Consolidated Financial Summary

Mitsubishi Chemical Holdings Corporation and Consolidated Subsidiaries
Years ended March 31

	IFRS				
					Millions of yen
	April 2015 (Transition date)	2016	2017	2018	**2019**
For the Year:					
Sales revenue	¥ —	¥3,543,352	¥3,376,057	¥ 3,724,406	**¥ 3,923,444**
Income before taxes	—	252,791	258,343	344,077	**288,056**
Net income	—	104,858	216,515	276,362	**216,729**
Net income attributable to owners of the parent	—	51,358	156,259	211,788	**169,530**
Total comprehensive income	—	34,302	226,493	297,476	**205,898**
Total comprehensive income attributable to owners of the parent	—	253	165,709	233,619	**161,655**
Net cash provided by (used in) operating activities	—	299,612	396,643	397,940	**415,575**
Net cash provided by (used in) investing activities	—	(234,078)	(289,056)	(335,933)	**(895,068)**
Net cash provided by (used in) financing activities	—	(40,945)	1,411	(150,592)	**519,062**
Cash and cash equivalent at end of period	252,749	267,148	363,510	277,624	**321,541**
At Year-End:					
Equity attributable to owners of the parent	993,011	972,197	1,091,398	1,285,750	**1,377,947**
Total assets	4,368,998	4,223,774	4,463,547	4,701,415	**5,572,508**
				Yen	
Per Share:					
Equity attributable to owners of the parent	¥677.98	¥663.71	¥758.30	¥893.26	**¥970.46**
Net income attributable to owners of the parent —Basic	—	35.06	106.73	147.14	**119.22**
Net income attributable to owners of the parent —Diluted	—	35.03	105.95	136.06	**110.05**
Ratios:					
Ratio of equity attributable to owners of the parent (%)	22.7	23.0	24.5	27.3	**24.7**
Ratio of earnings attributable to owners of the parent (ROE) (%)	—	5.2	15.1	17.8	**12.7**
Price earnings ratio (Times)	—	16.8	8.1	7.0	**6.5**
Other:					
Number of employees (People)	68,263	68,988	69,291	69,230	**72,020**
Temporary employees (People)	6,101	6,967	6,878	7,428	**7,558**

Notes: 1. The consolidated financial statements have been prepared in keeping with International Financial Reporting Standards ("IFRS") since the fiscal year, ended March 31, 2017.
2. Sales revenues do not include consumption taxes.
3. In the fiscal year ended March 31, 2017, the Company classified terephthalic acid operations in India and China as discontinued. The Company accordingly presents sales revenue and income before taxes for the fiscal years ended March 31, 2016, and 2017, as amounts for continuing operations after excluding discontinued operations.
4. As it accounted provisionally for business combinations in the fiscal year ended March 31, 2019, the Company has retroactively revised the related key business indicators for the fiscal year ended March 31, 2018.

Millions of yen	Japan GAAP			
				Millions of yen
	2014	2015	2016	**2017**
For the Year:				
Net Sales	¥ 3,498,834	¥3,656,278	¥3,823,098	**¥3,432,398**
Ordinary income	103,092	163,059	270,616	**258,073**
Net income attributable to owners of the parent	32,248	60,859	46,444	**113,237**
Total comprehensive income	134,016	173,692	7,695	**205,319**
Net cash provided by operating activities	177,027	329,776	388,663	**333,150**
Net cash used in investing activities	(159,789)	(277,223)	(202,796)	**(264,566)**
Net cash provided by (used in) financing activities	(8,307)	(2,061)	(156,957)	**40,123**
Cash and cash equivalent at end of period	179,556	243,055	263,770	**360,012**
At Year-End:				
Total net assets	1,314,870	1,588,601	1,554,528	**1,608,324**
Total assets	3,479,359	4,323,038	4,061,572	**4,295,260**
		Yen		
Per Share:				
Net assets	¥611.95	¥669.77	¥636.43	**¥691.18**
Net income attributable to owners of the parent —Basic	21.89	41.40	31.70	**77.35**
Net income attributable to owners of the parent —Diluted	21.45	41.37	31.68	**76.78**
Ratios:				
Shareholders' equity ratio (%)	25.8	22.6	22.9	**23.2**
Return on equity (ROE) (%)	3.7	6.4	4.8	**11.8**
Price earnings ratio (Times)	19.5	16.8	18.5	**11.1**
Other:				
Number of employees (People)	56,031	68,263	68,988	**69,291**
(Temporary employees in parentheses) (People)	(5,208)	(6,101)	(6,967)	**(6,878)**

Notes: 1. The consolidated financial statements for the fiscal year ended March 31, 2017, are based on Japanese standards, and have not been audited pursuant to Paragraph 1 of Article 193-2 of the Financial Instruments and Exchange Act.
2. Sales revenues do not include consumption taxes.

Segment Information

Mitsubishi Chemical Holdings Corporation and Consolidated Subsidiaries
Years ended/as of March 31

The Overview of Reporting Segments is detailed in Note 4 (Segment Information).

	Sales revenue		Core Operating Income (Loss)	
		Millions of yen		Millions of yen
REPORTING SEGMENT	2018	**2019**	2018	**2019**
Performance Products	¥1,145,932	**¥ 1,170,119**	¥ 93,995	**¥ 68,564**
Chemicals	1,177,352	**1,270,750**	147,868	**131,132**
Industrial Gases	638,675	**732,837**	57,467	**63,323**
Health Care	556,568	**545,666**	81,227	**56,865**
Others	205,879	**204,072**	7,119	**7,553**
Subtotal	3,724,406	**3,923,444**	387,676	**327,437**
Elimination and corporate	—	**—**	(7,187)	**(10,250)**
Total	¥3,724,406	**¥3,923,444**	¥380,489	**¥317,187**

* Inter-segment revenue and transfers are not included.

	Total assets		Depreciation and Amortization	
		Millions of yen		Millions of yen
REPORTING SEGMENT	2018	**2019**	2018	**2019**
Performance Products	¥1,215,112	**¥ 1,216,636**	¥ 54,861	**¥ 55,661**
Chemicals	1,290,102	**1,340,129**	53,741	**59,563**
Industrial Gases	1,016,171	**1,849,857**	45,708	**58,554**
Health Care	1,167,599	**1,171,411**	19,049	**19,549**
Others	961,554	**1,002,178**	3,018	**3,273**
Subtotal	5,650,538	**6,580,211**	176,377	**196,600**
Adjustments	(949,123)	**(1,007,703)**	2,518	**2,732**
Total	¥4,701,415	**¥5,572,508**	¥178,895	**¥ 199,332**

	Capital Expenditures		R&D Expenditures	
		Millions of yen		Millions of yen
REPORTING SEGMENT	2018	**2019**	2018	**2019**
Performance Products	¥ 68,301	**¥ 65,188**	¥ 27,624	**¥ 29,655**
Chemicals	61,910	**70,623**	9,989	**10,053**
Industrial Gases	61,549	**72,056**	2,989	**3,494**
Health Care	27,505	**17,985**	92,140	**90,613**
Others	3,535	**3,729**	310	**273**
Subtotal	222,800	**229,581**	133,052	**134,088**
Adjustments	2,389	**2,161**	5,781	**9,748**
Total	¥225,189	**¥231,742**	¥138,833	**¥143,836**

	Employees	
		Number
REPORTING SEGMENT	2018	**2019**
Performance Products	23,601	**23,950**
Chemicals	8,510	**8,168**
Industrial Gases	16,746	**19,229**
Health Care	11,894	**11,989**
Others	7,586	**7,857**
Subtotal	68,337	**71,193**
Corporate	893	**827**
Total	69,230	**72,020**

	Net Sales	
		Millions of yen
GEOGRAPHIC SEGMENT	2018	**2019**
Japan	¥ 2,589,590	**¥2,678,735**
Overseas	1,134,816	**1,244,709**
Total	¥ 3,724,406	**¥3,923,444**

	Core Operating Income (Loss)	
		Millions of yen
GEOGRAPHIC SEGMENT	2018	**2019**
Japan	**¥ 223,165**	**¥165,395**
Overseas	**157,324**	**151,792**
Total	**¥ 380,489**	**¥317,187**

		Millions of yen
OVERSEAS SALES	2018	**2019**
Overseas sales	¥1,547,060	**¥1,664,575**
Overseas sales as a percentage of consolidated net sales	41.5%	**42.4%**

Results of Operations

Sales Revenue and Core Operating Income

In the fiscal year ended March 31, 2019, the MCHC Group enjoyed favorable market conditions in Industrial Materials domain during the first half of the fiscal year, despite the impact of national health insurance drug price revision in Japan in April 2018 in the Health Care domain and decelerating demand and higher raw materials costs in Performance Products domain. In the second half, the outlook became uncertain amid concerns about worsening U.S.-China trade friction and an easing of supply and demand in some product areas.

It was against this backdrop that consolidated sales revenue for the fiscal year ended March 31, 2019 increased ¥199.0 billion from a year earlier, to ¥3,923.4 billion. Core operating income decreased ¥63.3 billion, to ¥317.2 billion. The ratio of core operating income to sales revenue was 8.1%, from 10.2% a year earlier.

Results by Segment

Performance Products Segment (Functional Products and Performance Chemicals)

Sales revenue advanced ¥24.2 billion, to ¥1,170.1 billion, but core operating income dropped ¥25.4 billion, to ¥68.6 billion.

Sales revenue remained basically flat in the Functional Products subsegment. This was because sales volumes dwindled for products related to information and electronics, and displays, and other products with demand slowing, principally in the second half, despite higher sales volumes in high-performance engineering plastics and other products for advanced moldings and composites.

