NGK INSULATORS, LTD.

NGK INSULATORS, LTD.
and Consolidated Subsidiaries

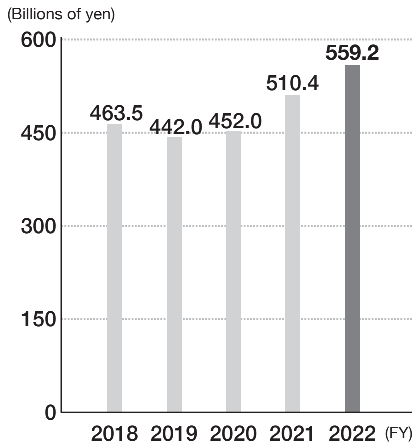
Consolidated Financial Statements
for the Year Ended March 31, 2023, and
Independent Auditor's Report

Contents

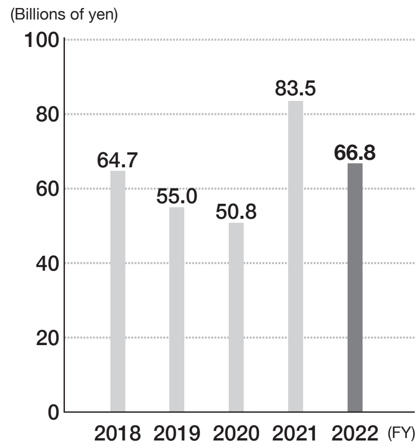
Financial Highlights

The following data includes financial results of consolidated subsidiaries (17 domestic, 30 overseas companies as of March 31, 2023)

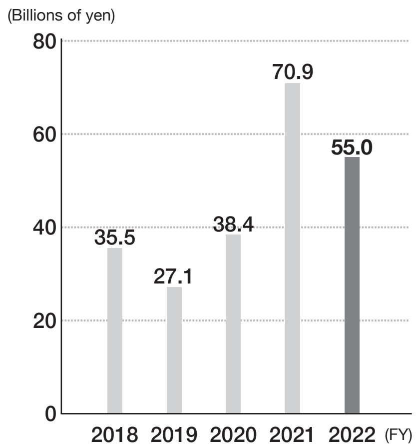
Net Sales



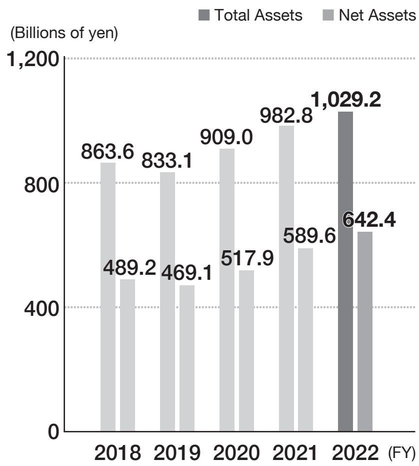
Operating Income



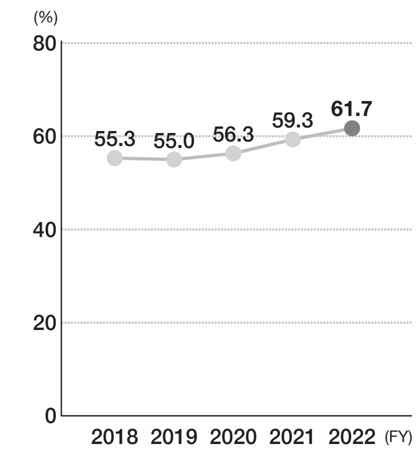
Net Income



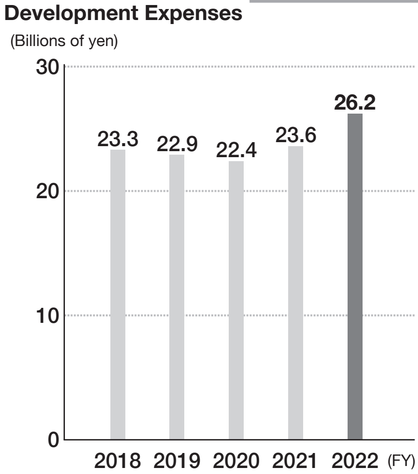
Total Assets/Net Assets



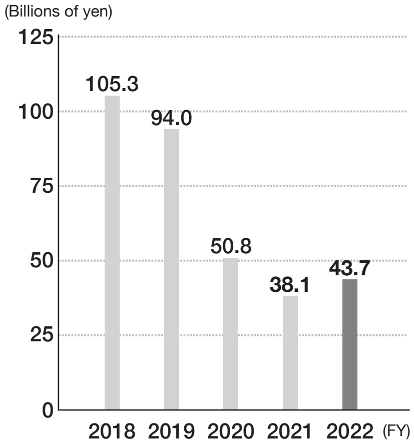
Equity Ratio



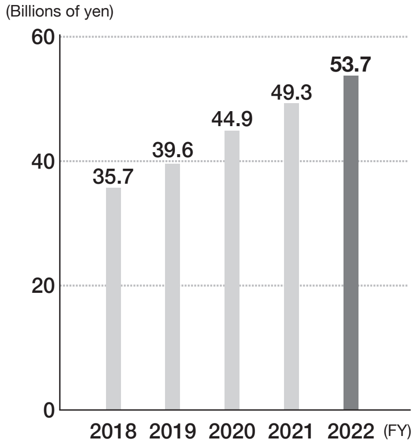
Research and Development Expenses



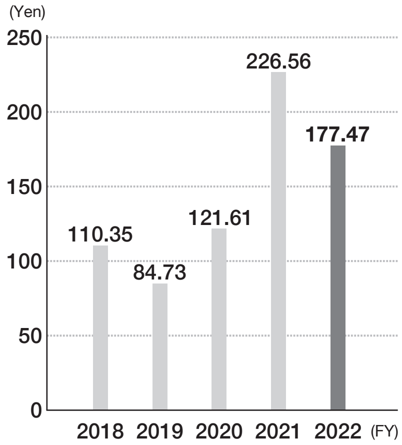
Capital Expenditures



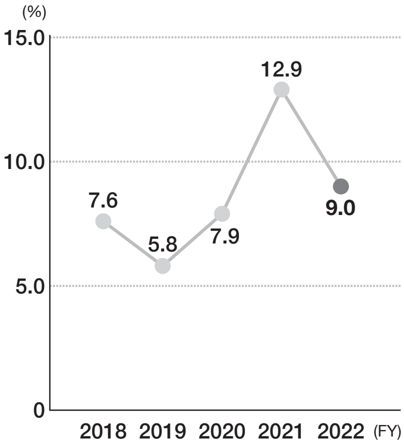
Depreciation and Amortization



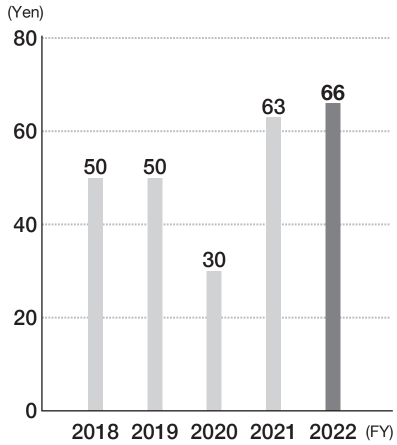
Net Income per Share



Return on Equity



Dividends



Stock Price

FY	2018	2019	2020	2021	2022
Highest (Yen)	2,131	1,994	2,153	2,106	**2,038**
Lowest (Yen)	1,400	1,168	1,171	1,539	**1,638**

Consolidated Balance Sheet

NGK INSULATORS, LTD. and Consolidated Subsidiaries

March 31, 2023

ASSETS	Millions of Yen		Thousands of U.S. Dollars (Note 1)
	2023	2022	**2023**
CURRENT ASSETS:			
Cash and cash equivalents (Note 15)	**¥ 168,864**	¥ 154,855	**$ 1,260,176**
Time deposits (Note 15)	**14,485**	7,143	**108,086**
Marketable securities (Notes 5 and 15)	**31,361**	23,643	**234,034**
Notes and accounts receivable:			
Trade notes and accounts (Notes 13 and 15)	**111,074**	122,213	**828,910**
Other	**16,357**	15,788	**122,083**
Allowance for doubtful accounts	**(162)**	(153)	**(1,212)**
Total	**127,269**	137,848	**949,781**
Inventories (Note 6)	**214,423**	188,337	**1,600,172**
Prepaid expenses and other current assets	**17,317**	15,568	**129,235**
Total current assets	**573,719**	527,394	**4,281,484**
PROPERTY, PLANT AND EQUIPMENT (Notes 3.a and 7):			
Land	**30,756**	29,263	**229,521**
Buildings and structures	**253,605**	241,492	**1,892,576**
Machinery and equipment	**660,069**	623,389	**4,925,890**
Construction in progress	**25,394**	30,947	**189,505**
Other	**3,943**	3,641	**29,430**
Total	**973,767**	928,732	**7,266,922**
Accumulated depreciation	**(607,321)**	(553,420)	**(4,532,249)**
Net property, plant and equipment	**366,446**	375,312	**2,734,673**
INVESTMENTS AND OTHER ASSETS:			
Investment securities (Notes 5 and 15)	**41,482**	41,072	**309,564**
Investments in unconsolidated subsidiaries and associated companies	**16,742**	17,981	**124,940**
Intangible assets	**6,414**	6,197	**47,866**
Net defined benefit assets (Notes 3.b and 9)	**12,887**	6,692	**96,173**
Deferred tax assets (Notes 3.c and 12)	**7,523**	5,891	**56,142**
Other assets	**3,955**	2,294	**29,516**
Total investments and other assets	**89,003**	80,127	**664,201**
TOTAL	**¥ 1,029,168**	¥ 982,833	**$ 7,680,358**

(Continued)

LIABILITIES AND EQUITY	Millions of Yen 2023	Millions of Yen 2022	Thousands of U.S. Dollars (Note 1) 2023
CURRENT LIABILITIES:			
Short-term borrowings (Note 8)	¥ **11,144**	¥ 6,199	$ **83,162**
Current portion of long-term debt (Notes 8 and 15)	**34,860**	32,263	**260,153**
Notes and accounts payable:			
Trade notes and accounts	**44,314**	43,806	**330,701**
Other	**16,042**	16,769	**119,716**
Total	**60,356**	60,575	**450,417**
Accrued expenses	**25,861**	24,270	**192,990**
Provision for NAS Battery safety measures	**763**	973	**5,695**
Income taxes payable (Note 12)	**4,164**	19,831	**31,077**
Other current liabilities	**12,360**	7,679	**92,234**
Total current liabilities	**149,508**	151,790	**1,115,728**
LONG-TERM LIABILITIES:			
Long-term debt (Notes 8 and 15)	**207,354**	213,889	**1,547,416**
Net defined benefit liability (Notes 3.b and 9)	**20,284**	21,421	**151,372**
Provision for product warranties	**656**	630	**4,891**
Deferred tax liabilities (Notes 3.c and 12)	**4,078**	1,085	**30,432**
Other long-term liabilities	**4,842**	4,424	**36,144**
Total long-term liabilities	**237,214**	241,449	**1,770,255**
CONTINGENT LIABILITIES (Note 17)			
EQUITY (Note 10):			
Common stock:			
Authorized — 735,030 thousand shares			
Issued — 311,830 thousand shares and 317,212 thousand shares at March 31, 2023 and 2022	**69,955**	69,849	**522,055**
Capital surplus	**70,306**	70,199	**524,669**
Stock acquisition rights (Note 11)	**882**	941	**6,584**
Retained earnings (Note 19)	**440,530**	416,205	**3,287,538**
Treasury stock — at cost: 5,539 thousand shares and 5,571 thousand shares at March 31, 2023 and 2022, respectively (Note 10.c)	**(10,295)**	(10,945)	**(76,826)**
Accumulated other comprehensive income:			
Unrealized gain on available-for-sale securities	**17,102**	17,061	**127,623**
Deferred loss on derivatives under hedge accounting	**(10)**	(200)	**(72)**
Foreign currency translation adjustments	**42,850**	21,621	**319,774**
Defined retirement benefit plans	**5,010**	(643)	**37,387**
Total	**636,330**	584,088	**4,748,732**
Noncontrolling interests	**6,116**	5,506	**45,643**
Total equity	**642,446**	589,594	**4,794,375**
TOTAL	¥ **1,029,168**	¥ 982,833	$ **7,680,358**

See notes to consolidated financial statements.

(Concluded)

Consolidated Statement of Income

NGK INSULATORS, LTD. and Consolidated Subsidiaries

Year ended March 31, 2023

	Millions of Yen		Thousands of U.S. Dollars (Note 1)
	2023	2022	**2023**
NET SALES (Note 13)	**¥ 559,240**	¥ 510,439	**$ 4,173,435**
COST OF SALES (Note 14)	**405,463**	347,748	**3,025,846**
Gross profit	**153,777**	162,691	**1,147,589**
SELLING, GENERAL AND ADMINISTRATIVE EXPENSES (Note 14)	**87,016**	79,163	**649,372**
Operating income	**66,761**	83,528	**498,217**
OTHER INCOME (EXPENSES):			
Interest and dividends income	**2,123**	1,441	**15,843**
Interest expense	**(3,861)**	(3,591)	**(28,814)**
Loss on sales of and disposals of property, plant and equipment — net	**(319)**	(327)	**(2,379)**
Equity in earnings of unconsolidated subsidiary and associated company	**1,522**	1,667	**11,361**
Foreign exchange gain	**694**	1,453	**5,183**
Loss on valuation of derivatives	**(205)**	(837)	**(1,532)**
Gain on sales of investment securities — net	**1,313**	1,161	**9,798**
Impairment loss on long-lived assets (Notes 3.a and 7)	**(9,952)**	(1,160)	**(74,272)**
Depreciation	**(740)**	(349)	**(5,520)**
Subsidy income	**1,125**	4,896	**8,395**
Interest on tax refund (Note 12)	**551**	1,196	**4,111**
Loss on liquidation of subsidiaries and an associated company	**(964)**	–	**(7,192)**
Loss on business of subsidiary	**(532)**	–	**(3,970)**
Other — net	**6**	1,741	**43**
Other(expenses) income — net	**(9,239)**	7,291	**(68,945)**
INCOME BEFORE INCOME TAXES	**57,522**	90,819	**429,272**
INCOME TAXES (Notes 3.c and 12):			
Current	**15,254**	25,552	**113,842**
Refund	**(7,661)**	(5,759)	**(57,175)**
Prior periods	**(4,100)**	–	**(30,597)**
Deferred	**(1,223)**	(6)	**(9,126)**
Total income taxes	**2,270**	19,787	**16,944**
NET INCOME	**55,252**	71,032	**412,328**
NET INCOME ATTRIBUTABLE TO NONCONTROLLING INTERESTS	**203**	180	**1,515**
NET INCOME ATTRIBUTABLE TO OWNERS OF THE PARENT	**¥ 55,049**	¥ 70,852	**$ 410,813**
	Yen		U.S. Dollars
PER SHARE OF COMMON STOCK (Notes 2.v and 19):			
Basic net income	**¥ 177.47**	¥ 226.56	**$ 1.324**
Diluted net income	**177.17**	226.17	**1.322**
Cash dividends applicable to the year	**66.00**	63.00	**0.493**

See notes to consolidated financial statements.

Consolidated Statement of Comprehensive Income

NGK INSULATORS, LTD. and Consolidated Subsidiaries

Year ended March 31, 2023

	Millions of Yen		Thousands of U.S. Dollars (Note 1)
	2023	2022	**2023**
NET INCOME	**¥ 55,252**	¥ 71,032	**$ 412,328**
OTHER COMPREHENSIVE INCOME (LOSS) (Note 18):			
Unrealized gain (loss) on available-for-sale securities	**42**	(2,196)	**313**
Deferred gain (loss) on derivatives under hedge accounting	**181**	(5)	**1,347**
Foreign currency translation adjustments	**21,205**	26,626	**158,258**
Share of other comprehensive income in associated companies	**392**	261	**2,922**
Defined retirement benefit plans	**5,681**	2,967	**42,395**
Total other comprehensive income	**27,501**	27,653	**205,235**
COMPREHENSIVE INCOME	**¥ 82,753**	¥ 98,685	**$ 617,563**
TOTAL COMPREHENSIVE INCOME ATTRIBUTABLE TO:			
Owners of the parent	**¥ 82,162**	¥ 98,169	**$ 613,147**
Noncontrolling interests	**591**	516	**4,416**

See notes to consolidated financial statements.

