, and customer base, all of which have been amassed through many years of operation.

(2) Outline of Minaris Medical Co., Ltd.

Name	Minaris Medical Co., Ltd.
Address	X-4F Harumi Triton Square, 1-8-10 Harumi, Chuo-ku Tokyo, Japan
Title and name of the representative	President and Managing Director / Naoki Kanenari
Business description	Development, manufacturing, and sale of in-vitro diagnostic reagent Development, manufacturing, and sale of automatic analysis equipment

(3) Outline of Minaris Medical America, Inc.

Name	Minaris Medical America, Inc.
Address	630 Clyde Ct., Mountain View, CA, US
Title and name of the representative	President and Chief Executive Officer / Mitsutaka Shimabe
Business description	Development, manufacturing, and sale of in-vitro diagnostic reagent Manufacturing and sale of automatic analysis equipment

(4) Outline of Minaris Medical (Shanghai) Co., Ltd.

Name	Minaris Medical (Shanghai) Co., Ltd.
Address	Suite 30 E1, Junyao International Plaza 789, Shanghai, China
Title and name of the representative	Managing Director / Kamon Matsuzawa
Business description	Import and sale of in-vitro diagnostic reagent

(5) Outline of Canon Medical Systems Corporation

Name	Canon Medical Systems Corporation
Address	1385 Shimoishigami, Otawara-shi, Tochigi, Japan
Title and name of the representative	President / Toshio Takiguchi
Business description	Development, manufacturing, and sale of medical equipment, and provision of technical services for medical equipment

(6) Future outlook

The Company anticipates recognizing some amount of extraordinary income in fiscal year 2023 as a gain on business transfer resulting from the execution of this deal. The details are yet to be determined.

Report of Independent Certified Public Accountants

KPMG

Independent auditor's report

To the Board of Directors of Resonac Holdings Corporation（formerly Showa Denko K.K.）:

Opinion

We have audited the accompanying consolidated financial statements of Resonac Holdings Corporation（formerly Showa Denko K.K.）（"the Company") and its consolidated subsidiaries (collectively referred to as "the Group"), which comprise the consolidated balance sheets as at December 31, 2022 and 2021, the consolidated statements of operations, statements of comprehensive income, statements of changes in net assets and statements of cash flows for the years then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with accounting principles generally accepted in Japan.

Basis for Opinion

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

Key Audit Matters

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

Appropriateness of the Company's judgment concerning the identification of an impairment indicator for intangible fixed assets including goodwill recognized as a result of acquiring Showa Denko Materials Co., Ltd. as a consolidated subsidiary

The key audit matter	How the matter was addressed in our audit
In the consolidated balance sheets of Showa Denko K.K. (hereinafter, the "Company"), intangible fixed assets of ¥494,346 million were recognized. As described in Note 3, "Significant accounting estimates, Judgment concerning the	The primary procedures we performed to assess the appropriateness of the Company's judgment as to whether there was an impairment indicator for intangible fixed assets including goodwill

identification of an impairment indicator for intangible fixed assets including goodwill recognized as a result of acquiring Showa Denko Materials Co., Ltd. as a consolidated subsidiary," included therein were goodwill of ¥296,184 million, customer related assets of ¥133,461 million, and other intangible fixed assets of ¥36,760 million related to the acquisition of Showa Denko Materials Co., Ltd. (hereinafter, "SDMC") as a consolidated subsidiary, which represented approximately 22.2% of total assets.

The judgment concerning the identification of an impairment indicator for intangible fixed assets including goodwill was made in consideration of a larger unit where intangible fixed assets including goodwill were added to the asset groups related to the Company's businesses (hereinafter, the "Asset Group Including Goodwill").

Intangible fixed assets including goodwill recognized as the excess earnings potential of SDMC are amortized on a systematic basis. However, it is determined that an impairment indicator exists, if the business performance set forth in the business plans has not been achieved, and therefore there have been, or are expected to be, events such as operating losses or continuous negative cash flows, a significant deterioration of the business environment and a change that may significantly decrease the recoverable amount. Whenever there is an impairment indicator for these intangible fixed assets including goodwill, they need to be tested for impairment by comparing the undiscounted future cash flows that are expected to be generated from the related Asset Group Including Goodwill with their carrying amounts. If the recognition of an impairment loss is deemed necessary, the carrying amount is reduced to the recoverable amount, and the resulting decrease in the carrying amount is measured as an impairment loss.