Sales revenue rose in the Performance Chemicals subsegment. This reflected favorable market conditions in the first half for phenol-polycarbonate chain materials in advanced polymers, which outweighed a downturn in the second half. Another positive factor was higher automotive battery materials sales volumes in the new energy business.

Core operating income in this segment was down owing to generally higher raw materials costs, higher fixed expenses, and the impact of scheduled maintenance and repairs at production facilities for phenol-polycarbonate chain materials in advanced polymers.

Chemicals Segment (MMA, Petrochemicals and Carbon Products)

Sales revenue rose ¥93.4 billion, to ¥1,270.7 billion. Core operating income declined ¥16.8 billion, to ¥131.1 billion.

Sales revenue in the MMA subsegment was basically unchanged. This was because a demand slowdown in the second half, particularly in China, offset the impact of favorable MMA monomer and other products market conditions in the first half.

In the Petrochemicals subsegment, sales volumes fell because of the impact of scheduled maintenance and repairs at the ethylene production facility. Sales revenue increased, however, on higher prices in line with increased raw materials costs.

Sales revenue rose in the Carbon Products subsegment because prices increased in the needle coke market amid firm demand for coke and other products.

Core operating income in this segment declined because a widened price spread between raw materials costs and prices of carbon products was outweighed by a greater impact of scheduled maintenance and repairs at petrochemicals product facilities, inventory valuation losses stemming from plunging raw materials costs since the end of the previous year, and a fall in MMA sales volumes.

Industrial Gas Segment (Industrial Gases)

Sales revenue rose ¥94.1 billion, to ¥732.8 billion. Core operating income was up ¥5.8 billion, to ¥63.3 billion.

These gains reflected the solid performances of overseas businesses and the impact of the acquisition of a portion of the European business of Praxair, Inc. of the United States and part of the U.S. hydrogen and carbon monoxide business and related assets of Linde Gas North America LLC.

Health Care Segment (Pharmaceuticals and Life Science)

Sales revenue declined ¥10.9 billion, to ¥545.7 billion. Core operating income dropped ¥24.3 billion, to ¥56.9 billion.

In Pharmaceuticals, sales revenue was down despite higher U.S. sales of *Radicava* for treating amyotropic lateral sclerosis, owing to the impact of national health insurance price revision in domestic ethical pharmaceuticals in April 2018 and lower royalty revenue.

Core operating income decreased because of lower sales revenue and higher R&D expenditures. Royalty revenue from Novartis Pharma AG of Switzerland for *Gilenya* multiple sclerosis treatment was down, as a portion of the revenue was not recognized under IFRS 15 owing to start of arbitration proceedings.

Others

Sales revenue decreased ¥1.8 billion, to ¥204.1 billion, while core operating income advanced ¥400 million, to ¥7.6 billion.

Non-Recurring Items and Operating Income

In the fiscal year ended March 31, 2019, non-recurring items recorded a loss of ¥19.2 billion, representing a decrease in loss of ¥5.6 billion compared to the previous fiscal year. Key factors were an ¥11.8 billion impairment loss and an ¥8.5 billion loss on sale and disposal of fixed assets.

As a result of these factors, operating income for the fiscal year ended March 31, 2019 was down ¥57.7 billion, to ¥298.0 billion.

Financial Income / Expenses and Income Before Taxes

Financial income rose ¥1.8 billion, to ¥10.2 billion. This was due largely to higher interest and dividend income.

Financial expenses were up ¥100 million, to ¥20.1 billion. This reflected increased interest expense associated with increased interest-bearing debt related to Taiyo Nippon Sanso Corporation's business acquisitions in Europe and the United States.

Income before taxes therefore declined ¥56.0 billion, to ¥288.1 billion.

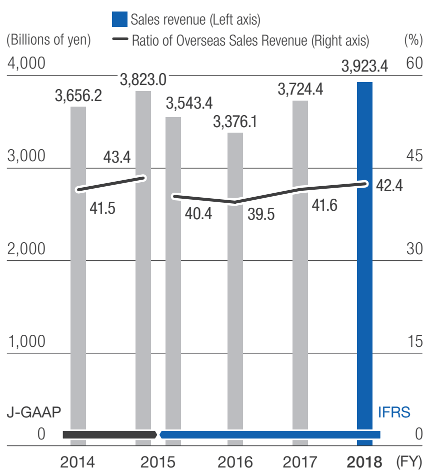
Income Taxes and Net Income

Income taxes in the year under review was ¥71.4 billion, up ¥3.7 billion. This was despite lower income before taxes, and reflected a reversal in deferred tax liabilities following a reduction in U.S. federal income tax rates in the previous year.

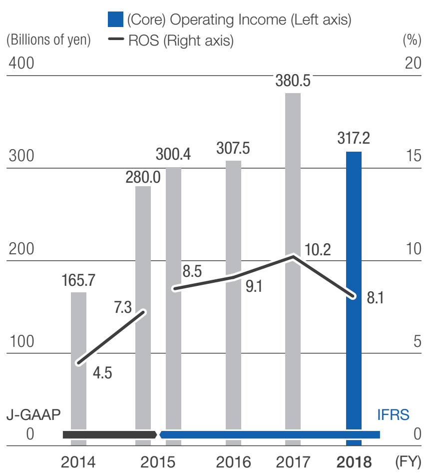
The effective tax rate after applying tax-effect accounting was 24.8%, whose difference from the statutory rate was 5.8 points.

As a result of these factors, net income declined ¥59.7 billion, to ¥216.7 billion. Net income attributable to owners of the parent was ¥169.5 billion, down ¥42.3 billion.

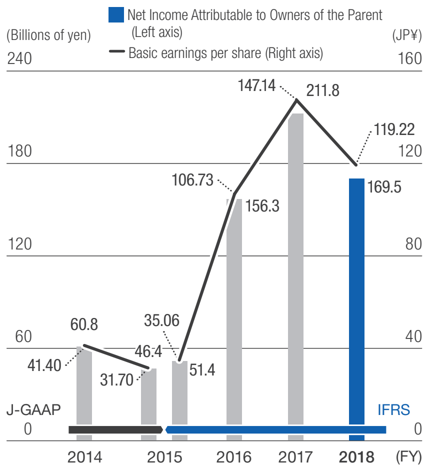
Sales Revenue and Ratio of Overseas Revenue



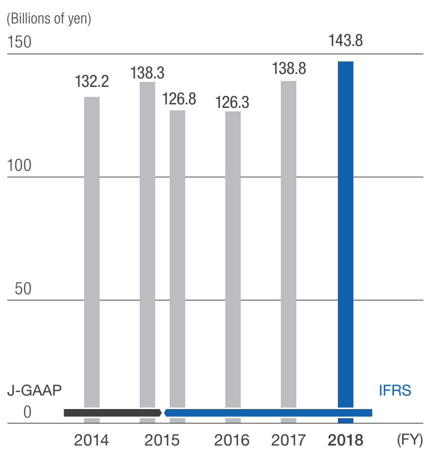
(Core) Operating Income and ROS



Net Income Attributable to Owners of the Parent and Basic Earnings per Share

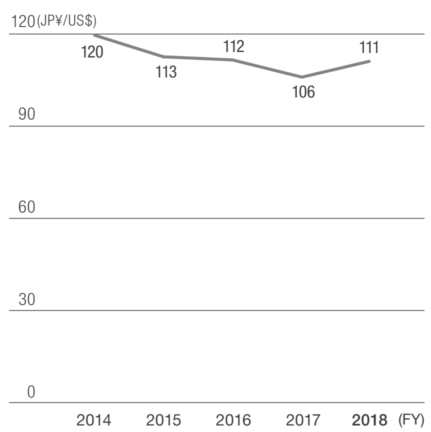


R&D Expenditures

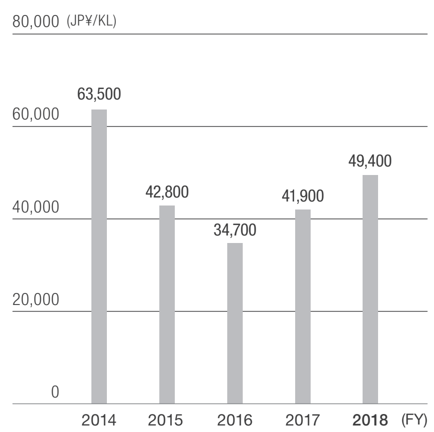


Reference

Foreign Exchange (Exchange rate at each fiscal year-end)



Domestic Naphtha Average Price of Each Fiscal Year



R&D Expenditures

MCHC Group companies maintain independent R&D programs and collaborate closely with each other by sharing technology and market information, conducting joint research, and undertaking and outsourcing R&D. They are also working proactively with businesses outside the Group to refine and develop technologies. The Group has 4,961 R&D employees. R&D expenditures totaled ¥143.8 billion in the year under review.

Sources of Funds and Liquidity

Under the medium-term management plan *APTSIS 20*, the MCHC Group has set out the basic policy of "Aim to become a corporate group with a high-growth and high-profit business structure through the Performance Products, Industrial Materials and Health Care domains." It has also set basic management indicators comprising core operating income, ROS (ratio of core operating income to sales revenue), net income attributable to owners of the parent, ROE (return on equity attributable to owners of the parent) and net D/E ratio. We seek to improve corporate value while maintaining an appropriate balance between investing in growth businesses, enhancing shareholder returns and strengthening our financial position.

The MCHC Group funds working capital and capital expenditures largely by drawing on internal reserves, loans and bonds. The Group deployed a cash management system to employ its funds efficiently and cut financial expenses. Going forward, management will pursue Group-wide improvements in capital efficiency by consolidating Group fund procurement and management functions.

Financial Position

At March 31, 2019, total assets were ¥5,572.5 billion, up ¥871.1 billion from a year ago. This increase was due largely to an increase in fixed assets and goodwill associated with Taiyo Nippon Sanso Corporation's business acquisitions in Europe and the United States.