Consolidated Statement of Changes in Equity

NGK INSULATORS, LTD. and Consolidated Subsidiaries

Year ended March 31, 2023

	Thousands					
	Outstanding Number of Common Stock	Common Stock	Capital Surplus	Stock Acquisition Rights	Retained Earnings	Treasury Stock
Balance at March 31 ,2021(April 1, 2021,as previously reported)	316,573	¥ 69,849	¥ 70,199	¥ 872	¥ 372,641	¥ (11,206)
Cumulative effects of accounting change	–	–	–	–	(1,778)	–
Balance at April 1, 2021(as restated)	316,573	69,849	70,199	872	370,863	(11,206)
Net income attributable to owners of the parent	–	–	–	–	70,852	–
Cash dividends, ￥50 per share	–	–	–	–	(15,680)	–
Purchase of treasury stock	(5,000)	–	–	–	–	(9,701)
Disposal of treasury stock	68	–	(7)	–	–	139
Cancellation of treasury stock	–	–	(9,823)	–	–	9,823
Transfer from retained earnings to capital surplus	–	–	9,830	–	(9,830)	–
Net change in the year	–	–	–	69	–	–
Balance at March 31, 2022	311,641	69,849	70,199	941	416,205	(10,945)
Net income attributable to owners of the parent	–	–	–	–	55,049	–
Cash dividends, ￥66 per share	–	–	–	–	(20,573)	–
Purchase of treasury stock	(5,500)	–	–	–	–	(9,635)
Disposal of treasury stock	32	–	(3)	–	–	63
Cancellation of treasury stock	–	–	(10,222)	–	–	10,222
Transfer from retained earnings to capital surplus	–	–	10,226	–	(10,226)	–
Restricted stock compensation	118	106	106	–	–	–
Change in scope of consolidation	–	–	–	–	75	–
Net change in the year	–	–	–	(59)	–	–
Balance at March 31, 2023	**306,291**	**¥ 69,955**	**¥ 70,306**	**¥ 882**	**¥ 440,530**	**¥ (10,295)**

	Common Stock	Capital Surplus	Stock Acquisition Rights	Retained Earnings	Treasury Stock
Balance at March 31, 2022	$ 521,262	$ 523,876	$ 7,024	$ 3,106,009	$ (81,679)
Net income attributable to owners of the parent	–	–	–	410,813	–
Cash dividends, $0.49 per share	–	–	–	(153,527)	–
Purchase of treasury stock	–	–	–	–	(71,905)
Disposal of treasury stock	–	(30)	–	–	474
Cancellation of treasury stock	–	(76,284)	–	–	76,284
Transfer from retained earnings to capital surplus	–	76,314	–	(76,314)	–
Restricted stock compensation	793	793	–	–	–
Change in scope of consolidation	–	–	–	557	–
Net change in the year	–	–	(440)	–	–
Balance at March 31, 2023	**$ 522,055**	**$ 524,669**	**$ 6,584**	**$ 3,287,538**	**$ (76,826)**

See notes to consolidated financial statements.

Millions of Yen						
Accumulated Other Comprehensive Income						
Unrealized Gain on Available-for-Sale Securities	Deferred Loss on Derivatives under Hedge Accounting	Foreign Currency Translation Adjustments	Defined Retirement Benefit Plans	Total	Noncontrolling Interests	Total Equity
¥ 19,258	¥ (186)	¥ (4,919)	¥ (3,633)	¥ 512,875	¥ 5,017	¥ 517,892
–	–	–	–	(1,778)	–	(1,778)
19,258	(186)	(4,919)	(3,633)	511,097	5,017	516,114
–	–	–	–	70,852	–	70,852
–	–	–	–	(15,680)	–	(15,680)
–	–	–	–	(9,701)	–	(9,701)
–	–	–	–	132	–	132
–	–	–	–	–	–	–
–	–	–	–	–	–	–
(2,197)	(14)	26,540	2,990	27,388	489	27,877
17,061	(200)	21,621	(643)	584,088	5,506	589,594
–	–	–	–	55,049	–	55,049
–	–	–	–	(20,573)	–	(20,573)
–	–	–	–	(9,635)	–	(9,635)
–	–	–	–	60	–	60
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	212	–	212
–	–	–	–	75	–	75
41	190	21,229	5,653	27,054	610	27,664
¥ 17,102	**¥ (10)**	**¥ 42,850**	**¥ 5,010**	**¥ 636,330**	**¥ 6,116**	**¥ 642,446**

Thousands of U.S. Dollars (Note 1)						
Accumulated Other Comprehensive Income						
Unrealized Gain on Available-for-Sale Securities	Deferred Loss on Derivatives under Hedge Accounting	Foreign Currency Translation Adjustments	Defined Retirement Benefit Plans	Total	Noncontrolling Interests	Total Equity
$ 127,319	$ (1,491)	$ 161,348	$ (4,797)	$ 4,358,871	$ 41,084	$ 4,399,955
–	–	–	–	410,813	–	410,813
–	–	–	–	(153,527)	–	(153,527)
–	–	–	–	(71,905)	–	(71,905)
–	–	–	–	444	–	444
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	1,586	–	1,586
–	–	–	–	557	–	557
304	1,419	158,426	42,184	201,893	4,559	206,452
$ 127,623	**$ (72)**	**$ 319,774**	**$ 37,387**	**$ 4,748,732**	**$ 45,643**	**$ 4,794,375**

Consolidated Statement of Cash Flows

NGK INSULATORS, LTD. and Consolidated Subsidiaries

Year ended March 31, 2023

	Millions of Yen		Thousands of U.S. Dollars (Note 1)
	2023	2022	**2023**
OPERATING ACTIVITIES:			
Income before income taxes	**¥ 57,522**	¥ 90,819	**$ 429,272**
Adjustments for:			
Income taxes — paid	**(31,378)**	(12,921)	**(234,167)**
Income taxes — refund	**11,107**	4,580	**82,889**
Depreciation and amortization	**53,729**	49,271	**400,965**
Impairment loss on fixed assets	**9,952**	1,160	**74,272**
Equity in earnings of unconsolidated subsidiary and associated company	**(1,522)**	(1,667)	**(11,361)**
Gain on sales of investment securities — net	**(1,313)**	(1,161)	**(9,798)**
Changes in assets and liabilities:			
Decrease (increase) in notes and accounts receivable — trade	**15,452**	(1,652)	**115,315**
Increase in inventories	**(19,614)**	(27,900)	**(146,372)**
Increase in other current assets	**(403)**	(117)	**(3,007)**
(Decrease) increase in notes and accounts payable — trade	**(497)**	331	**(3,710)**
Increase (decrease) in other current liabilities	**4,348**	(4,022)	**32,445**
Other — net	**566**	(1,890)	**4,225**
Total adjustments	**40,427**	4,012	**301,696**
Net cash provided by operating activities	**97,949**	94,831	**730,968**
INVESTING ACTIVITIES:			
Purchases of marketable securities	**(69,639)**	(54,700)	**(519,692)**
Proceeds from sales and redemption of marketable securities	**61,896**	51,231	**461,909**
Proceeds from sales and redemption of investment securities	**3,955**	1,841	**29,514**
Purchases of property, plant and equipment	**(40,257)**	(35,226)	**(300,427)**
Proceeds from sale of property, plant and equipment	**3,168**	143	**23,644**
Purchase of intangible assets	**(2,896)**	(2,202)	**(21,614)**
Increase in time deposits	**(7,319)**	(6,810)	**(54,620)**
Other — net	**(915)**	(569)	**(6,826)**
Net cash used in investing activities	**(52,007)**	(46,292)	**(388,112)**
FINANCING ACTIVITIES:			
Increase (decrease) in short-term borrowings — net	**4,524**	(12,017)	**33,760**
Proceeds from long-term debt	**25,125**	15,000	**187,500**
Repayments of long-term debt	**(32,812)**	(22,007)	**(244,867)**
Purchase of treasury stock	**(9,635)**	(9,701)	**(71,905)**
Cash dividends	**(20,573)**	(15,680)	**(153,527)**
Other — net	**(1,197)**	(858)	**(8,933)**
Net cash used in financing activities	**(34,568)**	(45,263)	**(257,972)**
FOREIGN CURRENCY TRANSLATION ADJUSTMENTS ON CASH AND CASH EQUIVALENTS	**2,561**	5,548	**19,110**
NET INCREASE IN CASH AND CASH EQUIVALENTS	**13,935**	8,824	**103,994**
INCREASE IN CASH AND CASH EQUIVALENTS RESULTING FROM CHANGE IN SCOPE OF CONSOLIDATION	**74**	-	**547**
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	**154,855**	146,031	**1,155,635**
CASH AND CASH EQUIVALENTS, END OF YEAR	**¥ 168,864**	¥ 154,855	**$ 1,260,176**

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

NGK INSULATORS, LTD. and Consolidated Subsidiaries
Year ended March 31, 2023

1. BASIS OF PRESENTATION OF CONSOLIDATED FINANCIAL STATEMENTS

The accompanying consolidated financial statements have been prepared in accordance with the provisions set forth in the Japanese Financial Instruments and Exchange Act and its related accounting regulations and in accordance with accounting principles generally accepted in Japan ("Japanese GAAP"), which are different in certain respects as to the application and disclosure requirements of International Financial Reporting Standards ("IFRS").

In preparing these consolidated financial statements, certain reclassifications and rearrangements have been made to the consolidated financial statements issued domestically in order to present them in a form which is more familiar to readers outside Japan. In addition, certain reclassifications have been made in the 2022 consolidated financial statements to conform to the classifications used in 2023.

The consolidated financial statements are stated in Japanese yen, the currency of the country in which NGK INSULATORS, Ltd. ("the Company") is incorporated and operates. The translations of Japanese yen amounts into U.S. dollar amounts are included solely for the convenience of readers outside Japan and have been made at the rate of ¥134 to $1, the approximate rate of exchange at March 31, 2023. Such translations should not be construed as representations that the Japanese yen amounts could be converted into U.S. dollars at that or any other rate.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a. Consolidation— The consolidated financial statements as of March 31, 2023 include the accounts of the Company and its 47 (45 in 2022) significant subsidiaries (together, the "Group").

Under the control and influence concepts, those companies in which the Company, directly or indirectly, is able to exercise control over operations are fully consolidated, and those companies over which the Group has the ability to exercise significant influence are accounted for by the equity method.

Investments in one unconsolidated subsidiary and one associated company are accounted for by the equity method.

Investments in the remaining unconsolidated subsidiaries and associated company are stated at cost. If the equity method of accounting had been applied to the investments in these companies, the effect on the accompanying consolidated financial statements would not be material.

All significant intercompany balances and transactions have been eliminated in consolidation. All material unrealized profit included in assets resulting from transactions within the Group is also eliminated. The fiscal years of subsidiaries are not necessarily the same as that of the Company. Eight foreign consolidated subsidiaries in China and Mexico, etc. have different fiscal years. Those subsidiaries prepared provisional financial information at March 31 for the consolidation.

b. Unification of Accounting Policies Applied to Foreign Subsidiaries for the Consolidated Financial Statements— Under Accounting Standards Board of Japan ("ASBJ") Practical Issues Task Force ("PITF") No. 18, "Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries for the Consolidated Financial Statements," the accounting policies and procedures applied to a parent company and its subsidiaries for similar transactions and events under similar circumstances should in principle be unified for the preparation of the consolidated financial statements. However, financial statements prepared by foreign subsidiaries in accordance with either International Financial Reporting Standards ("IFRS") or generally accepted accounting principles in the United States of America ("US GAAP") tentatively may be used for the consolidation process, except for the following items that should be adjusted in the consolidation process so that net income is accounted for in accordance with Japanese GAAP, unless they are not material:

(a) amortization of goodwill; (b) scheduled amortization of actuarial gain or loss of pensions that has been recorded in equity through other comprehensive income; (c) expensing capitalized development costs of R&D; (d) cancellation of the fair value model of accounting for property, plant and equipment and investment properties and incorporation of the cost model of accounting; and (e) recording a gain or loss through profit or loss on the sale of an investment in an equity instrument for the difference between the acquisition cost and selling price, and recording impairment loss through profit or loss for other-than-temporary declines in the fair value of an investment in an equity instrument, where a foreign subsidiary elects to present in other comprehensive income subsequent changes in the fair value of an investment in an equity instrument.

c. ***Unification of Accounting Policies Applied to Foreign Associated Companies for the Equity Method***— ASBJ Statement No. 16, "Accounting Standard for Equity Method of Accounting for Investments," requires adjustments to be made to conform the associate's accounting policies for similar transactions and events under similar circumstances to those of the parent company when the associate's financial statements are used in applying the equity method, unless it is impracticable to determine such adjustments. In addition, financial statements prepared by foreign associated companies in accordance with either IFRS or US GAAP tentatively may be used in applying the equity method if the following items are adjusted so that net income is accounted for in accordance with Japanese GAAP, unless they are not material: (a) amortization of goodwill; (b) scheduled amortization of actuarial gain or loss of pensions that has been recorded in equity through other comprehensive income; (c) expensing capitalized development costs of R&D; (d) cancellation of the fair value model of accounting for property, plant and equipment and investment properties and incorporation of the cost model of accounting; and (e) recording a gain or loss through profit or loss on the sale of an investment in an equity instrument for the difference between the acquisition cost and selling price, and recording impairment loss through profit or loss for other-than-temporary declines in the fair value of an investment in an equity instrument, where a foreign associate elects to present in other comprehensive income subsequent changes in the fair value of an investment in an equity instrument.

d. ***Business Combinations***— Business combinations are accounted for using the purchase method. Acquisition-related costs, such as advisory fees or professional fees, are accounted for as expenses in the periods in which the costs are incurred. If the initial accounting for a business combination is incomplete by the end of the reporting period in which the business combination occurs, an acquirer shall report in its financial statements provisional amounts for the items for which the accounting is incomplete. During the measurement period, which shall not exceed one year from the acquisition, the acquirer shall retrospectively adjust the provisional amounts recognized at the acquisition date to reflect new information obtained about facts and circumstances that existed as of the acquisition date and that would have affected the measurement of the amounts recognized as of that date. Such adjustments shall be recognized as if the accounting for the business combination had been completed at the acquisition date. A parent's ownership interest in a subsidiary might change if the parent purchases or sells ownership interests in its subsidiary. The carrying amount of noncontrolling interest is adjusted to reflect the change in the parent's ownership interest in its subsidiary while the parent retains its controlling interest in its subsidiary. Any difference between the fair value of the consideration received or paid and the amount by which the noncontrolling interest is adjusted is accounted for as capital surplus as long as the parent retains control over its subsidiary.

e. ***Cash Equivalents***— Cash equivalents are short-term investments that are readily convertible into cash and that are exposed to insignificant risk of changes in value.

Cash equivalents include time deposits, certificates of deposit, and investment trusts that represent short-term investments, all of which mature or become due within three months of the date of acquisition.

f. ***Inventories***— Inventories are stated at the lower of cost, determined principally by the average method for finished products, work in process, and raw materials, or net selling value (see Note 6). Write-downs of inventories in the amounts of ¥2,626 million ($19,595 thousand) and ¥304 million for the years ended March 31, 2023 and 2022, respectively, were included in cost of sales. Costs of contracts in progress are stated at cost, determined by the specific identification method.

g. ***Allowance for Doubtful Accounts***— To provide for the loss from doubtful accounts, the allowance for doubtful accounts is calculated using the historical rate of actual losses for normal receivables and the estimated nonrecoverable amount for specific doubtful receivables after considering the recoverability of each account.

h. ***Marketable and Investment Securities***— Marketable and investment securities are classified and accounted for, depending on management's intent, as follows: (1) held-to-maturity debt securities, for which there is a positive intent and ability to hold to maturity, are reported at amortized cost; and (2) available-for-sale securities, which are not classified as held-to-maturity debt securities, are reported at fair value, with unrealized gains and losses, net of applicable taxes, reported in a separate component of equity.

Nonmarketable available-for-sale equity securities are stated at cost, determined by the moving-average method. For other-than-temporary declines in fair value, investment securities are reduced to net realizable value by a charge to income.

i. ***Property, Plant and Equipment***— Property, plant, and equipment are stated at cost.
Depreciation of property, plant and equipment of the Company and its consolidated subsidiaries is computed by the straight-line method.

The range of useful lives is principally from 10 to 50 years for buildings and structures and from 3 to 12 years for machinery and equipment.

j. ***Long-Lived Assets***— The Group reviews its long-lived assets for impairment whenever events or changes in circumstance indicate the carrying amount of an asset or asset group may not be recoverable. An impairment loss is recognized if the carrying amount of an asset or asset group exceeds the sum of the undiscounted future cash flows expected to result from the continued use and eventual disposition of the asset or asset group. The impairment loss would be measured as the amount by which the carrying amount of the asset exceeds its recoverable amount, which is the higher of the discounted cash flows from the continued use and eventual disposition of the asset, or the net selling price at disposition.

Intangible assets are amortized by the straight-line method.

k. ***Retirement and Pension Plans***— Net defined benefit liability (asset) is accounted for based on the projected benefit obligations and plan assets at the balance sheet date. The projected benefit obligations are attributed to periods on a benefit-formula basis. Actuarial gains and losses and past service costs that are yet to be recognized in profit or loss are recognized within equity (accumulated other comprehensive income) after adjusting for tax effects.