The Company assessed the business results of the Asset Group Including Goodwill through this fiscal year and examined the business plans for the subsequent fiscal years, considering whether the aforementioned events had occurred or are

recognized as a result of acquiring SDMC as a consolidated subsidiary included the following:

(1) Internal control testing

We tested the design and operating effectiveness of certain of the Company's internal controls relevant to judging whether there was an impairment indicator for intangible fixed assets including goodwill. In this assessment, we focused our testing on whether internal controls have been established and operate to examine the reliability of the business plans used for determining whether an impairment indicator exists.

(2) Assessment of the appropriateness of the judgment concerning the identification of an impairment indicator

In order to assess the appropriateness of the Company's judgment as to whether there was an impairment indicator for the Asset Group Including Goodwill, we inquired of management and the personnel responsible for the respective businesses. In addition, we:

- inspected the minutes of the board of directors and the documents for management meetings to understand SDMC's business environment;
- assessed the precision of management's estimates by analyzing the business plan including the causes of variances with actual results;
- assessed the consistency of the sales increase of the asset groups considered as key assumptions in the business plans with the growth forecast data published by external organizations for the key markets to which the asset groups belong; and
- assessed the reasonableness of the business plans for the subsequent fiscal years by making inquiries about the details and implementation status of various measures and inspecting relevant documents to assess the consistency.

Report of Independent Certified Public Accountants

expected to occur, to determine whether there was an impairment indicator for this fiscal year. Key assumptions, such as sales increase associated with growth of the markets related to the Asset Group Including Goodwill, were included in the business plans used by the Company for assessing whether an impairment indicator existed and involved uncertainty as management's significant judgment was required. We, therefore, determined that our assessment of the appropriateness of the judgment concerning the identification of an impairment indicator for intangible fixed assets including goodwill recognized as a result of acquiring SDMC as a consolidated subsidiary was the most significant in our audit of the consolidated financial statements for this fiscal year, and accordingly, a key audit matter.	

Other Information

The other information comprises the information included in the Annual Report, but does not include the consolidated financial statements, the financial statements, and our auditor's reports thereon. Management is responsible for the preparation and presentation of the other information. Corporate auditors and the Audit and Supervisory board are responsible for overseeing the directors' performance of their duties with regard to the design, implementation and maintenance of the reporting process for the other information.

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

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

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

We have nothing to report in this regard.

Responsibilities of Management and Corporate Auditors and the Audit and Supervisory Board for the Consolidated Financial Statements

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

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

Corporate auditors and the Audit and Supervisory board are responsible for overseeing the directors' performance of their duties with regard to the design, implementation and maintenance of the Group's financial reporting process.

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

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with auditing standards generally accepted in Japan will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, while the objective of the audit is not to express an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate whether the presentation and disclosures in the consolidated financial statements are in accordance with accounting standards generally accepted in Japan, the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

Report of Independent Certified Public Accountants

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

We also provide corporate auditors and the Audit and Supervisory board with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

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

Convenience Translation

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended December 31, 2022 are presented solely for convenience. Our audit also included the translation of yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 6 to the consolidated financial statements.

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

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

Noriaki Sakurai

Designated Engagement Partner

Certified Public Accountant

Shingo Iwamiya

Designated Engagement Partner

Certified Public Accountant

Daio Aida
Designated Engagement Partner
Certified Public Accountant

KPMG AZSA LLC
Tokyo Office, Japan
April 19, 2023

Corporate Data

Investor Information

Head Office

Resonac Holdings Corporation
Current address:
13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo 105-8518, Japan
New address from July 2023:
24-26F, Tokyo Shiodome Building, 9-1, Higashi-shimbashi 1-chome, Minato-ku, Tokyo 105-7325, Japan
URL: https://www.resonac.com/
Contact: https://www.resonac.com/inquiry

Ordinary General Meeting

The Ordinary General Meeting of Shareholders was held on March 30, 2023.

Shareholders (Top 10)

(As of December 31, 2022)

Shareholder	Number of shares held (in thousands)	Shareholding (%)
The Master Trust Bank of Japan, Ltd. (T)	28,130	15.51
KOREA SECURITIES DEPOSITORY - SAMSUNG	9,062	5.00
Custody Bank of Japan, Ltd. (T)	7,667	4.23
STATE STREET BANK AND TRUST COMPANY 510312	4,905	2.70
STATE STREET BANK AND TRUST COMPANY 505223	4,850	2.67
Fukoku Mutual Life Insurance Company	4,517	2.49
JPMorgan Securities Japan Co., Ltd.	4,474	2.47
STATE STREET BANK AND TRUST COMPANY 510311	4,135	2.28
SMBC Nikko Securities Inc.	3,051	1.68
HSBC BANK PLC A/C M AND G (ACS)	2,854	1.57

Note: Shareholding percentages were calculated after deducting the number of treasury shares (3,554 thousand) from the number of shares outstanding.