Total liabilities were ¥3,546.6 billion, up ¥764.7 billion. This mainly reflected higher interest-bearing debt after procuring funds for these acquisitions.

Total equity was ¥2,025.9 billion, up ¥106.4 billion. The prime factor was an increase in net income, which outweighed the impacts of dividend paid to shareholders and purchase of treasury stock.

As a result of these factors, the ratio of equity attributable to owners of the parent decreased 2.6 points, to 24.7%.

The balance of main account items at March 31, 2019, and details of increases and decreases are as follows.

Assets

Increases in each of the line items below stemmed from Taiyo Nippon Sanso Corporation's business acquisitions in Europe and the United States.

Trade Receivables

Trade receivables increased ¥300.0 million, to ¥855.1 billion.

Inventories

Inventories rose ¥15.3 billion, to ¥623.0 billion.

Property, Plant and Equipment and Intangible Assets

Property, plant and equipment and intangible assets increased ¥463.4 billion, to ¥2,252.1 billion.

Liabilities

Interest-bearing Debt

Interest-bearing debt was ¥2,246.8 billion, up ¥640.7 billion, owing to funding for Taiyo Nippon Sanso Corporation's business acquisitions in Europe and the United States.

Equity

Retained Earnings

Retained earnings increased ¥117.0 billion, to ¥1,073.9 billion, mainly because of the posting of net income attributable to owners of the parent.

Cash Flows

Net Cash Provided by (Used in) Operating Activities

Net cash provided by operating activities in the fiscal year ended March 31, 2019 was ¥415.6 billion, up ¥17.7 billion year on year, mainly due to the posting of income before taxes.

Net Cash Provided by (Used in) Investing Activities

Net cash used in investing activities was ¥895.1 billion, up ¥559.2 billion year on year. This rise stemmed from Taiyo Nippon Sanso Corporation's business acquisitions in Europe and the U.S., which outweighed the impact of asset divestments and sales of businesses in line with business portfolio reforms.

Net Cash Provided by (Used in) Financing Activities

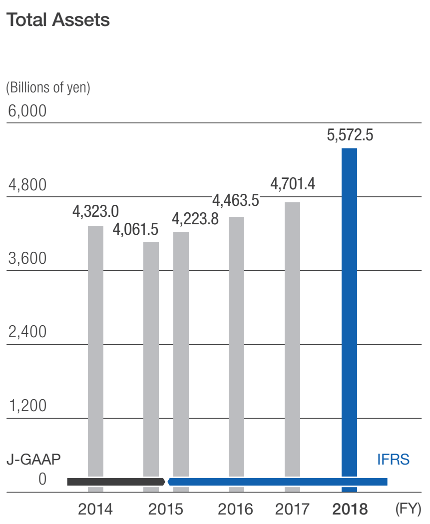
Net cash provided by financing activities was ¥519.1 billion, up ¥669.7 billion year on year. The main factors in this change were short- and long-term borrowings and corporate bonds to fund Taiyo Nippon Sanso Corporation's business acquisitions in Europe and the United States.

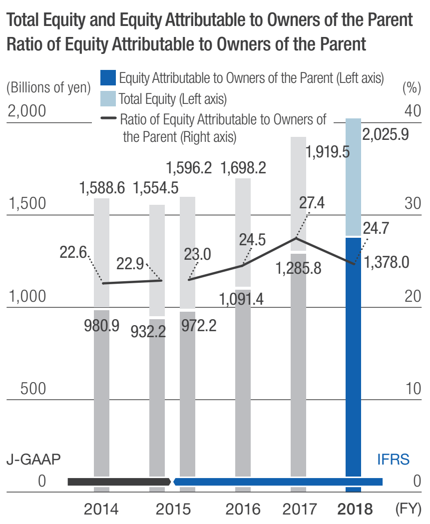
As a result of these factors, free cash flow, comprising cash flows from operating and investing activities, was outflow of ¥479.5 billion, an increase of ¥541.5 billion. Cash and cash equivalents at March 31, 2019 were ¥321.5 billion, up ¥43.9 billion.

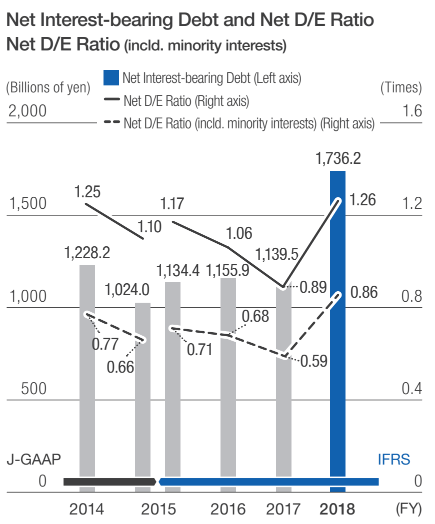
Capital Expenditures

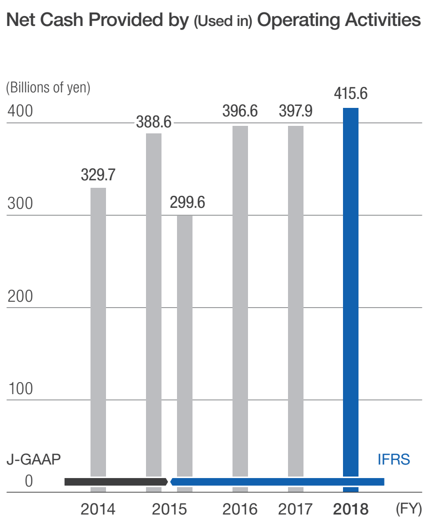
Capital expenditures for the fiscal year ended March 31, 2019 were ¥231.7 billion, up ¥6.5 billion from a year earlier. These expenditures were largely applied to the construction of new facilities or the expansion and renewal of existing facilities, and rationalization investments in other facilities.

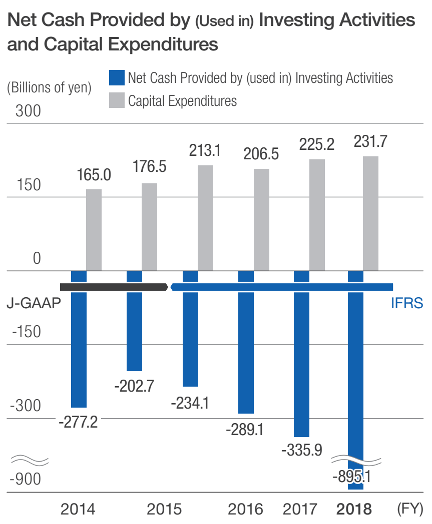
New additions of facilities during the year under review included polyvinyl alcohol film production facilities at The Nippon Synthetic Chemical Industry Co., Ltd. (now Mitsubishi Chemical Corporation), and polyester film production facilities at Mitsubishi Chemical Converting Film Wuxi Co., Ltd. in the Performance Products segment. In the Chemicals segment, Japan Polypropylene Corporation installed polypropylene production facilities. In the Industrial Gas segment, Taiyo Nippon Sanso Corporation installed air separation units. In the Health Care segment, Life Science Institute, Inc., set up regenerative medicine cell processing facilities, while Medicago Inc. installed vaccine manufacturing facilities.

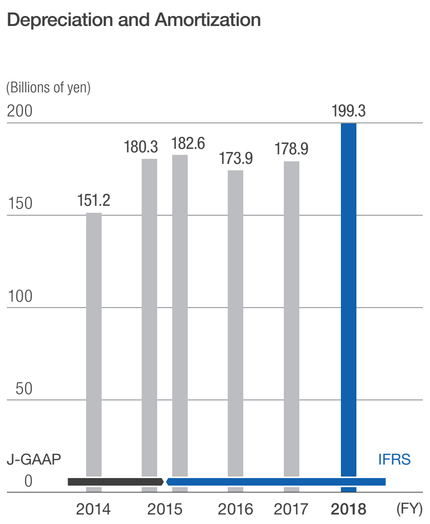












Business Risks

The MCHC Group ("the Group") faces the following key risks, which could adversely affect its operating results and financial position. This section contains forward-looking statements based on information deemed relevant at March 31, 2019. The business risks presented are not all-encompassing. In recognition of exposure to risks such as those detailed below, the Group conducts risk assessments once a year. Based on these assessments, risk management systems are established and revised in consideration of the risks faced by specific businesses. In this manner, the Group is working to prevent the risks from occurring and minimize the impacts of such risks be realized.

Changes Affecting Operating Results

Many of the Group's products can be impacted by demand and product markets domestically and abroad; pricing and procurement volumes for crude oil, naphtha, utilities, and other raw materials and supplies; foreign exchange rates; and relevant laws and regulations. The principal assumed risks for each business domain are as follows.

(a) Performance Products Domain (Performance Products segment)

These products must satisfy high-quality and performance requirements, and the Group must develop and supply them at the appropriate times to meet market needs. Group business results ("results") may be adversely affected if market needs change far more than the Group envisages, or if the Group is unable to ensure the timely supply of products that meet market needs, including issues with the availability of raw materials. If supply is interrupted for raw materials that can only be procured from certain areas or specific suppliers, then this could adversely affect results.

The Group outsources production of most information and electronics-related materials to other Asian manufacturers, so disasters or other issues with those facilities could disrupt the supply structure, adversely affecting results. Specifically, film and sheet products rely greatly on demand for liquid crystal display (LCD) panels, so drastic fluctuations in demand for LCD panels could adversely affect results.