Actuarial gains and losses are amortized and charged to expense on a straight-line basis over 10 years within the expected average remaining service period of the employees from the consolidated fiscal year following the year when they occur. Past service costs are amortized and charged to expense on a straight-line basis, mainly over 10 years, within the expected average remaining service period of the employees.

Certain domestic consolidated subsidiaries apply the simplified method to state the liability based on the amount that would be paid if employees retired at the consolidated balance sheet date.

l. Stock Options— The cost of employee stock options is measured based on the fair value at the date of grant and recognized as compensation expenses over the vesting period as consideration for receiving goods or services. In the consolidated balance sheet, stock options are presented as stock acquisition rights as a separate component of equity until exercised.

m. Research and Development Costs— Research and development costs are charged to income as incurred.

n. Provision for Product Warranties Costs— The Company and certain consolidated subsidiaries estimate and accrue the costs of warranty repair for products sold in reserve for future expenses.

o. Provision for NAS Battery Safety Measures— In September 2011, Company-manufactured NAS® (sodium-sulfur) batteries used for storing electricity caught fire. The Company, in connection with this incident, reserved an allowance as "Provision for NAS Battery safety measures" for anticipated future expenses related to safety measures necessary to expand the NAS battery business, to the extent that such amount can be reasonably estimated.

p. Revenue Recognition—

(i) Main performance obligations of major businesses. The Group applies its unique ceramic technology to manufacture and sell a variety of products that support the foundation of society and contribute to environmental conservation. The main performance obligations by business segment are as follows.

(Environment business)

The Group manufactures and sells automotive ceramics for exhaust gas purification and sensor.

(Digital Society business)

The Group manufactures and sells components for semiconductor manufacturing equipment, as well as manufactures and sells ceramic components for electronics, mainly electronic industrial products, as well as metal-related products, mainly beryllium copper products and metal molds.

(Energy & Industry business)

The Group manufactures and sells products and provides services related to insulators, hardware for insulator assemblies, current limiting arching horn, bushing shells, fuse cut-outs, APM, line arrester, manufactures and sells products and provides services related to industrial equipment, primarily corrosion-resistant ceramic apparatuses for chemical industries, gas analyzer, industrial heating systems, refractory products and radioactive waste treatment systems, and manufactures and sells and provides services related to energy storage-related products, primarily NAS® (Sodium/Sulfur Batteries) batteries for electric power storage.

(ii) Normal point in time at which performance obligations are satisfied (normal point in time at which revenue is recognized)

Except for a and b below, the Group recognizes domestic sales revenue based on the judgment that the Group has the right to receive consideration for the provided assets, etc., which is mainly at the time when the product arrives at the customer or when the customer's acceptance inspection is completed. For export sales, the revenue is recognized mainly at the time when the risk is determined to have been transferred to the customer based on the trade conditions specified by Incoterms, etc., and that legal ownership, physical possession, material risks, etc. are transferred to the customer and hence the control over the assets has been transferred to the customer.

a. Service contract
The Group recognizes revenue over a certain period of time as it fulfills its performance obligations to transfer products or services to customers for service contracts concluded primarily in the energy infrastructure business and process technology business. Progress in meeting performance obligations is measured based on the ratio of costs incurred by the end of each reporting period to the total expected costs. In addition, the Group recognizes revenue on a cost recovery basis if it is not possible to reasonably estimate the progress in meeting performance obligations, but it is expected to recover costs incurred in meeting the performance obligations. For service contracts for which it is expected to completely fulfill performance obligations within a very short period of time from the transaction start date, the Group applies alternative treatment and does not recognize revenue over a certain period of time, and does so when the performance obligations are fully met.
b. Sale of products accompanied by the provision of services
With respect to the sales of products mainly in the energy infrastructure business and process technology business, even if the provision of services such as installation work and commissioning related to the sales of the products is concluded as a separate contract, the Group recognizes revenue based on the judgment that the sales of the products and the service provision contract attached thereto are considered as a single performance obligation, and the control over the assets, etc. has been transferred to the customer at the time of completing provision of the services.

q. ***Income Taxes***— The provision for current income taxes is computed based on the pretax income included in the consolidated statement of income. 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. Deferred taxes are measured by applying currently enacted income tax rates to the temporary differences.

r. ***Leases***— Foreign consolidated subsidiaries, which apply IFRS, recognize all leases as both assets and liabilities on their balance sheets in principle. Effective April 1, 2019, these subsidiaries adopted IFRS16, Leases. Foreign consolidated subsidiaries, which apply U.S. GAAP, recognize all operating leases as both assets and liabilities on their balance sheets in principle. Effective April 1, 2022, these subsidiaries adopted ASC Topic 842, Leases.

s. ***Foreign Currency Transactions***— All short-term and long-term monetary receivables and payables denominated in foreign currencies are translated into Japanese yen at the exchange rates at the balance sheet date. The foreign exchange gains and losses from translation are recognized in the consolidated statement of income to the extent that they are not hedged by forward exchange contracts.

t. ***Foreign Currency Financial Statements***— The balance sheet accounts of the consolidated foreign subsidiaries are translated into Japanese yen at the current exchange rate as of the balance sheet date except for equity, which is translated at the historical rate. Differences arising from such translation are shown as “Foreign currency translation adjustments” under accumulated other comprehensive income in a separate component of equity. Revenue and expense accounts of consolidated foreign subsidiaries are translated into yen at the average exchange rate.

u. ***Derivatives and Hedging Activities***— The Group uses derivative financial instruments to manage its exposures to fluctuations in foreign exchange and interest rates. Foreign exchange forward contracts, interest rate and currency swaps, and interest rate swaps are utilized by the Group to reduce foreign currency exchange and interest rate risks. The Group does not enter into derivatives for trading or speculative purposes.

Derivative financial instruments are classified and accounted for as follows: (1) all derivatives are recognized as either assets or liabilities and measured at fair value, and gains or losses on derivative transactions are recognized in the consolidated statement of income; and (2) for derivatives used for hedging purposes, if such derivatives qualify for hedge accounting because of high correlation and effectiveness between the hedging instruments and the hedged items, gains or losses on derivatives are deferred until maturity of the hedged transactions.

Foreign currency forward contracts employed to hedge foreign exchange exposures for export sales and import purchases are measured at fair value and the unrealized gains/losses are recognized in income. Forward contracts applied for forecasted (or committed) transactions are also measured at fair value but the unrealized gains/losses are deferred until the underlying transactions are completed.

Interest rate swaps which qualify for hedge accounting and meet specific matching criteria are not remeasured at market value, but the differential paid or received under the swap agreements is recognized and included in interest expense.

Long-term debt denominated in foreign currencies for which currency and interest rate swaps are used to hedge the foreign currency and interest rate fluctuations is also translated at the contracted rate and the differential paid or received under the swap agreements is recognized and included in interest expense when currency and interest swaps meet the above criteria.

v. ***Per Share Information***— Basic net income per share is computed by dividing net income attributable to common shareholders by the weighted-average number of common shares outstanding for the period, retroactively adjusted for stock splits.

Diluted net income per share reflects the potential dilution that could occur if securities were exercised or converted into common stock. Diluted net income per share of common stock assumes full exercise of outstanding stock acquisition rights.

Cash dividends per share presented in the accompanying consolidated statement of income are dividends applicable to the respective fiscal years, including dividends to be paid after the end of the year.

w. ***New Accounting Pronouncements***—The ASBJ issued ASBJ Statement No. 27, “Accounting Standard for Income Taxes, Residential and Enterprise Taxes,” ASBJ Statement No. 25 “Accounting Standard for Presentation of Comprehensive Income” and ASBJ Guidance No. 28 “Implementation Guidance on Accounting Standard for Tax Effect Accounting” on October 28, 2022. Accounting treatments under this standard and guidance are as follows:

(1) Overview

The accounting standards are to set forth the treatment of tax effects related to sale of shares of a subsidiary, etc. in the case where the accounting classification of tax expenses and the group taxation system for the event of taxing other comprehensive income are applied.

(2) Scheduled application date

The standards are planned to be applied from the beginning of the fiscal year ending March 2025.

(3) Effects from the application of the relevant accounting standards, etc.

Evaluation is underway at the time of preparing the financial documents of the fiscal year under review.

3. SIGNIFICANT ACCOUNTING ESTIMATES

a. Impairment Loss on Long-lived Assets

(1) Amount recorded in the fiscal year ended March 31, 2023
Impairment loss of ¥9,952 million

(2) Information on the content of significant accounting estimates for identified items
For property, plant and equipment, intangible and other assets, the Group determines whether to recognize an impairment loss when there is an indicator of impairment in assets or asset groups. Regarding assets or asset groups that were determined to be recognized for the impairment loss, the Group estimates their recoverable amounts, reduces the carrying amounts to the recoverable amounts and recognizes them as an impairment loss under other income (expenses). The Group performs asset grouping in accordance with business segments adopted for the purpose of internal management, and idle assets, etc. are grouped individually by property unit.

The recoverable amount is calculated using the net sale value or the value in use, whichever is greater. The net sale value is the value obtained by deducting the estimated cost of disposal, etc. from the appraised value calculated by outside experts, etc.

The value in use is the net present value of future cash flows, which are estimated based on business plans, etc., approved by the management, etc., calculated with the pre-tax discount rate based on the weighted average cost of capital.

Additional impairment losses may be incurred in cases where the evaluation assumptions of assets or asset groups, such as the evaluation value of long-lived assets or discount rates, are adversely influenced by events including a decline in the market value of long-lived assets, fluctuations in the stock market or interest rates, and unpredictable changes in the business environment.

For the year ended March 31, 2023, the Group made the following determinations regarding impairment of particularly significant long-lived assets.

1. Impairment loss on long-lived assets related to insulator business
   a. Recording of impairment loss on long-lived assets of insulator business at the Company's Chita Site

   Out of the products of the insulator business of the Company, insulators manufactured at the Chita Site and sold had faced intensified competition in overseas markets and reduced demand due to a contraction of the domestic market and others. Under such circumstances, the Company had attempted to improve its income-expenditure situation through measures including streamlining and price revision. However, as demand is expected to keep declining in the future, the Company determined that it would be difficult to improve the earnings. Accordingly, the Company resolved to discontinue the manufacture and sale of insulator products in the relevant site for the year ended March 31, 2023. The asset groups related to the manufacture and sale of insulator products in the relevant site will hardly affect other asset groups in the insulator business if the former is separated in accordance with this resolution. Accordingly, the Company has set the relevant asset groups as a separate asset group and has determined that there is an indicator of impairment in the relevant asset group. Additionally, as the total amount of undiscounted future cash flows provided from the relevant asset group became negative, the book value of the long-lived assets of the relevant asset group was reduced to the memorandum value, and the Company recognized an impairment loss of ¥2,616 million ($19,526 thousand).

b. Necessity of recognition of impairment loss on long-lived assets related to the Group's insulator business (excluding one related to 1.a.)

Since the profit or loss, generated by the asset group related to the insulator business of the Group (excluding ones related to 1.a.) is expected to remain negative in the coming fiscal years including the year ended March 31, 2023, the Group has determined that there is an indicator of impairment in the relevant asset group for the year ended March 31, 2023. However, as the net sale value of the long-lived assets of the relevant asset group exceeds the carrying amount, the Group has determined that there is no need to recognize an impairment loss.

The balance of property, plant and equipment, intangible and other assets in the insulator business recorded on the consolidated balance sheet is ¥4,733 million ($35,323 thousand) (of which, the balance of property, plant and equipment and intangible assets on the Company's balance sheet is ¥1,130 million ($8,435 thousand)).

2. Impairment loss on long-lived assets related to package-related business

The package-related business of the Group is expected to suffer a loss from sales activities for the year ended March 31, 2023 mainly due to stagnant demand for smartphones in China and surging raw material and fuel prices, and the business environment is likely to considerably deteriorate. Accordingly, the Group has determined that there is an indicator of impairment.

In determining whether or not to recognize an impairment loss, the total amount of undiscounted future cash flows, provided by the asset groups of the package-related business predicted from the net sale price of long-lived assets, future plans, etc., exceeds the carrying amount of the long-lived assets of the asset groups of the relevant business. Accordingly, the Group has determined that there is no need to recognize an impairment loss.

The balance of property, plant and equipment, intangible and other assets in the package-related business on the consolidated balance sheets is ¥7,019 million ($52,380 thousand).

b. Retirement and Pension Plans

(1) Carrying amounts

	Millions of Yen	Thousands of U.S. Dollars
	2023	**2023**
Net defined benefit assets	**¥ 12,887**	**$ 96,173**
Net defined benefit liability	**20,284**	**151,372**

(2) Information on the significant accounting estimate

The Group accounts for net defined benefit liability (assets) by deducting the amount of plan assets from the projected benefit obligations ("PBO"). PBO is calculated by discounting projected contribution based on certain assumptions, such as turnover rate, mortality rate and salary increase rate. Plan assets are measured at fair value at the end of fiscal year. Significant assumptions in PBO, plan assets and pension cost are discount rate and expected rate of return. Discount rate is based on a net yield of high-grade long-term bond. Expected rate of return is based on components of plan assets, result of return and change in interest market. Variety of the actuarial premise such as drastic fluctuation in interest market and unforeseen change in management environment may affect the amount of profit and loss.

c. ***Deferred Tax Accounting***

(1) Carrying amounts

	Millions of Yen	Thousands of U.S. Dollars
	2023	**2023**
Deferred tax assets	**¥ 7,523**	**$ 56,142**
Deferred tax liabilities	**4,078**	**30,432**

(2) Information on the significant accounting estimate

The Group accounts for deferred tax assets (liabilities) based on the temporary difference between the carrying amount of assets or liabilities in the consolidated balance sheet and their tax base, and tax loss carryforward. Deferred tax assets are recorded when the future taxable profit is sufficient enough to utilize the future deductible temporary differences and tax loss carryforward. Deferred tax liabilities are recognized for all future taxable temporary differences. Deferred tax assets (liabilities) for the current period are measured at the tax rates that are expected to apply to the period when the assets are realized or the liabilities are settled, based on tax laws and tax rates that have been enacted or substantively enacted by the end of the reporting period. The Group compares the deductible temporary differences with future taxable profit estimated based on business plan authorized by management, taxable income in prior years and tax planning opportunities available. Variety of the factors such as both unforeseen change in management environment and tax reform, which the Group considered in evaluating the recoverability of deferred tax assets, may provoke additional impact to taxable profit or the temporary difference, consequently it affects the profit and loss.

4. ACCOUNTING CHANGE

(Application of accounting standards for fair value measurement)

The Company has adopted the “Implementation Guidance on Accounting Standard for Fair Value Measurement” (ASBJ Guidance No. 31, June 17, 2021. Hereinafter referred to as the “Implementation Guidance”) from the beginning of the first quarter consolidated accounting period. In accordance with the transitional treatment prescribed in Paragraph 27-2 of the Implementation Guidance, the Group will apply the new accounting policies described by the Implementation Guidance in the future. There is no impact on the consolidated financial statements.

(Application of US Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 842, “Leases”)

The Group’s consolidated subsidiaries in the US that apply U.S. GAAP have adopted ASC Topic 842, “Leases” since the fiscal year under review. In principle, this requires lessees to recognize all leases on their balance sheet as assets and liabilities. There are no significant changes in lessors’ accounting treatment. To apply the above accounting standards, the Group has adopted the method of recognizing the cumulative effects, caused by the application of the accounting standards, on the date of adoption, which is permitted as a transitional measure. The effects on the consolidated financial statements are immaterial.

5. MARKETABLE INVESTMENT SECURITIES

Marketable and investment securities as of March 31, 2023 and 2022, consisted of the following:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Current:			
Investment trusts and other	**¥ 13,459**	¥ 13,643	**$ 100,437**
Debt securities	**17,902**	10,000	**133,597**
Total	**¥ 31,361**	¥ 23,643	**$ 234,034**
Noncurrent:			
Equity securities and other	**¥ 41,482**	¥ 41,072	**$ 309,564**
Total	**¥ 41,482**	¥ 41,072	**$ 309,564**

The costs and aggregate fair values of marketable and investment securities at March 31, 2023 and 2022, were as follows:

	Millions of Yen			
March 31, 2023	Cost	Unrealized Gains	Unrealized Losses	Fair Value
Securities classified as:				
Available-for-sale:				
Equity securities	**¥ 15,008**	**¥ 23,885**	**¥ 241**	**¥ 38,652**
Investment trusts and other	**13,187**	**291**	**20**	**13,459**
Held-to-maturity:				
Debt securities	**17,902**	**2**	**2**	**17,902**

	Millions of Yen			
March 31, 2022	Cost	Unrealized Gains	Unrealized Losses	Fair Value
Securities classified as:				
Available-for-sale:				
Equity securities	¥ 15,222	¥ 23,832	¥ 442	¥ 38,612
Investment trusts and other	13,206	452	15	13,643
Held-to-maturity:				
Debt securities	10,000	–	0	10,000

March 31, 2023	Thousands of U.S. Dollars Cost	Unrealized Gains	Unrealized Losses	Fair Value
Securities classified as:				
Available-for-sale:				
Equity securities	**$ 112,003**	**$ 178,244**	**$ 1,798**	**$ 288,449**
Investment trusts and other	**98,413**	**2,174**	**150**	**100,437**
Held-to-maturity:				
Debt securities	**133,597**	**18**	**15**	**133,600**

Proceeds from sales of available-for-sale securities (including marketable securities and investment securities) for the years ended March 31, 2023 and 2022, were ¥2,080 million ($15,520 thousand) and ¥1,455 million, respectively. Realized gains on these sales, computed on the moving-average cost basis, were ¥1,261 million ($9,408 thousand) and ¥1,165 million for the years ended March 31, 2023 and 2022, respectively. Realized losses on these sales, computed on the moving-average cost basis, were ¥23 million for the years ended March 31, 2022.