Number of Shares Outstanding

184,901,292 as of December 31, 2022

Number of Shareholders

90,689 as of December 31, 2022

Classification of Stock

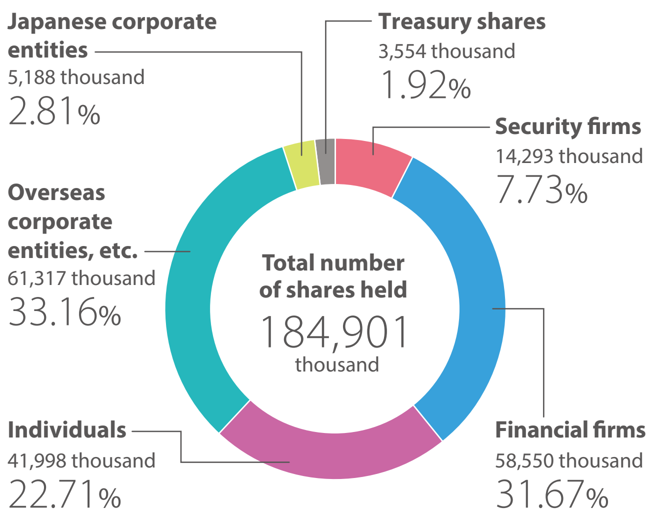
All stock issued by Resonac Holdings Corporation is common stock.

Stock Transfer Agent

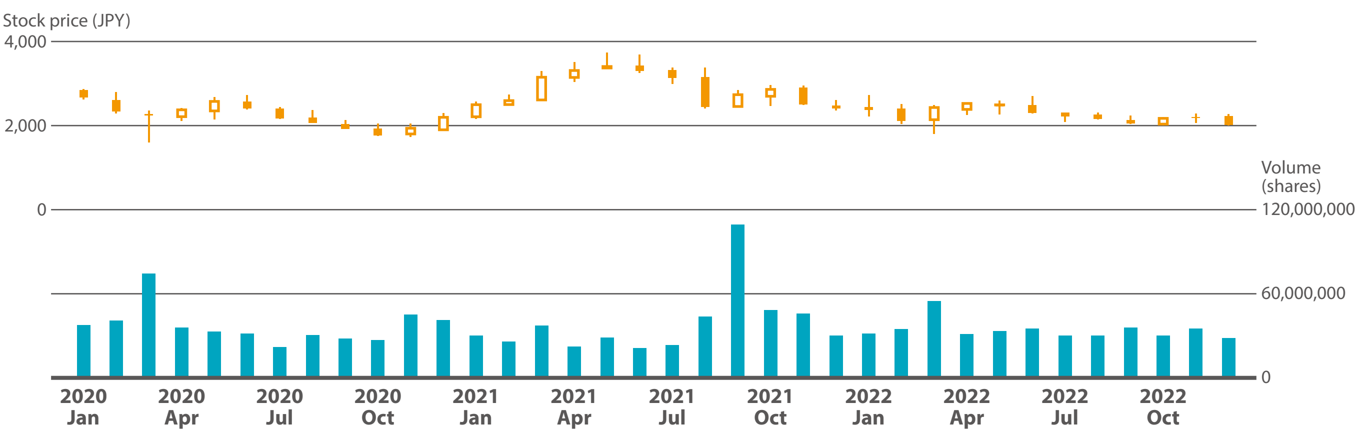
Mizuho Trust & Banking Co., Ltd.
3-3, Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8241, Japan

Shareholders by Sector

(As of December 31, 2022)



Stock Price and Trading Volume



RESONAC
Chemistry for Change

Resonac Holdings Corporation

Current address:
13-9, Shiba Daimon 1-chome, Minato-ku, Tokyo 105-8518, Japan

New address from July 2023:
24-26F, Tokyo Shiodome Building, 9-1, Higashi-shimbashi 1-chome, Minato-ku, Tokyo 105-7325, Japan

Website:
https://www.resonac.com/