(b) Industrial Materials Domain (Chemicals segment and Industrial Gases segment)

In this area, MCHC consumes large volumes of naphtha and other raw materials, and uses considerable amounts of electricity and steam in production processes. For those reasons, drastic fluctuations in the costs of naphtha, fuels, and other resources owing to changes in crude oil prices; the demand and supply balance for raw fuels or naphtha; or the impact of foreign exchange rates could adversely affect results if MCHC is not fully able to adjust its product prices, or if there are delays in such adjustments. MCHC relies on suppliers from certain areas for its raw fuels, and an inability to secure required fuels at the right times could adversely affect results. A worldwide recession or increased production capacity among rivals could adversely affect results if it becomes impossible to maintain the product demand and supply balance or MCHC is unable to generate revenues and earnings or reach goals that are commensurate with its capital expenditures.

MCHC relies heavily on certain business partners for some products in the Industrial Materials domain. For example, the coke business depends greatly on specific steelmakers, so if the steel output of those companies declines, such as because of dramatic fluctuations in the demand and supply of raw steel, the performances of such business partners could adversely affect MCHC's results.

(c) Health Care Domain (Health Care segment)

The results of the pharmaceuticals business are subject to the Group being unable to reach revenue and earnings targets by adequately expanding sales volumes of existing treatments or rationalizing operations in response to lower prices from periodic revisions in National Health Insurance prices of pharmaceuticals. Results are also subject to government policies in each country to constrain medical expenditures.

In general, lead times for drug research and development are far longer than in other industries, whereas the percentage of drugs receiving approval is not high. It is therefore difficult to produce accurate forecasts for the certainty or timing of commercialization. Results are thus subject to drugs not being commercialized as planned. Even where drugs are commercialized, results are subject to sales volumes being lower because of intensified competition with rival offerings, volumes declining on reports of new side effects when usage of these drugs becomes broad-based, generic drugs are commercialized after patents expire, or when approval is withdrawn.

We undertake activities on commission in such fields as joint research and development, product derivations and introductions, manufacturing, and sales. Changes in or cancellations of contracts with business partner, operating downturns or business policy changes among business partners, or delays or slowdowns in pharmaceutical supplies from these enterprises could affect business results.

In clinical testing and diagnostic reagents and instruments, results can be affected by periodic revisions in medical treatment fees and drug price revisions. Results in these businesses are subject to the Group being unable to reach revenue and earnings targets by adequately expanding sales volumes of existing treatments or rationalizing operations in response to lower fees or prices. In the pharmaceutical intermediates and active pharmaceutical ingredients business and the capsules for pharmaceutical products, results are subject to lower sales volumes of customers' pharmaceuticals following revisions in National Health Insurance prices or patent expiries on customer products.

(d) Others

The Group includes companies offering engineering and logistics services. Those companies secure some external orders. Significant fluctuations in demand within and outside the Group, or in market conditions worldwide, could adversely affect results.

(e) Overall Operations

The Group aims to grow, innovate, and leap ahead by orchestrating its strengths. It is therefore reinforcing its structure and implementing growth strategies (including to deliver high performance and added value), while cultivating innovative businesses. Changes in the economic or business climates (including social demands relating to climate change measures and other aspects of the environment) that are far greater than projected could adversely affect results.

The Group's broad overseas activities include exporting products and manufacturing around the world. Risks in countries or regions relating to Group businesses, notably of conflicts, terrorism, civil wars, riots, demonstrations, deteriorating security, and other international geopolitical problems, unforeseeable issues with regulations, taxation, working conditions, customs, and other country risks, large-scale natural disasters, difficulties hiring and retaining employees, inadequate supplies from utilities or other infrastructural shortfalls, changes in the economic and financial climates, or other risks impacting specific countries or regions could adversely affect results.

Interest-Bearing Debt

The Group aims to balance its growth and innovation strategies with efforts to enhance its financial position. MCHC's results could be adversely affected in a situation where interest payments on interest-bearing debt rises, such as because interest-bearing debt increases, interest rates rise, or MCHC's credit rating declines owing to fluctuating Group performances. Results could also be adversely affected if it becomes essential to procure funds to upgrade facilities and the Group must obtain financing at unfavorable terms.

Risks Associated with Acquisitions, Mergers, or Restructuring

Results could be adversely affected if mergers, acquisitions, or joint ventures created in Japan or abroad to expand scale or overhaul MCHC's business portfolio fail to deliver anticipated synergies or other benefits, or if the Group's financial burden thereby increases or, if after mergers or acquisitions, the Group encounters new debt or other issues that it did not initially envisage. Other factors that could adversely affect results include reorganizations as part of business selection and concentration initiatives, through which MCHC withdraws from unprofitable businesses or liquidates affiliates.

Deferred Tax Assets

The Group records deferred tax assets for deductible temporary differences on tax loss carryforwards. Deferred tax assets are calculated based on various predictions and assumptions about future taxable income. If results differ from such predictions and assumptions, or if tax rates change in line with changes to the tax system, MCHC would need to recalculate deferred tax assets, which could adversely affect results.

Impairment of Securities

The Group holds marketable securities, mainly as a non-controlling shareholder in customer companies or financial institutions, to help improve corporate value over the medium and long terms. Major declines in the market values of such securities could adversely affect its financial position.

Impairment of Fixed Assets

Dramatically deteriorating performances or major declines in property values, which could cause the Group to incur impairment losses, adversely affecting results. Although the Group conducts impairment tests on goodwill acquired through business integrations, if carrying amounts exceed recoverable amounts owing to lower profitability, it could incur impairment losses, which could adversely affect results.

Pension and Severance Plans

The Group calculates retirement benefit obligations and expenses for current and former employees based on actuarial assumptions, investment returns on plan assets, and other factors. A decline in the value of pension assets, fluctuations in the interest rate climate, and changes in retirement benefit obligations and expenses owing to changes in the retirement plan and pension systems could adversely affect results and its financial position.

Impact of Inventory Valuations

The Group states inventory assets principally at cost based on the weighted average method. Declines in the costs of naphtha or raw materials during the fiscal period could detract from earnings by affecting relatively expensive inventories at the start of a term, thereby increasing the cost of sales. Earnings would conversely rise if fuel costs rose during the fiscal period. Changes in fuel costs could therefore affect results. Any book value write-down based on lower profitability could adversely affect results.

Changes in Foreign Exchange Rates	The Group endeavors to minimize the short-term impact of fluctuations in foreign currency transactions, primarily for exports and imports, notably by using forward foreign exchange contracts. Changes in exchange rates in the short, medium, and long terms may affect results. The Group engages in production and sales in Asia, Europe, North America, and other locations overseas. It translates sales, expenses, assets, and other items denominated in foreign currencies in such regions into yen in its consolidated financial statements. Even if the foreign currency valuations of such items remain unchanged, the yen equivalents could change after conversion from other currencies, so foreign exchange rate fluctuations could affect the Group's results and financial position.
Laws and Regulations	The Group's operations are subject to related laws and regulations in Japan and abroad. Such laws and regulations may govern security and safety, the environment and chemical substances, pharmaceutical safety policies, and other areas relating to Group operations. The Group maintains voluntary rules that are stricter than legal provisions while pursuing thorough compliance to satisfy laws and regulations in engaging in business activities. Dramatic changes in laws and regulations or strengthened legislation could further restrict the Group's activities or increase its costs. Furthermore, should the Group violate laws or regulations, it could be ordered to halt operations at plants, and trust from society could be lost. All these factors have the possibility of influencing results.
Product Liability	The Group manufactures and sells products that conform with standards as ISO 9001, the international standard for quality management systems. The Group endeavors to prevent product liability problems from arising when launching products or improving quality by previously evaluating such liability risks. The Group cannot guarantee, however, that all of its products will be free of defects. It therefore has product liability insurance to cover possible accidents. Regardless, product defects that could cause major product liability exposure with damages exceeding the range of such insurance could adversely affect results.
Accidents and Disasters	The Group regularly inspects its plants and otherwise endeavors to prevent accidents at facilities. It cannot, however, completely prevent or mitigate accidents at such facilities, nor natural disasters such as earthquakes. Accidents that damage property, cause human suffering or loss of life, or create environmental pollution could adversely impact production activities and reduce social trust in the Group, thereby adversely affecting results. Natural disasters that damage property, cause human suffering or loss of life, or significantly damage or functionally degrade the social infrastructure and chronically affect the Group's activities could affect results.
Information Management	The Group strictly manages corporate and personal information in its possession. Problems resulting from leaks of such information could decrease competitiveness or reduce social trust in the Group, which may adversely affect results. Although the Group has taken various measures to safeguard against cyber attacks, if problems were to arise with the plant control systems of business sites, it would take steps that include adjusting production volumes to maintain safety, which could adversely affect results.
Research and Development	The Group deems research and development as pivotal to supporting sustainable corporate growth, and has long undertaken solid R&D. It intends to deploy resources in a planned and sustainably stable manner from long-term perspectives. Results could be adversely affected, however, if the fruits of R&D are far less than anticipated.
Intellectual Property	The Group takes ample precautions to avoid violating the intellectual property of third parties. Nonetheless, injunctions or damages claims by third parties on the basis of patent or other infringements could adversely affect results.
Litigation	The Group maintains various businesses, as mentioned in Changes Affecting Operating Results. In engaging in business, or in reorganizing or restructuring operations, the Group could face litigation from business partners or other third parties relating to intellectual property or the Group's products. It is impossible to predict or assess the results of such lawsuits, which could adversely affect results. Litigation proceedings to which the Group is currently subject is as follows: Mitsubishi Tanabe Pharma Corporation was a codefendant with the Japanese government in damages lawsuits over blood products tainted with hepatitis C virus. In September 2008, the defendants concluded a basic agreement with nationwide plaintiff groups and their attorneys to resolve this case in response to the Act on Special Measures concerning the Payment of Benefits to Relieve the Victims of Hepatitis C Infected through Specified Fibrinogen Concentrates and Specified Coagulation Factor XI Concentrates. The plaintiffs began dropping litigation against the company, and in April 2009 the company decided to pay costs to the hepatitis C sufferers according to the payment apportionment standards of the above act.