6. INVENTORIES

Inventories at March 31, 2023 and 2022, consisted of the following:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Finished products	**¥ 97,745**	¥ 83,310	**$ 729,439**
Work in process	**22,462**	22,337	**167,630**
Raw materials and supplies	**93,211**	82,008	**695,604**
Cost of contracts in progress	**1,005**	682	**7,499**
Total	**¥ 214,423**	¥ 188,337	**$ 1,600,172**

7. LONG-LIVED ASSETS

The Group reviewed its long-lived assets for impairment as of March 31, 2023. As a result, the Group recognized an impairment loss of ¥9,952 million ($74,272 thousand) as other expense mainly in the following group which included idle assets. The carrying amounts of the relevant assets were written down to their memorandum value for the year ended March 31, 2023.

Groups	Asset Category	Location	Millions of Yen 2023	Thousands of U.S. Dollars 2023
Environment business	Machinery and equipment, Construction in progress	China	**¥ 6,134**	**$ 45,774**
Insulator business	Buildings and structures, Machinery and equipment and other	Japan	**2,616**	**19,526**

The Group recognized impairment losses for the year ended March 31, 2023, as follows:

	Millions of Yen	Thousands of U.S. Dollars
	2023	**2023**
Buildings and structures	**¥ 1,256**	**$ 9,372**
Machinery and equipment	**3,770**	**28,132**
Construction in progress	**4,235**	**31,601**
Other	**691**	**5,167**
Total	**¥ 9,952**	**$ 74,272**

The Group reviewed its long-lived assets for impairment as of March 31, 2022. As a result, the Group recognized an impairment loss of ¥1,160 million as other expense mainly in the following group which included idle assets. The carrying amounts of the relevant assets were written down to their memorandum value for the year ended March 31, 2022.

Groups	Asset Category	Location	Millions of Yen 2022
Ceramics business	Machinery, equipment and vehicles	China	¥ 1,034

The Group recognized impairment losses for the year ended March 31, 2022 as follows:

	Millions of Yen
	2022
Buildings and structures	¥ 8
Machinery and equipment	1,076
Construction in progress	38
Other	38
Total	¥ 1,160

8. SHORT-TERM BORROWINGS AND LONG-TERM DEBT

Short-term borrowings at March 31, 2023 and 2022, consisted of notes to banks. The weighted-average interest rates on short-term borrowings as of March 31, 2023 and 2022, were 2.4% and 1.3%, respectively.

Long-term debt at March 31, 2023 and 2022, consisted of the following:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Borrowings from banks and other financial institutions due serially through 2036, with weighted-average interest rates of 1.6% (2023) and 1.6% (2022)	**¥ 202,214**	¥ 211,152	**$ 1,509,062**
Unsecured 0.657% yen bonds due July 27, 2032	**10,000**	10,000	**74,627**
Unsecured 0.860% yen bonds due July 26, 2038	**15,000**	15,000	**111,940**
Unsecured 0.180% yen bonds due December 21, 2028	**10,000**	10,000	**74,627**
Unsecured 0.305% yen bonds due November 24, 2027	**5,000**	–	**37,313**
Total	**242,214**	246,152	**1,807,569**
Less: portion due within one year	**(34,860)**	(32,263)	**(260,153)**
Long-term debt, less current portion	**¥ 207,354**	¥ 213,889	**$ 1,547,416**

Annual maturities of long-term debt at March 31, 2023, were as follows:

Year Ending March 31	Millions of Yen	Thousands of U.S. Dollars
2024	¥ 34,860	$ 260,153
2025	38,832	289,793
2026	34,664	258,683
2027	33,710	251,564
2028	21,147	157,813
2029 and thereafter	79,001	589,563
Total	¥ 242,214	$ 1,807,569

9. RETIREMENT AND PENSION PLANS

The Company and certain consolidated subsidiaries have severance payment plans for employees.

The Company and certain domestic subsidiaries have unfunded lump-sum payment plans, defined benefit pension plans, and other.

Furthermore, additional retirement benefits that are not included in net defined benefit liability are paid in certain cases.

Certain subsidiaries have defined contribution plans such as smaller enterprise retirement allowance mutual aid plans.

The simplified calculation method was applied to measure the liability and the cost of defined benefit plans and lump-sum payment plans for insignificant domestic subsidiaries.

a. Defined Benefit Pension Plans

(1) The changes in defined benefit obligation for the years ended March 31, 2023 and 2022 (except for the plans to which the simplified method was applied), were as follows:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Balance at beginning of year	**¥ 88,269**	¥ 90,003	**$ 658,721**
Current service cost	**3,670**	3,736	**27,390**
Interest cost	**644**	640	**4,808**
Actuarial losses	**(9,590)**	(1,148)	**(71,569)**
Benefits paid	**(3,817)**	(3,214)	**(28,485)**
Past service cost	**(228)**	(2,063)	**(1,702)**
Others	**293**	315	**2,190**
Balance at end of year	**¥ 79,241**	¥ 88,269	**$ 591,353**

(2) The changes in plan assets for the years ended March 31, 2023 and 2022 (except for the plans to which the simplified method was applied), were as follows:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Balance at beginning of year	**¥ 75,723**	¥ 75,166	**$ 565,099**
Expected return on plan assets	**568**	742	**4,238**
Actuarial losses	**(1,947)**	(145)	**(14,528)**
Contributions from the employer	**2,761**	2,686	**20,604**
Benefits paid	**(3,062)**	(2,753)	**(22,849)**
Others	**36**	27	**267**
Balance at end of year	**¥ 74,079**	¥ 75,723	**$ 552,831**

(3) The changes in net defined benefit liability, where the simplified method was applied to measure the liability, for the years ended March 31, 2023 and 2022, were as follows:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Balance at beginning of year	**¥ 2,183**	¥ 2,106	**$ 16,292**
Pension costs	**306**	354	**2,285**
Benefits paid	**(184)**	(204)	**(1,375)**
Contributions to pension plans	**(70)**	(73)	**(524)**
Balance at end of year	**¥ 2,235**	¥ 2,183	**$ 16,678**

(4) Reconciliation between the asset and the liability recorded in the consolidated balance sheet and the balances of defined benefit obligation and plan assets as of March 31, 2023 and 2022, were as follows:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Funded defined benefit obligation	**¥ 63,265**	¥ 71,114	**$ 472,123**
Plan assets	**(74,971)**	(76,623)	**(559,482)**
	(11,706)	(5,509)	**(87,359)**
Unfunded defined benefit obligation	**19,103**	20,238	**142,558**
Net liability arising from defined benefit obligation	**¥ 7,397**	¥ 14,729	**$ 55,199**

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Net defined benefit liability	**¥ 20,284**	¥ 21,421	**$ 151,372**
Net defined benefit asset	**(12,887)**	(6,692)	**(96,173)**
Net liability arising from defined benefit obligation	**¥ 7,397**	¥ 14,729	**$ 55,199**

(5) The components of net periodic benefit costs for the years ended March 31, 2023 and 2022, were as follows:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Service cost	**¥ 3,670**	¥ 3,736	**$ 27,390**
Interest cost	**644**	640	**4,808**
Expected return on plan assets	**(568)**	(742)	**(4,238)**
Recognized actuarial losses	**905**	1,263	**6,755**
Amortization of past service cost	**(626)**	(211)	**(4,670)**
Benefit costs measured by the simplified method	**306**	354	**2,285**
Net periodic benefit costs	**¥ 4,331**	¥ 5,040	**$ 32,330**

(6) Amounts recognized in other comprehensive income (before income tax effect) in respect of defined retirement benefit plans for the years ended March 31, 2023 and 2022, were as follows:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Actuarial losses	**¥ 8,495**	¥ 2,323	**$ 63,393**
Prior service cost	**(398)**	1,851	**(2,967)**
Total	**¥ 8,097**	¥ 4,174	**$ 60,426**

(7) Amounts recognized in accumulated other comprehensive income (before income tax effect) in respect of defined retirement benefit plans as of March 31, 2023 and 2022, were as follows:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Unrecognized actuarial gains	**¥ 4,709**	¥ (3,786)	**$ 35,140**
Unrecognized past service cost	**2,662**	3,060	**19,869**
Total	**¥ 7,371**	¥ (726)	**$ 55,009**

(8) Plan assets

a. Components of plan assets

Plan assets as of March 31, 2023 and 2022, consisted of the following:

	2023	2022
Assets in an insurer's general account	**43 %**	42 %
Equity investments	**11**	12
Debt investments	**31**	31
Cash and cash equivalents	**0**	0
Others	**15**	15
Total	**100 %**	100 %

b. Method of determining the expected rate of return on plan assets

The expected rate of return on plan assets is determined considering the long-term rates of return that are expected currently and in the future from the various components of the plan assets.

(9) Assumptions used for the years ended March 31, 2023 and 2022, were set forth as follows:

	2023	2022
Discount rate	**Primarily 1.4%**	Primarily 0.6%
Expected rate of return on plan assets	**Primarily 0.75%**	Primarily 1.0%
Expected rate of future salary increase	**Primarily 2.9%－5.2%**	Primarily 3.0%－4.6%

b. Defined Contribution Pension Plans

The Group's contributions to defined contribution pension plan funds for the years ended March 31, 2023 and 2022, were ¥636 million ($4,744 thousand) and ¥470 million, respectively.

10. EQUITY

Japanese companies are subject to the Companies Act of Japan (the "Companies Act"). The significant provisions in the Companies Act that affect financial and accounting matters are summarized below:

a. Dividends

Under the Companies Act, companies can pay dividends at any time during the fiscal year in addition to the year-end dividend upon resolution at the shareholders' meeting. Additionally, for companies that meet certain criteria including (1) having a Board of Directors, (2) having independent auditors, (3) having an Audit & Supervisory Board, and (4) the term of service of the directors being prescribed as one year rather than the normal two-year term by its articles of incorporation, the Board of Directors may declare dividends (except for dividends-in-kind) at any time during the fiscal year if the company has prescribed so in its articles of incorporation. However, the Company does not meet all the above criteria.

Semiannual interim dividends may also be paid once a year upon resolution by the Board of Directors if the articles of incorporation of the company so stipulate. The Companies Act provides certain limitations on the amounts available for dividends or the purchase of treasury stock. The limitation is defined as the amount available for distribution to the shareholders, but the amount of net assets after dividends must be maintained at no less than ¥3 million.

b. Increases/Decreases and Transfer of Common Stock, Reserve, and Surplus

The Companies Act requires that an amount equal to 10% of dividends must be appropriated as a legal reserve (a component of retained earnings) or as additional paid-in capital (a component of capital surplus), depending on the equity account charged upon the payment of such dividends, until the aggregate amount of legal reserve and additional paid-in capital equals 25% of the common stock. Under the Companies Act, the total amount of additional paid-in capital and legal reserve may be reversed without limitation. The Companies Act also provides that common stock, legal reserve, additional paid-in capital, other capital surplus, and retained earnings can be transferred among the accounts within equity under certain conditions upon resolution of the shareholders.

c. Treasury Stock and Treasury Stock Acquisition Rights

The Companies Act also provides for companies to purchase treasury stock and dispose of such treasury stock by resolution of the Board of Directors. The amount of treasury stock purchased cannot exceed the amount available for distribution to the shareholders, which is determined by a specific formula. Under the Companies Act, stock acquisition rights are presented as a separate component of equity. The Companies Act also provides that companies can purchase both treasury stock acquisition rights and treasury stock. Such treasury stock acquisition rights are presented as a separate component of equity or deducted directly from stock acquisition rights.

11. STOCK OPTIONS

The stock options outstanding as of March 31, 2023 were as follows:

Stock Option Scheme	Persons Originally Granted	Number of Options Originally Granted	Date of Grant	Exercise Price	Exercise Period
2007 Stock Option Scheme	12 directors 10 officers	Common shares 62,000 shares	August 30, 2007	¥1 ($0.01)	From August 31, 2007 to June 30, 2037
2008 Stock Option Scheme	11 directors 9 officers	Common shares 57,000 shares	August 13, 2008	¥1 ($0.01)	From August 14, 2008 to June 30, 2038
2009 Stock Option Scheme	12 directors 10 officers	Common shares 62,000 shares	August 17, 2009	¥1 ($0.01)	From August 18, 2009 to June 30, 2039
2010 Stock Option Scheme	12 directors 11 officers	Common shares 64,000 shares	August 16, 2010	¥1 ($0.01)	From August 17, 2010 to June 30, 2040
2011 Stock Option Scheme	11 directors 11 officers	Common shares 62,000 shares	August 15, 2011	¥1 ($0.01)	From August 16, 2011 to June 30, 2041
2012 Stock Option Scheme	10 directors 14 officers	Common shares 66,000 shares	August 15, 2012	¥1 ($0.01)	From August 16, 2012 to June 30, 2042
2013 Stock Option Scheme	9 directors 16 officers	Common shares 61,000 Shares	August 16, 2013	¥1 ($0.01)	From August 17, 2013 to June 30, 2043
2014 Stock Option Scheme	10 directors 13 officers	Common shares 57,000 Shares	August 19, 2014	¥1 ($0.01)	From August 20, 2014 to June 30, 2044
2015 Stock Option Scheme	10 directors 10 officers	Common shares 52,000 Shares	August 18, 2015	¥1 ($0.01)	From August 19, 2015 to June 30, 2045

Stock Option Scheme	Persons Originally Granted	Number of Options Originally Granted	Date of Grant	Exercise Price	Exercise Period
2016 Stock Option Scheme	10 directors 13 officers	Common shares 60,000 Shares	August 16, 2016	¥1 ($0.01)	From August 17, 2016 to June 30, 2046
2017 Stock Option Scheme	10 directors 12 officers	Common shares 58,000 Shares	August 16, 2017	¥1 ($0.01)	From August 17, 2017 to June 30, 2047
2018 Stock Option Scheme	9 directors 13 officers	Common shares 55,000 Shares	July 12, 2018	¥1 ($0.01)	From July 13, 2018 to June 30, 2048
2019 Stock Option Scheme	9 directors 15 officers	Common shares 61,000 Shares	July 9, 2019	¥1 ($0.01)	From July 10, 2019 to June 30, 2049
2020 Stock Option Scheme	10 directors 15 officers	Common shares 64,000 Shares	July 15, 2020	¥1 ($0.01)	From July 16, 2020 to June 30, 2050
2021 Stock Option Scheme	6 directors 21 officers	Common shares 116,000 Shares	July 14, 2021	¥1 ($0.01)	From July 15, 2021 to June 30, 2051

The stock option activity is as follows:

	2007 Stock Option	2008 Stock Option	2009 Stock Option	2010 Stock Option	2011 Stock Option
			(Shares)		
For the year ended March 31, 2022					
Non-vested					
April 1, 2021 —Outstanding	–	–	–	–	–
Granted	–	–	–	–	–
Canceled	–	–	–	–	–
Vested	–	–	–	–	–
March 31, 2022 —Outstanding	–	–	–	–	–
Vested					
April 1, 2021 —Outstanding	8,000	10,000	10,000	15,000	17,000
Vested	–	–	–	–	–
Exercised	4,000	4,000	4,000	4,000	3,000
Canceled	–	–	–	–	–
March 31, 2022 —Outstanding	4,000	6,000	6,000	11,000	14,000
For the year ended March 31, 2023					
Non-vested					
March 31, 2022 —Outstanding	–	–	–	–	–
Granted	–	–	–	–	–
Canceled	–	–	–	–	–
Vested	–	–	–	–	–
March 31, 2023 —Outstanding	–	–	–	–	–
Vested					
March 31, 2022 —Outstanding	**4,000**	**6,000**	**6,000**	**11,000**	**14,000**
Vested	–	–	–	–	–
Exercised	**2,000**	**2,000**	**2,000**	**3,000**	**4,000**
Canceled	–	–	–	–	–
March 31, 2023 —Outstanding	**2,000**	**4,000**	**4,000**	**8,000**	**10,000**
Exercise price	**¥1 (\$0.01)**	**¥1 (\$0.01)**	**¥1 (\$0.01)**	**¥1 (\$0.01)**	**¥1 (\$0.01)**
Average stock price at exercise	**¥1,855 (\$13.84)**	**¥1,855 (\$13.84)**	**¥1,855 (\$13.84)**	**¥1,807 (\$13.49)**	**¥1,783 (\$13.31)**
Fair value price at grant date	**¥3,658 (\$27.30)**	**¥1,434 (\$10.70)**	**¥2,072 (\$15.46)**	**¥1,289 (\$9.62)**	**¥1,100 (\$8.21)**

	2012 Stock Option	2013 Stock Option	2014 Stock Option	2015 Stock Option	2016 Stock Option
			(Shares)		
For the year ended March 31, 2022					
Non-vested					
April 1, 2021 —Outstanding	–	–	–	–	–
Granted	–	–	–	–	–
Canceled	–	–	–	–	–
Vested	–	–	–	–	–
March 31, 2022 —Outstanding	–	–	–	–	–
Vested					
April 1, 2021 —Outstanding	21,000	26,000	37,000	46,000	58,000
Vested	–	–	–	–	–
Exercised	5,000	6,000	10,000	8,000	8,000
Canceled	–	–	–	–	–
March 31, 2022 —Outstanding	16,000	20,000	27,000	38,000	50,000
For the year ended March 31, 2023					
Non-vested					
March 31, 2022 —Outstanding	–	–	–	–	–
Granted	–	–	–	–	–
Canceled	–	–	–	–	–
Vested	–	–	–	–	–
March 31, 2023 —Outstanding	–	–	–	–	–
Vested					
March 31, 2022 —Outstanding	**16,000**	**20,000**	**27,000**	**38,000**	**50,000**
Vested	–	–	–	–	–
Exercised	**4,000**	**4,000**	**5,000**	**4,000**	–
Canceled	–	–	–	–	–
March 31, 2023 —Outstanding	**12,000**	**16,000**	**22,000**	**34,000**	**50,000**
Exercise price	**¥1**	**¥1**	**¥1**	**¥1**	**¥1**
	($0.01)	**($0.01)**	**($0.01)**	**($0.01)**	**($0.01)**
Average stock price at exercise	**¥1,714**	**¥1,714**	**¥1,713**	**¥1,710**	–
	($12.79)	**($12.79)**	**($12.78)**	**($12.76)**	
Fair value price at grant date	**¥923**	**¥1,276**	**¥2,510**	**¥2,850**	**¥2,060**
	($6.89)	**($9.52)**	**($18.73)**	**($21.27)**	**($15.37)**

	2017 Stock Option	2018 Stock Option	2019 Stock Option	2020 Stock Option	2021 Stock Option
			(Shares)		
For the year ended March 31, 2022					
Non-vested					
April 1, 2021 —Outstanding	–	–	–	–	–
Granted	–	–	–	–	–
Canceled	–	–	–	–	–
Vested	–	–	–	–	–
March 31, 2022 —Outstanding	–	–	–	–	–
Vested					
April 1, 2021 —Outstanding	58,000	55,000	61,000	64,000	116,000
Vested	–	–	–	–	–
Exercised	6,000	–	–	–	–
Canceled	–	–	–	–	–
March 31, 2022 —Outstanding	52,000	55,000	61,000	64,000	116,000
For the year ended March 31, 2023					
Non-vested					
March 31, 2022 —Outstanding	–	–	–	–	–
Granted	–	–	–	–	–
Canceled	–	–	–	–	–
Vested	–	–	–	–	–
March 31, 2023 —Outstanding	–	–	–	–	–
Vested					
March 31, 2022 —Outstanding	**52,000**	**55,000**	**61,000**	**64,000**	**116,000**
Vested	–	–	–	–	–
Exercised	–	–	–	**3,000**	–
Canceled	–	–	–	–	–
March 31, 2023 —Outstanding	**52,000**	**55,000**	**61,000**	**61,000**	**116,000**
Exercise price	**¥1 ($0.01)**	**¥1 ($0.01)**	**¥1 ($0.01)**	**¥1 ($0.01)**	**¥1 ($0.01)**
Average stock price at exercise	–	–	–	**¥1,855 ($13.84)**	–
Fair value price at grant date	**¥1,897 ($14.16)**	**¥1,725 ($12.87)**	**¥1,362 ($10.16)**	**¥1,246 ($9.30)**	**¥1,727 ($12.89)**

12. INCOME TAXES

The Company and its domestic subsidiaries are subject to Japanese national and local income taxes which, in the aggregate, resulted in a normal effective statutory tax rate of approximately 30.6% for the years ended March 31, 2023 and 2022.

The tax effects of significant temporary differences and tax loss carryforwards which resulted in deferred tax assets and liabilities at March 31, 2023 and 2022, were as follows:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Deferred tax assets:			
Inventories	**¥ 9,012**	¥ 9,389	**$ 67,257**
Accounts payable and accrued expenses	**3,449**	3,833	**25,738**
Enterprise taxes payable	**498**	1,075	**3,715**
Property, plant and equipment	**12,784**	11,662	**95,394**
Pension and severance cost	**6,535**	6,402	**48,768**
Tax loss carryforwards	**9,908**	8,912	**73,939**
Investment securities	**1,374**	1,383	**10,257**
Provision for NAS Battery safety measures	**233**	297	**1,741**
Provision for product warranties	**251**	295	**1,877**
Other	**4,148**	3,813	**30,957**
Total	**48,192**	47,061	**359,643**
Less: valuation allowance	**(17,768)**	(17,602)	**(132,598)**
Deferred tax assets	**¥ 30,424**	¥ 29,459	**$ 227,045**
Deferred tax liabilities:			
Unrealized gain on available-for-sale securities	**¥ 6,833**	¥ 6,763	**$ 50,996**
Deferred gains on sales of property	**1,086**	1,261	**8,106**
Undistributed earnings of foreign subsidiaries	**8,396**	8,657	**62,656**
Fixed asset	**4,646**	4,236	**34,668**
Net defined benefit asset	**4,278**	2,034	**31,923**
Securities contributed to retirement benefit trust	**1,082**	1,082	**8,078**
Other	**658**	620	**4,908**
Deferred tax liabilities	**26,979**	24,653	**201,335**
Net deferred tax assets	**¥ 3,445**	¥ 4,806	**$ 25,710**

A reconciliation between the normal effective statutory tax rates and the actual effective tax rates reflected in the accompanying consolidated statement of income for the year ended March 31, 2023, with the corresponding figures for 2022, is as follows:

	2023	2022
Normal effective statutory tax rate	**30.6 %**	30.6 %
Expenses not deductible for income tax purposes	**2.6**	1.9
Income excluded from income tax, such as dividends received	**(1.4)**	(0.1)
Change in valuation allowance	**0.3**	(0.8)
Undistributed earnings of foreign subsidiaries	**0.4**	1.7
Lower income tax rates applicable to income in certain foreign countries	**(1.3)**	(2.2)
Tax credit of foreign subsidiaries	**(0.7)**	(0.2)
Tax credits such as research and development costs	**(5.8)**	(2.0)
Equity in earnings of unconsolidated subsidiaries and associated companies	**(0.8)**	(0.6)
Sales of shares of subsidiaries and associates	**0.9**	0.0
Transfer pricing adjustment	**(20.5)**	(6.4)
Other — net	**(0.4)**	(0.1)
Actual effective tax rate	**3.9 %**	21.8 %

Note:
Regarding filing action for the revocation of correction based on transfer pricing taxation
In June 2017, the Company received correction based on transfer pricing taxation from the Nagoya Regional Taxation Bureau regarding the transactions between the Company and its subsidiary in Poland from the fiscal year ended March 31, 2011 through the fiscal year ended March 31, 2015 and the Company paid an additional tax of approximately 8.5 billion yen including local taxes. A request for re-examination was submitted to the Nagoya National Tax Tribunal in July 2018 requesting for cancellation of the correction, and the Company received a written verdict that partially rescinded the correction in July 2019. However, it only provided refund of approximately 0.4 billion yen of corporate taxes and local taxes, etc. at this stage. Because the Company took the position that the entire amount should be rescinded, the Company filed an action with the Tokyo District Court for the revocation of the correction in December 2019.

Subsequently, in October 2022, the Company received a notice of correction (“the Revision of the Correction”) from the Nagoya Regional Taxation bureau stating that the amount of the correction would be reduced. As a result, during the fiscal year, the Company recorded the refund of approximately 7.7 billion yen as income taxes-refund and interest on such refund as non-operating income. In addition, the Company withdrew the revocation of correction, comprehensively considering that the significant amount of the back taxes paid will be refunded due to the Revision of the Correction.

13. REVENUE

(1) Disaggregation of Revenue

Revenues from contracts with customers on a disaggregated basis for the years ended March 31, 2023, and 2022, were as follows:

	Millions of Yen			
	2023			
	Reportable Segment			
	Environment	Digital Society	Energy & Industry	Total
Products and services:				
Automotive ceramics for exhaust gas purification	¥ 262,044	–	–	¥ 262,044
Sensors	58,740	–	–	58,740
Components for semiconductor manufacturing equipment	–	¥ 106,965	–	106,965
Electronics components	–	28,564	–	28,564
Metal related	–	27,635	–	27,635
Energy storage	–	–	¥ 2,748	2,748
Insulators	–	–	44,212	44,212
Industrial processes	–	–	28,332	28,332
Total	¥ 320,784	¥ 163,164	¥ 75,292	¥ 559,240
Geographical areas:				
Japan	¥ 28,276	¥ 49,088	¥ 52,223	¥ 129,587
North America	65,891	61,178	9,288	136,357
Europe	121,634	3,629	530	125,793
Asia	98,290	49,171	9,060	156,521
Other	6,693	98	4,191	10,982
Total	¥ 320,784	¥ 163,164	¥ 75,292	¥ 559,240
Timing of revenue recognition:				
Goods and services transferred at a point in time	¥ 320,784	¥ 163,164	¥ 61,622	¥ 545,570
Goods and services transferred over time	–	–	13,670	13,670
Total	¥ 320,784	¥ 163,164	¥ 75,292	¥ 559,240

	Millions of Yen			
	2022			
	Reportable Segment			
	Environment	Digital Society	Energy & Industry	Total
Products and services:				
Automotive ceramics for exhaust gas purification	¥ 228,938	–	–	¥ 228,938
Sensors	63,732	–	–	63,732
Components for semiconductor manufacturing equipment	–	¥ 96,904	–	96,904
Electronics components	–	29,522	–	29,522
Metal related	–	23,885	–	23,885
Energy storage	–	–	¥ 1,315	1,315
Insulators	–	–	39,280	39,280
Industrial processes	–	–	26,863	26,863
Total	¥ 292,670	¥ 150,311	¥ 67,458	¥ 510,439
Geographical areas:				
Japan	¥ 27,610	¥ 46,975	¥ 50,271	¥ 124,856
North America	51,077	54,426	5,441	110,944
Europe	105,378	2,936	517	108,831
Asia	100,546	45,899	8,647	155,092
Other	8,059	75	2,582	10,716
Total	¥ 292,670	¥ 150,311	¥ 67,458	¥ 510,439
Timing of revenue recognition:				
Goods and services transferred at a point in time	¥ 292,670	¥ 150,311	¥ 54,580	¥ 497,561
Goods and services transferred over time	–	–	12,878	12,878
Total	¥ 292,670	¥ 150,311	¥ 67,458	¥ 510,439

	Thousands of U.S. Dollars			
	2023			
	Reportable Segment			
	Environment	Digital Society	Energy & Industry	Total
Products and services:				
Automotive ceramics for exhaust gas purification	**$ 1,955,551**	**–**	**–**	**$ 1,955,551**
Sensors	**438,356**	**–**	**–**	**438,356**
Components for semiconductor manufacturing equipment	**–**	**$ 798,254**	**–**	**798,254**
Electronics components	**–**	**213,156**	**–**	**213,156**
Metal related	**–**	**206,234**	**–**	**206,234**
Energy storage	**–**	**–**	**$ 20,505**	**20,505**
Insulators	**–**	**–**	**329,943**	**329,943**
Industrial processes	**–**	**–**	**211,436**	**211,436**
Total	**$ 2,393,907**	**$ 1,217,644**	**$ 561,884**	**$ 4,173,435**
Geographical areas:				
Japan	**$ 211,016**	**$ 366,325**	**$ 389,722**	**$ 967,063**
North America	**491,722**	**456,561**	**69,312**	**1,017,595**
Europe	**907,713**	**27,082**	**3,961**	**938,756**
Asia	**733,507**	**366,944**	**67,613**	**1,168,064**
Other	**49,949**	**732**	**31,276**	**81,957**
Total	**$ 2,393,907**	**$ 1,217,644**	**$ 561,884**	**$ 4,173,435**
Timing of revenue recognition:				
Goods and services transferred at a point in time	**$ 2,393,907**	**$ 1,217,644**	**$ 459,865**	**$ 4,071,416**
Goods and services transferred over time	**–**	**–**	**102,019**	**102,019**
Total	**$ 2,393,907**	**$ 1,217,644**	**$ 561,884**	**$ 4,173,435**

Changes in reportable segments

Effective from the current fiscal year, the reportable segments, which were the Energy Infrastructure Business, Ceramics Business, Electronics Business, and Process Technology Business, were changed to the Environment Business, Digital Society Business, and Energy & Industry Business due to the organizational change.

Year-on-year figures for disaggregated revenue recognized from contracts with customers were calculated after adjusting the figures for the same period of the previous fiscal year to the revised segment classification.

(2) Basic Information to Understand Revenues from Contracts with Customers

a. Information on contracts with customers and performance obligations
The Group has transactions with product warranty obligations to repair or replace products that have failed due to defects, etc. developed after delivery without charge. The warranty obligations provide customers with a guarantee that the product, etc. will function as intended in accordance with the specifications set forth in contracts with customers. Therefore, the Group estimates the costs of repair or replacement as necessary as provision for product warranties.

The Group receives consideration approximately three months after the product is delivered to or accepted by the customer. For certain performance obligations that fall under the category of service contracts, the Group receives consideration in stages according to the initial payment or the progress in meeting performance obligations.

Since contracts the Group concludes do not include any significant financial elements, the Group does not make any adjustments equivalent to interest rates.

b. Information on the calculation of the transaction prices
As certain contracts of the Group include transactions with the following variable consideration, the Group reflects them in the transaction prices.
(i) Provisional unit price
Until the formal transaction unit price is settled, the Group has performance obligations to conduct transactions at the provisional unit price based on the agreement with the customer. With respect to the performance obligations carried out at the provisional unit price, the Group estimates the transaction unit price expected to be settled and recognizes revenue.
(ii) Rebate
Based on contracts with customers, the Group offers volume rebates, etc. that provide discounts when customers purchase a certain amount within a certain period of time. For volume rebates, etc. the Group recognizes revenue at a value that reflects a discount in accordance with a target quantity that is estimated to be highly likely to be achieved.

c. Information on the time of fulfillment of the performance obligations
For transactions applicable to service contracts of the Group, as the Group has the enforceable right to receive consideration for assets that cannot be converted to other uses and for the portion of the obligations that have been fulfilled, the Group judges that the performance obligations are to be fulfilled over a certain period of time, estimates the progress of fulfillment of the performance obligations, and recognizes revenue based on the progress.

As the progress of cost accrual for such service contracts is similar to the fulfillment of the Group’s performance obligations, the Group recognizes revenue over a certain period of time based on inputs built on cost accrual.

Progress is measured for each performance obligation based on the ratio of costs incurred by the balance sheet date to the estimated total costs. If progress cannot be reasonably estimated, the Group recognizes revenue in the same amount as the portion of costs incurred that is expected to be recovered (revenue recognition on a cost recovery basis).

(3) Contract Balances

Receivables from contract with customers, contract assets and contract liabilities at the beginning and end of the years ended March 31, 2023 and 2022 were as follows:

	Millions of Yen	Millions of Yen	Thousands of U.S. Dollars
	2023	2022	**2023**
Receivables from contracts with customers:			
Balance at beginning of year	**¥ 122,213**	¥ 103,868	**$ 912,034**
Balance at end of year	**111,074**	122,213	**828,910**
Contract assets:			
Balance at beginning of year	**9,573**	17,008	**71,442**
Balance at end of year	**9,045**	9,573	**67,497**
Contract liabilities:			
Balance at beginning of year	**1,829**	2,796	**13,648**
Balance at end of year	**6,080**	1,829	**45,370**

A contract asset is the consideration for which the Company has not issued an invoice to its customer although the Company satisfied part or all of its performance obligation for goods or services that are the objects of the concluded agreement, typically a work contract (to complete a certain task), etc. on the final day of a fiscal year. A contract asset is reclassified as a type of accounts receivable that has arisen from the contract with the customer at the time when the right to receive consideration becomes unconditional. A contract liability is related to a payment that the Company has received before its performance obligation based on a work contract, etc. is satisfied. A contract liability is reversed as the revenue is recognized.