Consolidated Statement of Income

Mitsubishi Chemical Holdings Corporation and Consolidated Subsidiaries
Years ended March 31

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Continuing operations:		
Sales revenue (Notes 4 and 6)	¥ 3,724,406	**¥ 3,923,444**
Cost of sales	(2,604,344)	**(2,821,889)**
Gross profit	1,120,062	**1,101,555**
Selling, general and administrative expenses	(764,317)	**(800,843)**
Other operating income (Note 9)	19,679	**21,462**
Other operating expenses (Note 9)	(46,350)	**(51,074)**
Share of profit of associates and joint ventures (Note 4)	26,637	**26,850**
Operating income (Note 4)	355,711	**297,950**
Financial income (Note 10)	8,404	**10,243**
Financial expenses (Note 10)	(20,038)	**(20,137)**
Income before taxes	344,077	**288,056**
Income taxes (Note 11)	(67,715)	**(71,327)**
Net income	¥ 276,362	**¥ 216,729**
Net income attributable to:		
Owners of the parent	¥ 211,788	**¥ 169,530**
Non-controlling interests	64,574	**47,199**
Earnings per share:		(Yen)
Basic earnings per share attributable to owners of the parent (Note 12)	¥ 147.14	**¥ 119.22**
Diluted earnings per share attributable to owners of the parent (Note12)	¥ 136.06	**¥ 110.05**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Comprehensive Income

Mitsubishi Chemical Holdings Corporation and Consolidated Subsidiaries
Years ended March 31

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Net income	¥276,362	**¥216,729**
Other comprehensive income:		
Items that will not be reclassified to profit or loss:		
Net gain (loss) on revaluation of financial assets measured at fair value (Note 25)	9,682	**4,743**
Remeasurements of defined benefit pensions plans (Note 25)	22,170	**(4,482)**
Share of other comprehensive income (loss) of associates and joint ventures for using the equity method (Note 25)	—	**107**
Total items that will not be reclassified to profit or loss	31,852	**368**
Items that may be subsequently reclassified to profit or loss		
Exchange differences on translation of foreign operations (Note 25)	(13,598)	**(5,751)**
Net gain (loss) on derivatives designated as cash flow hedges (Note 25)	2,278	**(3,152)**
Share of other comprehensive income (loss) of associates and joint ventures for using the equity method (Note 25)	582	**(2,296)**
Total items that may be subsequently reclassified to profit or loss	(10,738)	**(11,199)**
Total other comprehensive income (net of tax)	21,114	**(10,831)**
Total comprehensive income	¥297,476	**¥205,898**
Total comprehensive income attributable to:		
Owners of the parent	¥233,619	**¥161,655**
Non-controlling interests	63,857	**44,243**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Financial Position

Mitsubishi Chemical Holdings Corporation and Consolidated Subsidiaries

Millions of yen

		March 31, 2018	**March 31, 2019**
Assets	**Current assets:**		
	Cash and cash equivalents (Note 21)	¥ 277,624	**¥ 321,541**
	Trade receivables (Note 20)	854,804	**855,107**
	Inventories (Note 19)	607,671	**623,049**
	Other financial assets (Note 17)	247,365	**248,262**
	Other current assets (Note 18)	62,050	**76,072**
	Subtotal	2,049,514	**2,124,031**
	Assets held for sale (Note 22)	2,139	**17,810**
	Total current assets	2,051,653	**2,141,841**
	Non-current assets:		
	Property, plant and equipment (Note 14)	1,433,509	**1,683,354**
	Goodwill (Note 13)	324,201	**648,806**
	Intangible assets (Note 13)	355,151	**568,787**
	Investments accounted for using the equity method (Note 16)	175,905	**183,067**
	Other financial assets (Note 17)	244,489	**228,571**
	Other non-current assets (Note 18)	36,145	**33,573**
	Deferred tax assets (Note 11)	80,362	**84,509**
	Total non-current assets	2,649,762	**3,430,667**
	Total assets (Note 4)	¥4,701,415	**¥5,572,508**

The accompanying notes are an integral part of these consolidated financial statements.

		March 31, 2018	March 31, 2019
		Millions of yen	
Liabilities and Equity			
Liabilities	**Current liabilities:**		
	Trade payables (Note 34)	¥ 488,592	**¥ 492,404**
	Bonds and borrowings (Note 29)	580,854	**1,108,643**
	Income tax payable	41,293	**31,768**
	Other financial liabilities (Note 31)	201,208	**222,377**
	Provisions (Note 28)	7,463	**8,296**
	Other current liabilities (Note 33)	127,108	**138,089**
	Subtotal	1,446,518	**2,001,577**
	Liabilities directly associated with assets held for sale (Note 22)	364	**11,723**
	Total current liabilities	1,446,882	**2,013,300**
	Non-current liabilities:		
	Bonds and borrowings (Note 29)	1,025,268	**1,138,108**
	Other financial liabilities (Note 31)	29,174	**26,755**
	Retirement benefit liabilities (Note 27)	110,639	**120,816**
	Provisions (Note 28)	30,712	**28,294**
	Other non-current liabilities (Note 33)	38,014	**41,971**
	Deferred tax liabilities (Note 11)	101,236	**177,410**
	Total non-current liabilities	1,335,043	**1,533,354**
	Total liabilities	2,781,925	**3,546,654**
Equity	Common stock: (Note 23)	50,000	**50,000**
	Additional paid-in capital (Note 23)	321,111	**321,477**
	Treasury stock (Note 23)	(43,569)	**(63,560)**
	Retained earnings (Note 23)	956,946	**1,073,873**
	Other components of equity (Note 23)	1,262	**(3,843)**
	Equity attributable to owners of the parent	1,285,750	**1,377,947**
	Non-controlling interests	633,740	**647,907**
	Total equity	1,919,490	**2,025,854**
	Total liabilities and equity	¥4,701,415	**¥5,572,508**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Changes in Equity

Mitsubishi Chemical Holdings Corporation and Consolidated Subsidiaries

Years ended March 31

	Common stock	Additional paid-in capital	Treasury stock	Retained earnings
Balance at April 1, 2017	¥50,000	¥ 321,703	¥ (43,587)	¥761,364
Net income	—	—	—	211,788
Other comprehensive income (Note 25)	—	—	—	—
Total comprehensive income	—	—	—	211,788
Purchase of treasury stock (Note 23)	—	—	(62)	—
Disposal of treasury stock (Note 23)	—	(77)	80	—
Cash dividends (Note 24)	—	—	—	(38,861)
Share-based payment transactions (Note 26)	—	144	—	—
Share-based payment transactions of subsidiaries (Note 26)	—	—	—	—
Changes in interests in subsidiaries	—	(659)	—	—
Changes in scope of consolidation	—	—	—	1,242
Transfer from other components of equity to retained earnings	—	—	—	21,413
Transfer from other components of equity to non-financial assets, etc.	—	—	—	—
Total transactions with owners	—	(592)	18	(16,206)
Balance at March 31, 2018	¥50,000	¥321,111	¥(43,569)	¥956,946

	Other components of equity					Equity attributable to owners of the parent	Non-controlling interests	Total equity
	Net gain (loss) on revaluation of financial assets measured at fair value	Remeasurements of defined benefit pensions plans	Exchange differences on translation of foreign operations	Net gain (loss) on derivatives designated as cash flow hedges	Total			
Balance at April 1, 2017	¥46,831	¥ —	¥(43,886)	¥(1,027)	¥1,918	¥1,091,398	¥606,799	¥1,698,197
Net income	—	—	—	—	—	211,788	64,574	276,362
Other comprehensive income (Note 25)	6,918	19,208	(6,569)	2,274	21,831	21,831	(717)	21,114
Total comprehensive income	6,918	19,208	(6,569)	2,274	21,831	233,619	63,857	297,476
Purchase of treasury stock (Note 23)	—	—	—	—	—	(62)	—	(62)
Disposal of treasury stock (Note 23)	—	—	—	—	—	3	—	3
Cash dividends (Note 24)	—	—	—	—	—	(38,861)	(40,946)	(79,807)
Share-based payment transactions (Note 26)	—	—	—	—	—	144	—	144
Share-based payment transactions of subsidiaries (Note 26)	—	—	—	—	—	—	41	41
Changes in interests in subsidiaries	—	—	—	—	—	(659)	3,882	3,223
Changes in scope of consolidation	—	—	—	—	—	1,242	107	1,349
Transfer from other components of equity to retained earnings	(2,205)	(19,208)	—	—	(21,413)	—	—	—
Transfer from other components of equity to non-financial assets, etc.	—	—	—	(1,074)	(1,074)	(1,074)	—	(1,074)
Total transactions with owners	(2,205)	(19,208)	—	(1,074)	(22,487)	(39,267)	(36,916)	(76,183)
Balance at March 31, 2018	¥51,544	¥ —	¥(50,455)	¥173	¥ 1,262	¥1,285,750	¥633,740	¥1,919,490

The accompanying notes are an integral part of these consolidated financial statements.