Revenue recognized for the fiscal year ended March 31, 2023 that was included in the contract liability balance as of March 31, 2022 was ¥1,507 million.
In addition, contract liabilities increased ¥4,250 million from the beginning balance in the fiscal year under review. The main reason was advance money was received from the customer, associated with the conclusion of the contract for a large project.
The amount of revenue arising from performance obligations satisfied (or partially satisfied) in prior periods that was recognized in the fiscal year under review is immaterial.

Revenue recognized for the fiscal year ended March 31, 2022 that was included in the contract liability balance as of March 31, 2021 was ¥2,347 million.
Additionally, contract assets decreased ¥7,434 million from the beginning balance in the previous fiscal year. The main reason was the impact from contract assets being reclassified as accounts receivable arising from a contract with a customer, which meant that an invoice for the contract was issued to the customer because the customer completed their inspection of a large transaction that fell under the category of work contracts during the previous fiscal year.
The amount of revenue arising from performance obligations satisfied (or partially satisfied) in prior periods that was recognized in the previous fiscal year is immaterial.

(4) Transaction Prices Allocated to Remaining Performance Obligations

Unsatisfied (or partially unsatisfied) performance obligations were ¥36,620 million at March 31, 2023. Approximately 60% of the performance obligations are recognized as revenue within one year after the balance sheet date, approximately 35% within one to three years after the balance sheet date, and approximately 5% over three years after the balance sheet date. In addition, the Group applies a practical expedient to the notes on the transaction value allocated to the remaining performance obligations, and excludes contracts with an initial expected term of one year or less in the notes.

Unsatisfied (or partially unsatisfied) performance obligations were ¥19,977 million at March 31, 2022. Approximately 45% of the performance obligations are recognized as revenue within one year after the balance sheet date, approximately 35% within one to three years after the balance sheet date, and approximately 20% over three years after the balance sheet date. In addition, the Group applies a practical expedient to the notes on the transaction value allocated to the remaining performance obligations, and excludes contracts with an initial expected term of one year or less in the notes.

14. RESEARCH AND DEVELOPMENT COSTS

Research and development costs charged to income were ¥26,157 million ($195,205 thousand) and ¥23,552 million for the years ended March 31, 2023 and 2022, respectively, which included consigned research costs of ¥867 million ($6,472 thousand) and ¥805 million for the years ended March 31, 2023 and 2022, respectively.

15. FINANCIAL INSTRUMENTS AND RELATED DISCLOSURES

(1) Group Policy for Financial Instruments

The Group raises funds through borrowings from banks or other financial institutions. Temporary excess funds are invested mainly in low-risk financial assets. It is the Group’s policy to use derivatives not for speculation, but for hedging the risks from operating receivables, payables, and borrowings.

(2) Nature and Extent of Risks Arising from Financial Instruments and Risk Management for Financial Instruments

The credit risks from receivables, such as trade notes and trade accounts, are managed by each business unit according to the characteristics of the customers. Although receivables in foreign currencies are exposed to the market risk of fluctuation in foreign currency exchange rates, a certain percentage of the position, net of payables in foreign currencies, is hedged by using forward foreign currency contracts.

Marketable and investment securities, which consist mainly of held-to-maturity bonds and the capital stocks of customers or suppliers, are exposed to market risk. The risk is insignificant with respect to the held-to-maturity bonds because investments in bonds are limited to highly rated bonds. To manage the risk, the market price and the financial position of the issuers are reviewed constantly. Moreover, with respect to those other than held-to-maturity, the portfolio is constantly reviewed considering market circumstances and relationships with the issuers.

Payment terms of most trade payables, including notes and accounts, are less than four months.

The borrowings from banks, other financial institutions, and debenture bonds are principally raised for capital investment, and their maximum maturities do not exceed 20 years after the balance sheet date.

Derivatives consist of forward currency contracts, which are for hedging currency risks from the trade receivables and payables denominated in foreign currencies; currency and interest rate swaps, which are for hedging foreign exchange risks from the borrowings denominated in foreign currencies and interest rate risk; and interest rate swaps, which are for reducing cash outflow from interest payments of borrowings. The Company’s management believes that the credit risks from those transactions are not significant because the transactions are entered into only with highly rated financial institutions. Derivative transactions are strictly managed complying with internal policies for approval and reporting. For more details about hedge accounting, including hedging instruments, hedged items, hedge policies, and hedge effectiveness, please see Note 2.u.

(3) Fair Values of Financial Instruments

The contract or notional amounts of derivatives that are shown in Note 16 do not represent the amounts exchanged by the parties and do not measure the Group's exposure to credit or market risk.

Fair value of financial instruments

	Millions of yen		
March 31, 2023	Carrying Amount	Fair Value	Unrealized Gain/Loss
Marketable and investment securities	**¥ 86,249**	**¥ 85,763**	**¥ (486)**
Long-term debt, including current portion	**(242,214)**	**(237,435)**	**4,779**
Derivatives	**(386)**	**(386)**	**–**

	Millions of yen		
March 31, 2022	Carrying Amount	Fair Value	Unrealized Gain/Loss
Marketable and investment securities	¥ 79,683	¥ 83,516	¥ 3,833
Long-term debt, including current portion	(246,152)	(245,961)	191
Derivatives	(1,014)	(1,014)	–

	Thousands of U.S. Dollars		
March 31, 2023	Carrying Amount	Fair Value	Unrealized Gain/Loss
Marketable and investment securities	**$ 643,648**	**$ 640,024**	**$ (3,624)**
Long-term debt, including current portion	**(1,807,569)**	**(1,771,899)**	**35,670**
Derivatives	**(2,881)**	**(2,881)**	**–**

Carrying amount of investments in equity instruments that do not have a quoted market price in an active market

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Unlisted equity instruments:			
Stock of associated companies	**¥ 506**	¥ 552	**$ 3,774**
Other	**2,830**	2,461	**21,116**

(4) Maturity Analysis for Financial Assets and Securities with Contractual Maturities

March 31, 2023	Millions of Yen Due in One Year or Less	Due after One Year through Five Years	Due after Five Years through 10 Years	Due after 10 years
Cash and cash equivalents	**¥ 168,864**	–	–	–
Time deposits	**14,484**	–	–	–
Notes and accounts receivable:				
Trade notes and accounts	**111,034**	**¥ 40**	–	–
Held-to-maturity securities:				
Debt securities	**17,900**	–	–	–
Available-for-sale securities:				
Debt securities	–	–	–	–
Investment trusts and other	**11,000**	–	–	–
Total	**¥ 323,284**	**¥ 40**	–	–

March 31, 2022	Millions of Yen Due in One Year or Less	Due after One Year through Five Years	Due after Five Years through 10 Years	Due after 10 years
Cash and cash equivalents	¥ 154,855	–	–	–
Time deposits	7,143	–	–	–
Notes and accounts receivable:				
Trade notes and accounts	122,150	¥ 63	–	–
Held-to-maturity securities:				
Debt securities	10,000	–	–	–
Available-for-sale securities:				
Debt securities	–	–	–	–
Investment trusts and other	11,000	–	–	–
Total	¥ 305,148	¥ 63	–	–

March 31, 2023	Thousands of U.S. Dollars Due in One Year or Less	Due after One Year through Five Years	Due after Five Years through 10 Years	Due after 10 years
Cash and cash equivalents	**$ 1,260,176**	–	–	–
Time deposits	**108,086**	–	–	–
Notes and accounts receivable:				
Trade notes and accounts	**828,612**	**$ 298**	–	–
Held-to-maturity securities:				
Debt securities	**133,597**	–	–	–
Available-for-sale securities:				
Debt securities	–	-	–	–
Investment trusts and other	**82,090**	–	–	–
Total	**$ 2,412,561**	**$ 298**	–	–

Financial Instruments Categorized by Fair Value Hierarchy

The fair value of financial instruments is categorized into the following three levels, depending on the observability and significance of the inputs used in making fair value measurements:

Level 1: Fair values measured by using quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: Fair values measured by using inputs other than quoted prices included within Level 1 that are observable for the assets or liabilities, either directly or indirectly.

Level 3: Fair values measured by using unobservable inputs for the assets or liabilities.

If multiple inputs are used that have a significant impact on the measurement of fair value, fair value is categorized at the lowest level in the fair value measurement among the levels to which each of these inputs belongs.

(1) The financial assets and liabilities measured at the fair values in the consolidated balance sheet

	Millions of Yen			
March 31, 2023	Level 1	Level 2	Level 3	Total
Marketable and investment securities:				
Available-for-sale securities:				
Equity securities	**¥ 35,975**	**¥ 2,677**	**–**	**¥ 38,652**
Other	**–**	**2,458**	**–**	**2,458**
Total assets	**¥ 35,975**	**¥ 5,135**	**–**	**¥ 41,110**
Derivative transactions:				
Foreign currency forward contracts	**–**	**¥ 365**	**–**	**¥ 365**
Interest rate swaps	**–**	**21**	**–**	**21**
Total liabilities	**–**	**¥ 386**	**–**	**¥ 386**

	Millions of Yen			
March 31, 2022	Level 1	Level 2	Level 3	Total
Marketable and investment securities:				
Available-for-sale securities:				
Equity securities	¥ 36,320	¥ 2,292	–	¥ 38,612
Total assets	¥ 36,320	¥ 2,292	–	¥ 38,612
Derivative transactions:				
Foreign currency forward contracts	–	¥ 963	–	¥ 963
Interest rate swaps	–	51	–	51
Total liabilities	–	¥ 1,014	–	¥ 1,014

March 31, 2023	Thousands of U.S. Dollars Level 1	Level 2	Level 3	Total
Marketable and investment securities:				
Available-for-sale securities:				
Equity securities	**$ 268,473**	**$ 19,975**	**–**	**$ 288,448**
Other	**–**	**18,347**	**–**	**18,347**
Total assets	**$ 268,473**	**$ 38,322**	**–**	**$ 306,795**
Derivative transactions:				
Foreign currency forward contracts	**–**	**$ 2,724**	**–**	**$ 2,724**
Interest rate swaps	**–**	**157**	**–**	**157**
Total liabilities	**–**	**$ 2,881**	**–**	**$ 2,881**

(2) The financial assets and liabilities not measured at the fair values in the consolidated balance sheet

March 31, 2023	Millions of Yen Level 1	Level 2	Level 3	Total
Marketable and investment securities:				
Held-to-maturity securities:				
Corporate bonds	**–**	**¥ 17,902**	**–**	**¥ 17,902**
Available-for-sale securities:				
Equity securities	**¥ 15,750**	**–**	**–**	**15,750**
Other	**–**	**25,900**	**–**	**25,900**
Total assets	**¥ 15,750**	**¥ 43,802**	**–**	**¥ 59,552**
Long-term debt, including current portion	**–**	**¥ 237,434**	**–**	**¥ 237,434**
Total liabilities	**–**	**¥ 237,434**	**–**	**¥ 237,434**

March 31, 2022	Millions of Yen Level 1	Level 2	Level 3	Total
Marketable and investment securities:				
Held-to-maturity securities:				
Corporate bonds	–	¥ 10,000	–	¥ 10,000
Available-for-sale securities:				
Equity securities	¥ 21,261	–	–	21,261
Other	–	33,800	–	33,800
Total assets	¥ 21,261	¥ 43,800	–	¥ 65,061
Long-term debt, including current portion	–	¥ 245,961	–	¥ 245,961
Total liabilities	–	¥ 245,961	–	¥ 245,961

March 31, 2023	Thousands of U.S. Dollars Level 1	Level 2	Level 3	Total
Marketable and investment securities:				
Held-to-maturity securities:				
Corporate bonds	–	$ 133,600	–	$ 133,600
Available-for-sale securities:				
Equity securities	$ 117,539	–	–	117,539
Other	–	193,284	–	193,284
Total assets	$ 117,539	$ 326,884	–	$ 444,423
Long-term debt, including current portion	–	$ 1,771,900	–	$ 1,771,900
Total liabilities	–	$ 1,771,900	–	$ 1,771,900

The following is a description of valuation methodologies and inputs used for measurement of the fair value of assets and liabilities:

Marketable and Investment Securities

The fair values of listed equity securities, government bonds, municipal bonds and corporate bonds are measured at the quoted market prices. Since listed equity securities and government bonds are traded in active markets, the fair values of listed equity securities and government bonds are categorized as Level 1. As the quoted market prices of municipal bonds and corporate bonds are not considered to be in active markets due to low market transactions, the fair values of municipal bonds and corporate bonds are categorized as Level 2.

Derivatives

The fair values of interest rate swaps and foreign currency forward contracts are measured by using discounted present value techniques considering observable inputs such as interest rates and foreign currency exchange rate, and are categorized as Level 2.

Long-Term Debt

The fair values of long-term debt are measured by using discounted present value techniques considering assumptions including expected future cash flows and discount rates taking into account maturity and credit risk, and are categorized as Level 2.

16. DERIVATIVES

The Group enters into derivative financial instruments (“derivatives”), including foreign exchange forward contracts, interest rate and currency swaps, and interest rate swap contracts. The foreign exchange forward contracts are entered into in order to hedge foreign exchange risk associated with certain assets and liabilities denominated in foreign currencies. The interest rate and currency swaps are entered into as a means of managing interest rate risk and foreign exchange risk for loans denominated in foreign currencies. The interest rate swap contracts are entered into as a means of managing the interest rate risk for loans from financial institutions. The Group does not hold or issue derivatives for trading or speculative purposes.

Because the counterparties to these derivatives are limited to major international financial institutions, the Group does not anticipate any losses arising from credit risk.

Derivative transactions entered into by the Group have been made in accordance with internal policies that require approval and reporting of all derivative transactions.

Derivative transactions to which hedge accounting is not applied at March 31, 2023 and 2022, were as follows:

	Millions of Yen			
March 31, 2023	Contract Amount	Contract Amount Due after One Year	Fair Value	Unrealized Gain/(Loss)
Foreign currency forward contracts:				
Selling U.S.$	**¥ 23,605**	–	**¥ (199)**	**¥ (199)**
Selling Euro	**4,248**	–	**(69)**	**(69)**
Buying U.S.$	**215**	–	**(2)**	**(2)**
Buying Euro	**1,004**	–	**10**	**10**
Buying Japanese yen	**11**	–	**(0)**	**(0)**
Currency swaps:				
U.S.$ payment, Thai baht receipt	**4,356**	**¥ 4,356**	**(105)**	**(105)**
Total	**¥ 33,439**	**¥ 4,356**	**¥ (365)**	**¥ (365)**

	Millions of Yen			
March 31, 2022	Contract Amount	Contract Amount Due after One Year	Fair Value	Unrealized Gain/(Loss)
Foreign currency forward contracts:				
Selling U.S.$	¥ 15,330	–	¥ (764)	¥ (764)
Selling Euro	1,178	–	(51)	(51)
Buying U.S.$	118	–	(3)	(3)
Buying Euro	–	–	–	–
Buying Japanese yen	2	–	0	0
Total	¥ 16,628	–	¥ (818)	¥ (818)

	Thousands of U.S. Dollars			
March 31, 2023	Contract Amount	Contract Amount Due after One Year	Fair Value	Unrealized Gain/(Loss)
Foreign currency forward contracts:				
Selling U.S.$	**$ 176,153**	–	**$ (1,482)**	**$ (1,482)**
Selling Euro	**31,698**	–	**(517)**	**(517)**
Buying U.S.$	**1,607**	–	**(13)**	**(13)**
Buying Euro	**7,490**	–	**75**	**75**
Buying Japanese yen	**79**	–	**(0)**	**(0)**
Currency swaps:				
U.S.$ payment, Thai baht receipt	**32,511**	**$ 32,511**	**(785)**	**(785)**
Total	**$ 249,538**	**$ 32,511**	**$ (2,722)**	**$ (2,722)**

The fair value of derivative transactions is measured at the quoted price obtained from the financial institutions.

	Millions of Yen			
March 31, 2023	Contract Amount	Contract Amount Due after One Year	Fair Value	Unrealized Gain/(Loss)
Interest rate swaps:				
(Fixed rate payment, fixed rate receipt)	**¥ 5,000**	**¥ 5,000**	**¥ (20)**	**¥ (20)**
Total	**¥ 5,000**	**¥ 5,000**	**¥ (20)**	**¥ (20)**

	Millions of Yen			
March 31, 2022	Contract Amount	Contract Amount Due after One Year	Fair Value	Unrealized Gain/(Loss)
Interest rate swaps:				
(Fixed rate payment, fixed rate receipt)	¥ 5,000	¥ 5,000	¥ (23)	¥ (23)
Total	¥ 5,000	¥ 5,000	¥ (23)	¥ (23)

	Thousands of U.S. Dollars			
March 31, 2023	Contract Amount	Contract Amount Due after One Year	Fair Value	Unrealized Gain/(Loss)
Interest rate swaps:				
(Fixed rate payment, fixed rate receipt)	**$ 37,313**	**$ 37,313**	**$ (147)**	**$ (147)**
Total	**$ 37,313**	**$ 37,313**	**$ (147)**	**$ (147)**

The fair value of derivative transactions is measured at the quoted price obtained from the financial institutions.