Millions of yen

	Common stock	Additional paid-in capital	Treasury stock	Retained earnings
Balance at April 1, 2018	¥50,000	¥ 321,111	¥ (43,569)	¥956,946
Cumulative effects of changes in accounting policies	—	—	—	(85)
Restated balance at April 1, 2018	50,000	321,111	(43,569)	956,861
Net income	—	—	—	169,530
Other comprehensive income (Note 25)	—	—	—	—
Total comprehensive income	—	—	—	169,530
Purchase of treasury stock (Note 23)	—	—	(20,033)	—
Disposal of treasury stock (Note 23)	—	(39)	42	—
Cash dividends (Note 24)	—	—	—	(52,867)
Share-based payment transactions (Note 26)	—	609	—	—
Share-based payment transactions of subsidiaries (Note 26)	—	—	—	—
Changes in interests in subsidiaries	—	(204)	—	—
Business combinations or business divestitures	—	—	—	—
Changes in scope of consolidation	—	—	—	(24)
Transfer from other components of equity to retained earnings	—	—	—	373
Transfer from other components of equity to non-financial assets, etc.	—	—	—	—
Total transactions with owners	—	366	(19,991)	(52,518)
Balance at March 31, 2019	¥50,000	¥321,477	¥(63,560)	¥1,073,873

	Other components of equity							
	Net gain (loss) on revaluation of financial assets measured at fair value	Remeasurements of defined benefit pensions plans	Exchange differences on translation of foreign operations	Net gain (loss) on derivatives designated as cash flow hedges	Total	Equity attributable to owners of the parent	Non-controlling interests	Total equity
Balance at April 1, 2018	¥51,544	¥ —	¥(50,455)	¥173	¥1,262	¥1,285,750	¥633,740	¥1,919,490
Cumulative effects of changes in accounting policies	—	—	—	—	—	(85)	(61)	(146)
Restated balance at April 1, 2018	51,544	—	(50,455)	173	1,262	1,285,665	633,679	1,919,344
Net income	—	—	—	—	—	169,530	47,199	216,729
Other comprehensive income (Note 25)	4,152	(3,823)	(5,075)	(3,129)	(7,875)	(7,875)	(2,956)	(10,831)
Total comprehensive income	4,152	(3,823)	(5,075)	(3,129)	(7,875)	161,655	44,243	205,898
Purchase of treasury stock (Note 23)	—	—	—	—	—	(20,033)	—	(20,033)
Disposal of treasury stock (Note 23)	—	—	—	—	—	3	—	3
Cash dividends (Note 24)	—	—	—	—	—	(52,867)	(38,025)	(90,892)
Share-based payment transactions (Note 26)	—	—	—	—	—	609	—	609
Share-based payment transactions of subsidiaries (Note 26)	—	—	—	—	—	—	25	25
Changes in interests in subsidiaries	—	—	—	—	—	(204)	5,796	5,592
Business combinations or business divestitures	—	—	—	—	—	—	2,265	2,265
Changes in scope of consolidation	—	—	—	—	—	(24)	(76)	(100)
Transfer from other components of equity to retained earnings	(4,196)	3,823	—	—	(373)	—	—	—
Transfer from other components of equity to non-financial assets, etc.	—	—	—	3,143	3,143	3,143	—	3,143
Total transactions with owners	(4,196)	3,823	—	3,143	2,770	(69,373)	(30,015)	(99,388)
Balance at March 31, 2019	¥51,500	¥ —	¥(55,530)	¥187	¥(3,843)	¥1,377,947	¥647,907	¥2,025,854

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Cash Flows

Mitsubishi Chemical Holdings Corporation and Consolidated Subsidiaries

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Cash flows from operating activities:		
Income before taxes	¥344,077	**¥288,056**
Depreciation and amortization	178,895	**199,332**
Share of profit of associates and joint ventures	(26,637)	**(26,850)**
Interest and dividend income	(7,669)	**(9,627)**
Interest expense	15,652	**18,868**
Impairment loss	12,062	**17,340**
Loss on sales and retirement of property, plant and equipment	10,414	**13,824**
Provision for loss on business liquidation	—	**5,169**
Environmental measures costs	3,672	**886**
Provision for loss on litigation	1,170	**626**
Gain on sales of shares of subsidiaries and associates	(3,747)	**(7,546)**
Gain on sales of non-current assets	(4,183)	**(3,839)**
(Increase) decrease in trade receivables	(80,607)	**25,149**
(Increase) decrease in inventories	(70,882)	**(13,193)**
Increase (decrease) in trade payables	51,755	**(20,090)**
Increase (decrease) in retirement benefit assets and liabilities, net	8,876	**(1,324)**
Others	18,184	**6,783**
Subtotal	451,032	**493,564**
Interest received	2,699	**4,816**
Dividends received	16,941	**27,781**
Interest paid	(15,041)	**(18,114)**
Income tax (paid) received, net	(57,691)	**(92,472)**
Net cash provided by (used in) operating activities	397,940	**415,575**
Cash flows from investing activities:		
Purchase of property, plant and equipment	(199,871)	**(225,740)**
Proceeds from sales of property, plant and equipment	10,268	**7,170**
Purchase of intangible assets	(28,390)	**(4,839)**
Purchase of other financial assets	(401,573)	**(453,070)**
Proceeds from sales/redemption of other financial assets	441,464	**438,748**
Purchase of investments in subsidiaries	(122,977)	**(655,629)**
Proceeds from sales of investments in subsidiaries	12,701	**16,619**
Payments for transfer of businesses	(343)	**(50,900)**
Net (increase) decrease in time deposits	(55,835)	**31,581**
Others	8,623	**992**
Net cash provided by (used in) investing activities	(335,933)	**(895,068)**
Cash flows from financing activities:		
Net increase (decrease) in short-term borrowings	25,243	**428,298**
Net increase (decrease) in commercial papers	(16,000)	**44,000**
Proceeds from long-term borrowings	80,638	**213,182**
Repayment of long-term borrowings	(148,016)	**(122,954)**
Proceeds from issuance of bonds	29,828	**132,036**
Redemption of bonds	(40,000)	**(65,000)**
Net (increase) decrease in treasury stock	(60)	**(20,030)**
Dividends paid to owners of the parent	(38,861)	**(52,867)**
Dividends paid to non-controlling interests	(40,946)	**(38,011)**
Proceeds from stock issuance to non-controlling interests	5,473	**6,548**
Others	(7,891)	**(6,140)**
Net cash provided in (used in) financing activities	(150,592)	**519,062**

Effect of exchange rate changes on cash and cash equivalents	847	**6,207**
Net increase (decrease) in cash and cash equivalents	(87,738)	**45,776**
Cash and cash equivalents at the beginning of the period	363,510	**277,624**
Net increase (decrease) in cash and cash equivalents resulting from transfer to assets held for sale	(6)	**(1,899)**
Net increase (decrease) in cash and cash equivalents resulting from change in scope of consolidation	1,640	**40**
Net increase in cash and cash equivalents resulting from merger and acquisition	218	**—**
Cash and cash equivalents at the end of the period (Note 21)	¥277,624	**¥321,541**

The accompanying notes are an integral part of these consolidated financial statements.

Notes to Consolidated Financial Statements

Mitsubishi Chemical Holdings Corporation and Consolidated Subsidiaries

Note 1

Reporting Entity

Mitsubishi Chemical Holdings Corporation (the "Company") is a corporation domiciled in Japan, whose shares are listed on the First Section of the Tokyo Stock Exchange. The registered address of its Head Office is presented on its website (https://www.mitsubishichem-hd.co.jp/). The Company's Consolidated Financial Statements for the years ended March 31, 2019 comprise those of the Company, its subsidiaries and associates, and interests under joint arrangements (collectively, the "Group"). The Group's three principal domains are Performance Products, Industrial Materials, and Health Care. Further details are presented in Note 4 Segment Information.

Note 2

Basis of Presentation

1. Compliance with IFRS

The accompanying consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board. The provisions of Article 93 of the Ordinance on Terminology, Forms, and Preparation Methods of Consolidated Financial Statements apply, as the Company meets the requirements for a "Specified Company applying Designated International Financial Reporting Standards" prescribed in Article 1-2 of said ordinance.

2. Approval of Consolidated Financial Statements

The Group's consolidated financial statements were approved on June 25, 2019, by Hitoshi Ochi, Representative Corporate Executive Officer, President and Chief Executive Officer, and Hidefumi Date, Managing Corporate Executive Officer and Chief Financial Officer.

3. Basis of Measurement

The consolidated financial statements are prepared on a historical cost basis, except for certain financial instruments measured at fair value presented in Note 3 Significant Accounting Policies.

4. Presentation Currency

The consolidated financial statements are presented in Japanese yen, which is the Company's functional currency, rounded to the nearest million yen.

5. Use of Judgments, Estimates and Assumptions

Management has made a number of judgments, estimates and assumptions relating to the application of accounting policies, reporting of revenues and expenses and assets and liabilities in the preparation of these consolidated financial statements in accordance with IFRS. Actual results may differ from these estimates.

Estimates and underlying assumptions are continually evaluated. The effect of changes to accounting estimates is recognized in the reporting period in which the revision was made and in future periods.

Information regarding judgments, estimates, and assumptions used in applying accounting policies that could materially affect the Company's consolidated financial statements is included in the following notes:

- Impairment of Non-Financial Assets (Note 13, Goodwill and Intangible Assets, Note 14, Property, Plant and Equipment and Note 15, Impairment Losses)
- Recoverability of Deferred Tax Assets (Note 11, Income Taxes)
- Measurement of Defined Benefit Obligations (Note 27, Retirement Benefits)
- Fair Value of Financial Instruments (Note 35, Financial Instruments)
- Contingent Liabilities (Note 39, Contingent Liabilities)

6. Newly Applied Standards and Interpretations

Main standards and interpretations newly applied by the Group from the year ended March 31, 2019, are as follows.

Standard and Interpretation	Overview of Introduction or Revision
IFRS 15 Revenue from Contracts with Customers	Accounting standards and disclosure methods for revenue recognition have been revised. Specifically, revenue is recognized based on the rights expected to be received in exchange for transferring goods or services to customers.

The impact on the Group's consolidated financial statements of adopting IFRS 15 is immaterial.