Derivative transactions to which hedge accounting is applied at March 31, 2023 and 2022, were as follows:

		Millions of Yen		
March 31, 2023	Hedged Item	Contract Amount	Contract Amount Due after One Year	Fair Value
Interest rate swaps:				
(Fixed rate payment, floating rate receipt)	Long-term debt	**¥ 3,199**	**¥ 2,683**	**¥ (1)**
Interest rate swaps:				
(Fixed rate payment, floating rate receipt)*	Long-term debt	**15,000**	**–**	**–**
Total		**¥ 18,199**	**¥ 2,683**	**¥ (1)**

		Millions of Yen		
March 31, 2022	Hedged Item	Contract Amount	Contract Amount Due after One Year	Fair Value
Interest rate swaps:				
(Fixed rate payment, floating rate receipt)	Long-term debt	¥ 8,585	¥ 8,099	¥ (29)
Interest rate swaps:				
(Fixed rate payment, floating rate receipt)*	Long-term debt	15,000	15,000	–
Total		¥ 23,585	¥ 23,099	¥ (29)

		Thousands of U.S. Dollars		
March 31, 2023	Hedged Item	Contract Amount	Contract Amount Due after One Year	Fair Value
Interest rate swaps:				
(Fixed rate payment, floating rate receipt)	Long-term debt	**$ 23,875**	**$ 20,024**	**$ (10)**
Interest rate swaps:				
(Fixed rate payment, floating rate receipt)*	Long-term debt	**111,940**	**–**	**–**
Total		**$ 135,815**	**$ 20,024**	**$ (10)**

* The above interest rate swaps that qualify for hedge accounting and meet specific matching criteria are not premeasured at market value, but the differential paid or received under the swap agreements is recognized and included in interest expense or income. In addition, the fair value of such interest rate swaps is included in that of hedged items (i.e., long-term debt) in Note 15.

March 31, 2023	Hedged Item	Millions of Yen Contract Amount	 Contract Amount Due after One Year	 Fair Value
Currency swaps:				
(Japanese yen payment, U.S.$ receipt)*	Long-term debt	**¥ 1,500**	**¥ 1,500**	–
Total		**¥ 1,500**	**¥ 1,500**	–

March 31, 2022	Hedged Item	Millions of Yen Contract Amount	 Contract Amount Due after One Year	 Fair Value
Currency swaps:				
(Japanese yen payment, U.S.$ receipt)*	Long-term debt	¥ 6,500	¥ 6,500	–
Currency swaps:				
(U.S.$ payment, Thai baht receipt)	Long-term debt	4,186	4,186	¥ (147)
Total		¥ 10,686	¥ 10,686	¥ (147)

March 31, 2023	Hedged Item	Thousands of U.S. Dollars Contract Amount	 Contract Amount Due after One Year	 Fair Value
Currency swaps:				
(Japanese yen payment, U.S.$ receipt)*	Long-term debt	**$ 11,194**	**$ 11,194**	–
Total		**$ 11,194**	**$ 11,194**	–

* The above currency swaps that qualify for hedge accounting are not remeasured at market value, but the fair value of the swap is included in that of hedged items (i.e., long-term debt) in Note 15.

The fair value of derivative transactions is measured at the quoted price obtained from the financial institution.

The contract or notional amounts of derivatives which are shown in the above table do not represent the amounts exchanged by the parties and do not measure the Group's exposure to credit or market risk.

Forward exchange contracted amounts, which are assigned to associated assets or liabilities and are reflected in the balance sheet at year-end, are not subject to the disclosure of market value information.

17. GUARANTEES OBLIGATION

(1) Guarantee Obligations

At March 31, 2023, the Group had guarantee obligations as follows:

	Millions of Yen	Thousands of U.S. Dollars
Guarantee for deposit of subsidiary	**¥ 2,164**	**$ 16,150**
Guarantees for bank borrowings of a business-related company	**74**	**550**

(2) Contingent Liabilities

On July 6, 2021, a lawsuit was filed against the Company in Nagoya District court and the Company received the complaint on October 29, 2021 that P.T.Paiton Energy ("Paiton"), its insurance companies and their reinsurer companies ("the plaintiffs") filed a claim against the Company for compensation for damages of US$151,392,337.48 (¥16,828,772,234) and the amount of the relevant delay charges. Thereafter, the plaintiffs issued petition for amendment of claim on January 11, 2022, the amount of the claim increased by US$41.36 (¥4,796) to US$151,392,378.84 (¥16,828,777,030) and the relevant delay changes.

In January 2018, a fire incident allegedly occurred in a transformer ("Transformer") installed in a thermal power plant ("Power Plant") in Indonesia operated by Paiton. In connection with this accident, the plaintiffs filed a claim against the Company for damages and relevant delay charges based on alleged product liability and torts.

The Company is a distributor of the bushing (manufactured in 2010) incorporated in the Transformer. The Company delivered the bushing to a third-party transformer manufacturer that incorporated the same into the Transformer. The Transformer was then delivered to the Power Plant through a plant engineering manufacturer.

The Company believes that it is not liable for the incident described above. Therefore, the Company will take necessary actions in response to the claim to demonstrate the quality of the bushings and the adequacy of the Company's operations.

The Company will make timely disclosures in relation to this lawsuit upon the occurrence of any incident that may have a material impact on the Company's financial results.

The number in yen terms for the damage compensation in the text is the amount stated in the complaint and is converted into yen at a different exchange rate from that used by the Company to prepare the consolidated financial statements.

18. OTHER COMPREHENSIVE INCOME (LOSS)

The components of other comprehensive income (loss) for the years ended March 31, 2023 and 2022, were as follows:

	Millions of Yen		Thousands of U.S. Dollars
	2023	2022	**2023**
Unrealized gain (loss) on available-for-sale securities:			
Gains(Losses) arising during the year	**¥ 1,178**	¥ (2,154)	**$ 8,790**
Reclassification adjustments to profit or loss	**(1,076)**	(1,128)	**(8,026)**
Amount before income tax effect	**102**	(3,282)	**764**
Income tax effect	**(60)**	1,086	**(451)**
Total	**¥ 42**	¥ (2,196)	**$ 313**
Deferred gain (loss) on derivatives under hedge accounting:			
Gains (losses) arising during the year	**¥ 22**	¥ (6)	**$ 162**
Reclassification adjustments to profit or loss	**153**	–	**1,137**
Amount before income tax effect	**175**	(6)	**1,299**
Income tax effect	**6**	1	**48**
Total	**¥ 181**	¥ (5)	**$ 1,347**
Foreign currency translation adjustments:			
Adjustments arising during the year	**¥ 17,501**	¥ 27,296	**$ 130,619**
Reclassification adjustments to profit or loss	**3,704**	(670)	**27,639**
Total	**¥ 21,205**	¥ 26,626	**$ 158,258**
Share of other comprehensive income in associates:			
Gains arising during the year	**¥ 392**	¥ 261	**$ 2,922**
Defined retirement benefit plans:			
Gains arising during the year	**¥ 7,818**	¥ 3,122	**$ 58,340**
Reclassification adjustments to profit or loss	**279**	1,052	**2,086**
Amount before income tax effect	**8,097**	4,174	**60,426**
Income tax effect	**(2,416)**	(1,207)	**(18,031)**
Total	**¥ 5,681**	¥ 2,967	**$ 42,395**
Total other comprehensive income	**¥ 27,501**	¥ 27,653	**$ 205,235**

19. NET INCOME PER SHARE

Reconciliation of the differences between basic and diluted net income per share ("EPS") for the years ended March 31, 2023 and 2022, were as follows:

	Millions of Yen	Thousands of Shares	Yen	U.S. Dollars
Year Ended March 31, 2023	Net Income Attributable to Owners of the Parent	Weighted-Average Shares	EPS	
Basic EPS—Net income available to common shareholders	**¥ 55,049**	**310,189**	**¥ 177.47**	**$ 1.324**
Effect of dilutive securities:				
Stock options	**–**	**526**		
Diluted EPS—Net income for computation	**¥ 55,049**	**310,715**	**¥ 177.17**	**$ 1.322**
Year Ended March 31, 2022				
Basic EPS—Net income available to common shareholders	¥ 70,852	312,726	¥ 226.56	
Effect of dilutive securities:				
Stock options	–	542		
Diluted EPS—Net income for computation	¥ 70,852	313,268	¥ 226.17	

20. SUBSEQUENT EVENTS

a. Appropriation of Retained Earnings

The following appropriation of retained earnings at March 31, 2023, was approved at the Company's shareholders' meeting held on June 26, 2023:

	Millions of Yen	Thousands of U.S. Dollars
Year-end cash dividends, ¥33 ($0.25) per share	**¥ 10,108**	**$ 75,429,843**

21. SEGMENT INFORMATION

Under ASBJ Statement No. 17, "Accounting Standard for Segment Information Disclosures" and ASBJ Guidance No. 20, "Guidance on Accounting Standard for Segment Information Disclosures," an entity is required to report financial and descriptive information about its reportable segments. Reportable segments are operating segments or aggregations of operating segments that meet specified criteria. Operating segments are components of an entity about which separate financial information is available and such information is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. Generally, segment information is required to be reported on the same basis as is used internally for evaluating operating segment performance and deciding how to allocate resources to operating segments.

(1) Description of Reportable Segments

The Group's reportable business segments are components of the Group for which separate financial information is available that is evaluated regularly by the Company's management in deciding how to allocate resources and in assessing performance. The Group develops and conducts its operations under three business segments: the Environment Business Segment, Digital Society Business Segment, Energy & Industry Business Segment, while planning a comprehensive strategy for domestic and overseas markets. Consequently, the Group defines those four business segments as its reportable business segments.

Business Segment	Main products
Environment	Automotive ceramics for exhaust gas purification and sensors
Digital Society	Components for semiconductor manufacturing equipment, ceramic components for electronics, beryllium copper products, and molds
Energy & Industry	NAS® (sodium-sulfur) batteries, insulators, hardware for insulator assemblies, current limiting arching horn, bushing shells, fuse cut-outs, APM, line arrester, corrosion-resistant ceramic apparatuses, for chemical industries, gas analyzer, industrial heating systems, refractory products and radioactive waste treatment systems

Changes in reportable segments
Effective from the current fiscal year, the reportable segments, which were the Energy Infrastructure Business, Ceramics Business, Electronics Business, and Process Technology Business, were changed to the Environment Business, Digital Society Business, and Energy & Industry Business due to the organizational change.
Year-on-year figures for reportable business segments were calculated after adjusting the figures for the same period of the previous fiscal year to the revised segment classification.

(2) Methods of Measurement for the Amounts of Sales, Profit (Loss), Assets, and Other Items for Each Reportable Segment

The accounting policies of each reportable segment are consistent with those disclosed in Note 2, "SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES."

(3) Information about Sales, Profit (Loss), Assets, and Other Items

	Millions of Yen					
	2023					
	Reportable Segments					
	Environment	Digital Society	Energy & Industry	Total	Reconciliations	Consolidated
Sales:						
Sales to customers	**¥ 320,784**	**¥ 163,164**	**¥ 75,292**	**¥ 559,240**	**–**	**¥ 559,240**
Intersegment sales or transfers	**4**	**29**	**2,476**	**2,509**	**¥ (2,509)**	**–**
Total	**¥ 320,788**	**¥ 163,193**	**¥ 77,768**	**¥ 561,749**	**¥ (2,509)**	**¥ 559,240**
Segment profit (loss)	**¥ 50,729**	**¥ 17,557**	**¥ (1,536)**	**¥ 66,750**	**¥ 11**	**¥ 66,761**
Segment assets	**478,676**	**199,077**	**92,741**	**770,494**	**258,674**	**1,029,168**
Other:						
Depreciation and amortization	**37,238**	**13,665**	**2,826**	**53,729**	**–**	**53,729**
Impairment losses on assets	**6,285**	**–**	**3,333**	**9,618**	**334**	**9,952**
Increase in property, plant, and equipment and intangible assets	**18,358**	**16,235**	**1,974**	**36,567**	**7,127**	**43,694**

	Millions of Yen					
	2022					
	Reportable Segments					
	Environment	Digital Society	Energy & Industry	Total	Reconciliations	Consolidated
Sales:						
Sales to customers	¥ 292,670	¥ 150,312	¥ 67,457	¥ 510,439	–	¥ 510,439
Intersegment sales or transfers	18	3	2,430	2,451	¥ (2,451)	–
Total	¥ 292,688	¥ 150,315	¥ 69,887	¥ 512,890	¥ (2,451)	¥ 510,439
Segment profit (loss)	¥ 65,061	¥ 19,866	¥ (1,406)	¥ 83,521	¥ 7	¥ 83,528
Segment assets	475,051	184,577	94,106	753,734	229,099	982,833
Other:						
Depreciation and amortization	34,717	11,805	2,749	49,271	–	49,271
Impairment losses on assets	1,034	–	126	1,160	–	1,160
Increase in property, plant, and equipment and intangible assets	20,067	11,530	2,059	33,656	4,475	38,131

	Thousands of U.S. Dollars					
	2023					
	Reportable Segments					
	Environment	Digital Society	Energy & Industry	Total	Reconciliations	Consolidated
Sales:						
Sales to customers	**$ 2,393,907**	**$ 1,217,644**	**$ 561,884**	**$ 4,173,435**	**–**	**$ 4,173,435**
Intersegment sales or transfers	**30**	**212**	**18,480**	**18,722**	**$ (18,722)**	**–**
Total	**$ 2,393,937**	**$ 1,217,856**	**$ 580,364**	**$ 4,192,157**	**$ (18,722)**	**$ 4,173,435**
Segment profit (loss)	**$ 378,572**	**$ 131,024**	**$ (11,464)**	**$ 498,132**	**$ 85**	**$ 498,217**
Segment assets	**3,572,207**	**1,485,651**	**692,101**	**5,749,959**	**1,930,399**	**7,680,358**
Other:						
Depreciation and amortization	**277,897**	**101,981**	**21,087**	**400,965**	**–**	**400,965**
Impairment losses on assets	**46,904**	**–**	**24,871**	**71,775**	**2,497**	**74,272**
Increase in property, plant, and equipment and intangible assets	**137,001**	**121,156**	**14,727**	**272,884**	**53,192**	**326,076**

Notes:

1. Reconciliation of segment profit is the adjustment of intersegment transactions.
2. The amount of general corporate assets included in the reconciliation of segment assets was ¥265,525 million ($1,981,533 thousand) and ¥235,965 million at March 31, 2023 and 2022, respectively, mainly consisting of surplus funds (cash and marketable securities), long-term investment funds (investment securities), and the assets of administrative departments.
3. The increase in property, plant, and equipment and intangible assets in reconciliations relates to the increase in corporate departments.

Information about Geographical Areas

(1) Sales

	Millions of Yen							
	2023							
	North America		Europe		Asia		Other Areas	Total
Japan	USA	Others	Germany	Others	China	Others		
¥ 129,587	**¥ 128,286**	**¥ 8,072**	**¥ 50,446**	**¥ 75,348**	**¥ 82,429**	**¥ 74,092**	**¥ 10,980**	**¥ 559,240**

	Millions of Yen							
	2022							
	North America		Europe		Asia		Other Areas	Total
Japan	USA	Others	Germany	Others	China	Others		
¥ 124,856	¥ 106,920	¥ 4,024	¥ 46,717	¥ 62,114	¥ 93,242	¥ 61,850	¥ 10,716	¥ 510,439

	Thousands of U.S. Dollars							
	2023							
	North America		Europe		Asia		Other Areas	Total
Japan	USA	Others	Germany	Others	China	Others		
$ 967,064	**$ 957,358**	**$ 60,237**	**$ 376,459**	**$ 562,297**	**$ 615,142**	**$ 552,923**	**$ 81,955**	**$ 4,173,435**

Sales are attributed to countries based on the location of the customers.

(2) Property, plant, and equipment

	Millions of Yen							
	2023							
	North America		Europe		Asia		Other Areas	Total
Japan	USA	Others	Poland	Others	China	Others		
¥ 168,471	**¥ 29,598**	**¥ 14,520**	**¥ 77,814**	**¥ 12,736**	**¥ 38,376**	**¥ 24,545**	**¥ 386**	**¥ 366,446**

	Millions of Yen							
	2022							
	North America		Europe		Asia		Other Areas	Total
Japan	USA	Others	Poland	Others	China	Others		
¥ 175,592	¥ 24,262	¥ 14,559	¥ 78,351	¥ 6,655	¥ 50,258	¥ 24,919	¥ 716	¥ 375,312

	Thousands of U.S. Dollars							
	2023							
	North America		Europe		Asia		Other Areas	Total
Japan	USA	Others	Poland	Others	China	Others		
$ 1,257,243	**$ 220,879**	**$ 108,361**	**$ 580,701**	**$ 95,047**	**$ 286,385**	**$ 183,170**	**$ 2,887**	**$ 2,734,673**

Independent Auditor's Report

Deloitte.

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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of NGK INSULATORS, Ltd.:

Opinion

We have audited the consolidated financial statements of NGK INSULATORS, Ltd. and its consolidated subsidiaries (the "Group"), which comprise the consolidated balance sheet as of March 31, 2023, and the consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies, all expressed in Japanese yen.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of March 31, 2023, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with accounting principles generally accepted in Japan.

Convenience Translation

Our audit also comprehended the translation of Japanese yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made in accordance with the basis stated in Note 1 to the consolidated financial statements. Such U.S. dollar amounts are presented solely for the convenience of readers outside 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 provisions of the Code of Professional Ethics in Japan, and we have fulfilled our other ethical responsibilities as auditors. 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.

Member of
Deloitte Touche Tohmatsu Limited

Revenue recognition for product sales	
Key Audit Matter Description	How the Key Audit Matter Was Addressed in the Audit
By using its one-of-a-kind ceramic technology, the Group manufactures and sells products, such as ceramics for purifying automobile exhaust emissions. Furthermore, the parent company of the consolidated group, NGK INSULATORS, Ltd. (the "Company"), is the core company of the consolidated group, and its sales are quantitatively material for the Group's consolidated sales. The process of recognizing revenue for product sales is largely divided into the following three procedures: (1) input order data; (2) register product delivery information and other relevant information; and (3) record sales. The Company uses an ERP system to carry out these procedures. However, for certain sales routes, the Company uses other systems that are used by individual departments or shipping companies to "(2) register product delivery information and other relevant information." This means that a framework has been established in which data are linked between these systems and the ERP system (hereinafter collectively referred to as the "IT Systems") to ultimately "(3) record sales." For all sales routes, the process of recognizing revenue for product sales has been built on the assumption that the IT Systems will function as designed, making the Company dependent on the IT Systems over a wide area. As seen above, the Company's revenue recognition for product sales is an operating process rooted in the automatic links that have been established between the IT Systems. Furthermore, each department generally sells products at stable unit prices, but the number of transaction types and the volume of transactions are extremely large. If sales are not properly recorded or are recorded in the wrong fiscal year, the impact of such errors on the financial statements may be significant. Therefore, we identified the appropriateness of the Company's revenue recognition for products sales as a key audit matter.	Our audit procedures over the appropriateness of the Company's revenue recognition for products sales included the following, among others: (1) Internal control evaluation ✧ With the assistance of our IT specialists, we evaluated the design and operating effectiveness of the internal controls described below: • For the IT Systems used for the sales operating process, we examined the general IT controls such as controls over development and change management, security management, operations management, and service level management. • We examined the IT application controls mainly by conducting control total checks for the interfaces established between several relevant IT Systems. • We examined the IT application controls in place for ensuring the accuracy of sales, such as the edit validation checks that are conducted when inputting order data. ✧ We obtained an understanding of the sales process, including the internal controls established by the Company over the recording of sales, examined the division of duties for the process, and evaluated the design and operating effectiveness of relevant internal controls. (2) Sales transaction test ✧ We conducted an analysis comparing the monthly budget against the actual results of each department and analyzed the sales trends of each department. ✧ We selected high unit price transactions, examined the reasonableness of the content of the transactions by conducting interviews on sales routes, client characteristics, and other topics, and traced their accounting records to vouchers that served as evidence for recording sales. ✧ For the sales of products sold that were not selected above, we first sampled sales transactions and then traced vouchers that served as evidence for recording sales (e.g., purchase orders sent from customers and goods receipts) to the accounting records.

Impairment loss on long-lived assets (insulator business)	
Key Audit Matter Description	How the Key Audit Matter Was Addressed in the Audit
The Group classifies fixed assets into asset groups primarily by business categories it employs for internal management purposes. As for idle assets, each individual asset is treated as an asset group. In addition, the assets/relevant assets are treated as a separate asset group if the separation of such assets does not have a significant effect on the use of other assets or asset groups, such as when the board of directors or other relevant bodies make a decision to dispose assets or terminate the manufacture and sale of specific products without any plans for making alternative investments utilizing the assets/relevant assets. The Company decided to terminate the manufacture and sale of insulator products manufactured in the Chita factory, which is part of the insulator business, as of the end of the current year. The decision was made based on the judgment that it would be difficult to continue to earn a profit from these products due to a decrease in investments by principal customers of the Company, such as electric power companies, and the price advantage of overseas products, among other reasons. The Company determined that there was an indication of impairment in these assets because it considered unprofitability of the business as being a change in the extent and method of usage that would significantly decrease the recoverable amount of these assets and the Company recorded an impairment loss amounting to 2,616 million yen for the asset group in relation to the insulator products manufactured in the Chita factory as stated in Note 7, Long-Lived Assets, to the consolidated financial statements. The Company also judged that there was an indication of impairment for the insulator business excluding the insulator products manufactured in the Chita factory since this asset group was projected to generate losses for consecutive years, including the year ended March 31, 2023, due to a drop in demand caused by a decrease in investments by electric power companies and railroad companies, which are the principal customers of the Company. As of the year ended March 31, 2023, relevant fixed assets amounting to 4,733 million yen were recorded in the consolidated balance sheet, among them, assets of the Company, which is the core company of the consolidated group, are especially significant.	Our audit procedures for examining the appropriateness of the Company's judgment on applying impairment accounting to fixed assets included the following, among others: • We tested the design and operating effectiveness of the Company's internal controls over its judgment on whether to record an impairment loss for fixed assets and over the measurement of the impairment loss. • We evaluated the results of work by management's expert, a third party real estate appraiser, and assessed the competence, capability, and objectivity of the expert. • With the assistance of our valuation specialists, we examined the reasonableness of the calculation of the fair value of the real estate held, which were based on the appraisal of real estate. • We held discussions with management of the Group and personnel responsible for the business plans drafting the budgets concerning the future cash flows estimates calculated based on assumptions, such as future sales unit price estimates, demand forecasts, and the net selling price at disposition of the assets held. We also inspected the materials serving as evidence for the future cash flows, and examined whether they were prepared based on supporting evidence and whether they had undergone the proper approval process. As demand forecasts involve a higher degree of estimates and uncertainty, we examined whether the evidence, such as the status of negotiations with customers upon which the estimates were made, was appropriately considered in the cash flow estimates. • We examined whether the judgment on whether to record an impairment loss using the future cash flows, and the measurement of the impairment loss were being conducted accurately.

Independent Auditor’s Report

Judgments on whether to record an impairment loss for fixed assets, and measurement of the amount of impairment loss that will be recorded are made based on future cash flows estimated considering future estimates such as future sales unit price estimates, demand forecasts, and the net selling price at disposition of the assets held. The Company reached the conclusion that it was unnecessary to recognize an impairment loss for the insulator business excluding the insulator products manufactured in the Chita factory, as the recoverable amount of the relevant asset group was greater than the carrying value of the fixed assets. Estimates of the future cash flows from business activities were calculated based on the Company's business plan, and involves estimation by management. The net selling price of the real estate held is determined based on the appraisal value of the real estate calculated by external experts less the estimated disposal costs, which requires professional judgment. Therefore, we identified management's judgment on whether to record an impairment loss for fixed assets and over the measurement of the impairment loss related to the insulator products manufactured in the Chita factory, which is part of the insulator business, and the insulator business excluding the insulator products manufactured in the Chita factory, as a key audit matter.	

Impairment loss on long-lived assets (packaging business)	
Key Audit Matter Description	How the Key Audit Matter Was Addressed in the Audit
In light of the examples of impairment loss indications that are cited in the "Accounting Standard for Impairment of Fixed Assets," the Group makes a comprehensive judgment on whether there are any events/facts that might indicate impairment of an asset or an asset group. Although the Company projects that demand for the packaging business will grow in the future, it judged that there was an indication of impairment because the business environment was significantly deteriorating due to projections that the packaging business would continue to post operating losses. These losses were due to a decline in profitability, which was primarily caused by the recent rise in power costs. As of the year ended March 31, 2023, relevant fixed assets amounting to 7,018 million yen were recorded in the consolidated balance sheet.	Our audit procedures for examining the appropriateness of the Company's judgment on whether to record an impairment loss for fixed assets included the following, among others: • We tested the design and operating effectiveness of the Company's internal controls over its judgment on whether to record an impairment loss for fixed assets. • We evaluated the results of work by management's expert, a third party real estate appraiser, and assessed the competence, capability, and objectivity of the expert. • With the assistance of our valuation, we examined the reasonableness of the calculation of the fair value of the real estate held, which were made based on the appraisal of real estate.

Judgments on whether to record an impairment loss for fixed assets, and measurement of the amount of impairment loss that will be recorded are made based on the future cash flows estimated by considering future estimates such as future sales unit price estimates, demand forecasts, and the net selling price at disposition of the assets held. Estimates of future cash flows generated from business activities are calculated based on the Company's business plan, and involve estimates made by management. Estimates calculated based on the forecast that sales for highly profitable products for smaller size will increase due to the growth rate of the market—particularly the market for electric devices on which products of this business segment are installed—are very important as such estimates have a significant impact on the Company's judgment on whether to record an impairment loss. The net selling price of the real estate held is determined based on the appraisal value of the real estate calculated by external experts, less the estimated disposal cost, which requires professional judgment. The Company reached the conclusion that it was unnecessary to recognize an impairment loss based on the future demand forecasts for the packaging business and the net selling price of the real estate held. Therefore, we identified management's judgment on whether to record an impairment loss for fixed assets related to the packaging business as a key audit matter.	• We held discussions with management of the Group and personnel responsible for the business plans drafting the budgets concerning estimates of the future cash flows calculated based on assumptions such as future sales unit price estimates, demand forecasts, and the net selling price of the assets held. We also inspected the materials serving as evidence for the undiscounted future cash flows, and examined whether they were prepared based on supporting evidence and whether they had undergone the proper approval process. As future demand forecasts are developed based on market forecasts made by external organizations, we examined whether the calculation of future cash flows was based on these future demand forecasts of electronics market. Concurrently, we examined the correlation between market forecasts made by external organizations in past fiscal years and actual shipping volumes. As for the sales unit price estimates, we examined whether the Company was employing unit price estimates suitable to the progress of negotiations being held with customers. • We examined whether the judgment on whether to record an impairment loss using the future cash flows was being conducted appropriately.

Other Information

Management is responsible for the other information. Audit & Supervisory Board members and the Audit & Supervisory Board are responsible for overseeing the Directors' execution of duties relating to the design and operating effectiveness of the controls over the other information. The other information comprises the information included in the Annual Report, but does not include the consolidated financial statements and our auditor's report thereon.

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.

Independent Auditor’s Report

Responsibilities of Management and Audit & Supervisory Board Members and the Audit & 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.

Audit & Supervisory Board members and the Audit & Supervisory Board are responsible for overseeing the Directors' execution of duties relating to the design and operating effectiveness of the controls over 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 an 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. The procedures selected depend on the auditor's judgment. In addition, we 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, when performing risk assessment procedures, an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing 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 overall presentation and disclosures of the consolidated financial statements are in accordance with accounting principles generally accepted in Japan, as well as 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.

Independent Auditor's Report

- 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.

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

We also provide Audit & Supervisory Board members and the Audit & 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 Audit & Supervisory Board members and the Audit & 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.

Interest Required to Be Disclosed by the Certified Public Accountants Act of Japan

Our firm and its designated engagement partners 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.

Deloitte Touche Tohmatsu LLC

July 31, 2023

Subsidiaries and Affiliated Companies

As of March 31, 2023

JAPAN

JAPAN	Company's Direct and Indirect Ownership (%)	Principal Products and Services
■ ENERGY SUPPORT CORPORATION	100	Power distribution equipment
■ AKECHI INSULATORS, LTD.	100	Electrical insulators
■ NGK CHEM-TECH, LTD.	100	Chemical equipment and maintenance
■ NGK FILTECH, LTD.	100	Membrane separation systems
■ NGK ADREC CO., LTD.	100	Refractories/kiln furniture
■ NGK KILNTECH CORPORATION	100	Thermal process engineering & products
■ NGK OKHOTSK, LTD.	100	Jig for ceramics production
■ NGK METEX CORPORATION	100	Beryllium copper wrought products
■ NGK FINE MOLDS, LTD.	100	Molds
■ NGK CERAMIC DEVICE CO., LTD.	100	Ceramic electronic components
■ NGK ELECTRONICS DEVICES, INC.	100	Ceramic packages for semiconductors and ceramic electronic components
■ Ena Electric Power CO., LTD.	100	Electricity
■ Abashiri Electric Power CO., LTD.	100	Electricity
● METAWATER CO., LTD.	21.9	Environmental protection systems
● NGK LIFE CO., LTD.	100	Insurance agency service and golf course management

Other Group Companies

- ■ HOKURIKU ENERGYS CORPORATION
- ■ ENERGYS SANGYO CORPORATION
- ■ KANSAI ENERGYS CORPORATION
- ■ KYUSYU ENERGYS CORPORATION
- NGK YU-SERVICE CO., LTD.
- NGK TECHNICA, LTD.
- NGK LOGISTICS, LTD.

NORTH AMERICA

NORTH AMERICA	Company's Direct and Indirect Ownership (%)	Principal Products and Services
■ NGK NORTH AMERICA, INC.	100	Holding company
■ NGK-LOCKE, INC.	100	Electrical insulators
■ NGK CERAMICS USA, INC.	100	Automotive ceramics
■ NGK AUTOMOTIVE CERAMICS USA, INC.	100	Automotive ceramics
■ NGK CERAMICS MEXICO, S. DE R.L. DE C.V.	95	Automotive ceramics
■ NGK METALS CORPORATION	100	Beryllium copper products
■ NGK ELECTRONICS USA, INC.	100	Ceramics for semiconductor manufacturing equipment
■ FM INDUSTRIES, INC.	100	Modules for semiconductor production equipment

EUROPE AND AFRICA

EUROPE AND AFRICA	Company's Direct and Indirect Ownership (%)	Principal Products and Services
■ NGK CERAMICS EUROPE S.A.	100	Automotive ceramics
■ NGK EUROPE GMBH	100	Ceramic products
■ NGK CERAMICS POLSKA SP. Z O.O.	95	Automotive ceramics
■ NGK CERAMICS SOUTH AFRICA (PTY) LTD.	100	Automotive ceramics
■ NGK BERYLCO FRANCE	100	Beryllium copper products
■ NGK BERYLCO U.K. LTD.	100	Beryllium copper products
■ NGK DEUTSCHE BERYLCO GMBH	100	Beryllium copper products

ASIA PACIFIC

ASIA PACIFIC	Company's Direct and Indirect Ownership (%)	Principal Products and Services
■ NGK STANGER PTY. LTD.	100	Power distribution equipment
■ NGK INSULATORS (CHINA) INVESTMENT CO., LTD.	100	Electrical insulators and beryllium copper products
■ P.T. NGK CERAMICS INDONESIA	97.8	Automotive ceramics
■ SIAM NGK TECHNOCERA CO., LTD.	100	Refractories/kiln furniture
■ NGK CERAMICS (THAILAND) CO., LTD.	95	Automotive ceramics
■ NGK CERAMICS SUZHOU CO., LTD.	100	Automotive ceramics
■ NGK TECHNOCERA SUZHOU CO., LTD.	100	Thermal process engineering & products, refractories/kiln furniture

Other Group Companies

- ■ ENERGY ELECTRIC (SHANGHAI) CORPORATION
- ■ NGK MATERIAL USA, INC.
- ■ NGK AUTOMOTIVE CERAMICS MEXICO, S. DE R.L. DE C.V.
- ■ NGK ELECTRONICS DEVICES (M) SDN. BHD.
- ■ NGK GLOBETRONICS TECHNOLOGY SDN. BHD.
- ■ NGK INSULATORS TANGSHAN CO., LTD.
- ■ LOCKE INSULATORS, INC.
- ■ NGK INSULATORS OF CANADA, LTD.
- NGK AUTOMOTIVE CERAMICS KOREA CO., LTD.
- NGK TECHNOLOGIES INDIA PVT. LTD.
- NGK ITALY S.R.L.
- NGK ENERGYS MYANMAR CO., LTD.
- FM INDUSTRIES (MALAYSIA) SDN. BHD.
- NR-Power Lab Co., LTD.

■ Consolidated companies
● Affiliated companies accounted for by the equity method

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