The Company estimates that the impact on the consolidated financial statements of adopting IFRS 15 is immaterial. In adopting IFRS 15, the Company employed a retroactive adjustment as a transitional measure to recognize the cumulative effect retrospectively to the adoption date.

Because of the application above, Note 6 Sales Revenue is disclosed.

7. New Standards and Interpretations Not Yet Applied

Standards and interpretations that have not been applied by the Group as of March 31, 2019 because application was not mandatory among key standards and interpretations issued by the date of approval of the consolidated financial statements are as follows.

The adoption of IFRS 16 will increase the carrying amounts of the Group's lease-related assets by around ¥100 billion while increasing lease liabilities by about the same amount. In adopting IFRS 16, the Company employed a retroactive adjustment as a transitional measure to recognize the cumulative effect retrospectively to the adoption date.

Standards and Interpretations		Mandatory Application (Hereafter, Starting Year)	Year of Application by the Group	Overview of Introduction or Revision
IFRS 16	Leases	January 1, 2019	Year ending March 31, 2020	Accounting standards and disclosure methods for handling leases have been revised. Specifically, under a single model, the financial statements must generally reflect asset usage rights and payment obligations for borrower leases exceeding 12 months.

Note 3
Significant Accounting Policies

1. Basis of Consolidation

(1) Subsidiaries

Subsidiaries are entities controlled by the Group. The Group has control over an entity if it has exposure or rights to variable returns from its involvement with the investee and has the ability to affect those returns through its influence over the investee.

In preparing its consolidated financial statements, the Company based the financial statements of each Group company prepared as of the same closing date based on common Group accounting policies. Subsidiaries' financial statements are adjusted, if necessary, when their accounting policies differ from those of the Group.

The Group consolidates entities from the date on which it acquires control until the date on which it loses control.

All intergroup balances, outstanding receivables and obligations, unrealized gains and losses are eliminated on consolidation.

A change in ownership interest of a consolidated subsidiary, without a loss of control, is accounted for as an equity transaction. Differences between adjusted non-controlling interest amounts and fair value are recognized directly as equity attributable to owners of the parent.

In the event of a loss of control, the Group measures and recognizes any remaining investments at fair value. Any gain or loss arising from a loss of control is recognized in profit or loss.

Non-controlling interests in a subsidiary's net assets are recognized separately from those under the Group's control. The comprehensive income of consolidated subsidiaries is attributed to owners of the parent and non-controlling interests even if this results in the non-controlling interests having a deficit balance.

(2) Associates

Associates are entities in which the Group has significant influence over the financial and operational policies but does not have control or joint control. Normally, the Group is assumed to be able to exercise significant influence when it holds 20% to 50% ownership. Other factors considered in assessing whether or not the Group can exercise significant influence include sending any of its officers being on the Board of Directors. In such cases, the Group may be considered to be able to exercise significant influence over an associate even if its investment accounts for less than 20% of voting rights.

The Group accounts for investments in associates under the equity method. Such investments are recognized at cost upon acquisition. After acquisition, the Group's share of net assets of associates is adjusted and recorded in the consolidated statement of financial position.

The consolidated financial statements reflect the Group's share of earnings in associates. If amounts recognized in other comprehensive income of associates change, the Group's share with respect to those changes is also recognized in other comprehensive income.

The Group's consolidated financial statements have been adjusted to eliminate its share in unrealized gains and losses arising from transactions between it and associates.

Associates prepare their financial statements for the same reporting period as the Group, adjusting their accounting policies to align with those of the Group.

In the event that the Group loses significant control over an associate, it assesses and recognizes the remaining investment at fair value as of the day on which it lost such influence. Gains and losses arising from the loss of significant influence are recognized in profit or loss.

In preparing the consolidated financial statements, the requirements of local laws and shareholder agreements made it effectively impossible to match reporting dates of all associates to that of the Group. For certain associates for which it was impracticable to provisionally settle accounts on the Group's reporting date owing to business or other factors, the Group uses relevant provisional financial statements for the period ending December 31. Significant transactions or events between the reporting dates of those associates and the consolidated closing date are reflected in the consolidated financial statements.

(3) Joint Arrangements

A joint arrangement is an arrangement in which unanimous consensus from the parties that have joint control of decision-making over related activities is required.

A joint venture is a joint agreement through which parties with joint control over an arrangement have rights to the net assets of an arrangement.

The Group uses the equity method to account for its equity interests in joint ventures.

A joint operation is one in which parties with joint control of an arrangement have rights to assets and obligations for liabilities relating to the joint arrangement.

If the Group holds an interest in a joint operation, the Group recognizes assets, liabilities, revenues and expenses generated from joint operating activities only to the extent of its interest. Inter-company transactions among the Group's companies as well as receivable and payable balances and unrealized gains and losses arising from such transactions are eliminated.

The principal joint operation is The Saudi Methacrylates Company, in which the Group and Saudi Arabia have a 50-50 interest. That company manufactures methyl methacrylate monomer, acrylic resin, and other offerings.

2. Business Combinations

The Group uses the acquisition method to account for business combinations.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts and adjusts the amounts in a measurement period that does not exceed one year from the acquisition date.

The Group measures the cost of an acquisition as the aggregate of the consideration transferred, measured at acquisition-date fair value and the amount of any non-controlling interest in the acquiree.

For each business combination, the Group measures components of non-controlling interests in the acquiree at fair value or the amounts of non-controlling interests in the acquiree's identifiable net assets.

The Group accounts for acquisition-related costs as expenses in the periods in which such costs are incurred.

When the Group acquires a business, the Group classifies or designates the identifiable assets acquired and liabilities assumed on the basis of the contractual terms, economic conditions and other pertinent conditions as they exist at the acquisition date. In principle, the Group generally measures the identifiable assets acquired and the liabilities assumed at their acquisition-date fair values.

If a business combination is achieved in stages, the Group reassesses the equity of the acquiree before acquisition of control at fair value on the acquisition date, and recognizes the resulting gain or loss in profit or loss. The Group accounts for the equity interest of the acquiree booked in other comprehensive income before the acquisition on the same basis as would be required if the Group had disposed directly of the previously held equity interest.

Goodwill is measured as the difference by which total value recognized as transferred consideration and non-controlling interests exceeds the net value of identifiable assets acquired and liabilities assumed.

If the total amount recognized as transferred consideration and non-controlling interests is less than net amount of identifiable assets acquired and liabilities assumed, the Group recognizes the difference as profit or loss.

After initial recognition, the Group does not amortize goodwill acquired through a business combination, but records goodwill at cost less any accumulated impairment loss. The Group conducts impairment tests annually or when there are signs of impairment.

3. Foreign Currency Translations

The consolidated financial statements of the Group are presented in Japanese yen, which is the Company's functional currency.

In addition, each company in the Group determines its individual functional currency and measures transactions using these functional currencies.

Foreign currency denominated transactions are translated into functional currencies at spot exchange rates as of the transaction dates or at similar rates.

Foreign currency monetary assets and liabilities are translated into the functional currency using the spot exchange rate on the date of end of the consolidated reporting period. Exchange differences arising from translations or settlement are recognized in profit or loss. However, exchange differences arising from financial instruments designated as hedging instruments of net investments in foreign operations (foreign subsidiaries, etc.), financial assets measured through other comprehensive income and cash flow hedges are recognized in other comprehensive income.

The Group translates assets and liabilities of foreign operations using the spot exchange rate at the end of the reporting period, and revenue and expenses using the spot exchange rate on the transaction date or an approximate rate in Japanese yen, respectively. The Group accounts for any exchange differences arising in such retranslation in other comprehensive income.

On the disposal of a foreign operation, accumulated exchange differences related to the foreign operation are recognized in profit or loss in the corresponding period of disposal.

4. Sales Revenue

The Group recognizes sales revenue based on the following five-step model in amounts reflecting the Group’s anticipated entitlements in exchange for goods or services transferred to customers.

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

The Group offers an array of products and services to domestic and foreign customers through its business activities. The Group operates in four business areas centered on four operating companies. They are Mitsubishi Chemical Corporation, Mitsubishi Tanabe Pharma Corporation, Life Science Institute, Inc., and Taiyo Nippon Sanso Corporation. The business segments are Performance Products, Chemicals, Industrial Gases, and Health Care.

Regarding product sales in these businesses, once customers gain control over delivered products and it is determined that the performance obligations are met, sales revenue is recognized upon product delivery.

Sales revenue is measured at the amount of consideration promised in contracts with customers, net of discounts, rebates and returns.

Considerations in product sales contracts are generally collected within one year after control of products transfers to customer, and do not include significant financial elements.

5. Government Grants

Government grants are recognized at fair value when there is reasonable assurance that the Group will comply with grant terms and that the grant will be received.

Government grants related to income are recognized as income on a systematic basis over the periods in which the Group recognizes as expenses the related costs for which the grants are intended to compensate.

Government grants relating to assets are deducted from asset acquisition costs.

6. Borrowing Costs

The Group capitalizes borrowing costs that are directly attributable to the acquisition, construction or production of assets that require considerable time before use as intended or sale as part of the cost of that asset. The Group recognizes all other borrowing costs as expenses in periods incurred.

7. Income Taxes

The Group calculates current tax liabilities or assets for the current and prior periods as amounts that it expects to pay to or recover from taxation authorities. The Group uses tax rates and tax laws enacted or substantively enacted by the end of a reporting period to determine tax amounts.

The Group uses the asset and liability method to record deferred taxes for differences between carrying amounts of assets or liabilities on the accounts at the end of the reporting period and the tax basis (temporary differences).

In principle, the Group recognizes deferred tax liabilities for all future taxable temporary differences. Deferred tax assets are recognized to the extent that it is probably that taxable income will be available against which deductible temporary differences and for tax credits and tax loss carryforwards can be used.

As exceptions, however, the Group does not recognize deferred tax assets or deferred tax liabilities for the following temporary differences:

- The initial recognition of goodwill
- The initial recognition of assets or liabilities in transactions that are not business combinations and do not affect profits in the accounts at the time of transactions or taxable profits or losses.
- Deductible temporary differences arising from investments in subsidiaries and associates, and interests in joint ventures to the extent that it is probable that the timing of the reversal of the temporary difference in the foreseeable future and it is not probable that future taxable profits will be available against which they can be utilized.
- Taxable temporary differences arising from investments in subsidiaries and associates, and interests in joint ventures to the extent that the timing of the reversal of the temporary difference is controlled and that it is probable the temporary difference will not reverse in the foreseeable future.

The Group reviews the carrying amount of deferred tax assets and liabilities (including unrecognized deferred tax assets) at the end of each reporting period. The Group calculates deferred tax and liabilities based on tax rates that have been enacted or substantively enacted by the end of the reporting period, estimating tax rates at the time assets materialize or liabilities are settled.

8. Earnings per Share

The Company calculates basic earnings per share by dividing the net income attributable to ordinary shareholders by the weighted average number of ordinary shares, adjusted for treasury stock during that period. The Company calculates diluted earnings per share by adjusting the effects of all potentially dilutive shares.

9. Cash and Cash Equivalents
Cash and cash equivalents comprise cash on hand, demand deposits, and short-term investments that are readily convertible to cash, which are subject to insignificant risks of changes in value, and whose maturities are three months or less from the date of acquisition.

10. Inventories
The cost of inventories comprises all purchase costs, processing costs, and all costs incurred in bringing the inventories to their present location and condition.
Inventories are measured at the lower of acquisition cost and net realizable value. The Company mainly uses the weighted average cost formula to calculate costs. The Company calculates net realizable value by deducting the estimated selling price in the ordinary course of business from the estimated costs required to make a sale.

11. Assets Held for Sale and Discontinued Operations
The Company classifies a non-current asset (or disposal group) as held for sale if its carrying amount is expected to be recovered principally through a sale transaction rather than through continuing use. This applies only if the asset (or disposal group) is available for immediate sale in its present condition and a sale is highly probable within one year. The Company measures a non-current asset (or disposal group) classified as held for sale at the lower of the carrying amount and fair value, less the cost to sell.

The Group does not depreciate or amortize property, plant or equipment or intangible assets classified as held for sale.

Discontinued operations include units that have been disposed of or are classified as held for sale. The Group recognizes an operation as discontinued if it is a Group business and is scheduled for disposal.

12. Property, Plant and Equipment
The Group applies the cost model to measure property, plant and equipment.

The Group carries property, plant and equipment at acquisition cost less accumulated depreciation and accumulated impairment losses.

The acquisition cost includes direct costs of acquisition, estimated costs of dismantlement, removal and restoration, and borrowing costs that satisfy capitalization criteria.

Except for land, property, plant and equipment, less the residual value at the end of the reporting term, is depreciated using the straight-line method.

Depreciation is computed over the following estimated useful lives for the following major classes of assets:

Buildings and structures	3 to 50 years
Machinery, equipment and vehicles	2 to 22 years
Tools, furniture and fixtures	2 to 25 years

13. Intangible Assets
The Group uses the cost model to measure intangible assets.

Intangible assets are stated at acquisition cost less accumulated amortization and impairment losses.

Separately acquired intangible assets are initially recognized at cost. The acquisition cost of an intangible asset acquired in a business combination is measured at fair value at the acquisition date.

Expenditure on an internally generated intangible asset is recognized as an expense when it is incurred, excluding development expenditures that satisfy the criteria for capitalization.

The Group amortizes intangible assets with finite useful lives on a straight-line basis over their useful lives. It tests intangible assets when there are indications of impairment. Amortization periods and methods for intangible assets with finite useful lives are reviewed at year-end. Any changes are applied to the future as changes in accounting estimates.

Amortization is over the following estimated useful lives for the following major classes of intangible assets:

Technology-related intangible assets	4 to 20 years
Customer-related intangible assets	5 to 30 years
Software	3 to 5 years

The Group does not amortize intangible assets with indefinite useful lives, and conducts impairment tests individually or by cash-generating unit (or groups of cash-generating units) annually, and whenever there are indications of impairment.

14. Impairment of Assets
(1) Impairment of Non-Financial Assets
The Group assesses whether indications of asset impairment exist at the end of each reporting period. If there are such indications and annual impairment testing is necessary, the Group estimates recoverable amounts, which are the higher amount of fair value less costs of disposal and value in use. If a recoverable amount of an asset cannot be estimated, the Group estimates the recoverable amount of each cash-generating unit or group of cash-generating units of the asset class. If the carrying amount of an asset exceeds its recoverable amount, the Group recognizes an impairment loss and reduces the carrying amount of the asset to its recoverable amount. In measuring value in use, the Group determines the present value of cash flow projections, discounted by pre-tax rates reflecting current market assessments of the time value of money and risks specific to the asset. The Group estimates cash flow projections using a business plan for five years or less, in principle. Cash flow projections beyond the business plan period use long-term-average growth rates according to individual circumstances.

The Group uses an appropriate valuation model supported by an available fair value index to measure fair value less costs of disposal.

The Group allocates goodwill after acquisition dates to individual or groups of cash generating units expected to benefit from corporate combination synergies.

For goodwill, intangible assets with indefinite useful lives and intangible assets not yet available for use, the Group tests for impairment annually and when there are indications of impairment.

(2) Reversal of Impairment Loss
For assets other than goodwill, at the end of each reporting period the Group evaluates whether assumptions used to measure recoverable amounts have changed for impairment losses recognized in prior periods and if there are indications that such losses have decreased or disappeared.

If such indications exist, the Group reverses impairment losses if recoverable amounts exceed the Group's carrying amounts of assets or cash-generating units. Any reversal is limited to the lower of the estimated recoverable amount or the carrying value that would have been determined, net of accumulated depreciation, had no impairment loss been recognized in prior periods.

Impairment loss reversals are recognized in profit or loss.

Goodwill impairment losses are not reversed.

15. Leases
A lease contract is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership of a leased asset to the Group. An operating lease is a lease other than a finance lease.

In finance lease transactions, leased assets and lease obligations are recognized in the consolidated statement of financial position at the lower of the fair value of the leased property or the present value of the minimum lease payments, each determined at the inception of the lease. Lease payments are apportioned between the financial cost and reduction of lease obligations based on the interest method. Financial costs are recognized in profit or loss. Leased assets are depreciated on a straight-line basis over the useful lives or lease term, whichever is shorter.

In operating lease transactions, lease payments are recognized as an expense in the Consolidated Statement of Income on a straight-line basis over the lease terms. Variable lease is charged as expenses in the period when they are incurred.

Determining whether an arrangement is, or contains, a lease is based on the substance of the arrangement regardless of whether it takes the legal form of a lease.

16. Provisions
A provision is recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and the amount of the obligation can estimated reliability.

Where the effect of the time value of money is material, the provision is measured at the present value of the expenditures expected to be required to settle obligations. The discount rate used in measuring the present value is a pre-tax rate that reflects current market assessments of the time value of money and risks inherent in the liability.

17. Retirement Benefits

The Group operates a defined benefit plan and defined contribution plan as employee retirement benefit plans.

The Group uses the projected unit credit method to determine the present value of its defined benefit obligations and the related current and past service costs for each plan.

The rate used to discount post-employment benefit obligations is determined by referring to market yields at the end of the reporting period on high quality corporate bonds.

The fair value of any plan assets is deducted from the present value of the defined benefit obligation in determining the amount of the net defined benefit liabilities or assets of defined benefit plans.

Remeasurements of liabilities and assets associated with defined benefit retirement plans are recognized in other comprehensive income in the period incurred and immediately reflected in retained earnings. Prior service costs are recognized as expenses in the periods incurred.

The Group recognizes contributions payable to defined contribution plans as expenses at the time of contribution.

18. Capital

(1) Ordinary Shares

The Company allocated the issue price of ordinary shares between common stock and additional paid-in capital.

(2) Treasury Shares

Acquired treasury stock is recognized at cost and deducted from equity, while the difference between the carrying value of treasury stock and its value at the time of sale is recognized in additional paid-in capital.

19. Share-Based Payment

The Company and some subsidiaries employ equity-settled share-based compensation plans.

Under such plans, services received are measured at fair value as of the date capital financial instruments are granted. If granted capital financial instruments are immediately determined, all services received on the grant date is recognized as expenses, that amount being recognized as an increase in equity. If granted capital financial instruments are determined after a certain period of time, they are recognized as expenses over the vesting period from the date granted, that amount being recognized as an increase in equity.

20. Financial Instruments

(1) Financial Assets (Except Derivatives)

(i) Initial Recognition and Measurement

The Group initially recognizes trade receivables at the date of occurrence. The Group initially recognizes all other financial assets on the transaction dates on which the Group becomes a contract party.

Financial assets are classified as financial assets measured at fair value through profit or loss or other comprehensive income and financial assets measured at amortized cost. The Group determines classifications at initial recognition.

Debt financial instruments are classified as financial assets measured at amortized cost if both of the following conditions are met.

- Financial assets are based on a business model where the aim is to hold financial assets to recover contractual cash flows
- Contractual terms of financial assets give rise on specified dates to cash flows that are solely payments of principal and interest on principal amounts outstanding

Debt financial instruments meeting the following conditions and measured at fair value are classified as financial assets measured at fair value through other comprehensive income. Otherwise, they are classified as financial assets measured at fair value through profit or loss.

- Financial assets are based on a business model where the aim is to hold financial assets to collect contractual cash flows and sell assets
- Contractual terms of financial assets give rise on specified dates to cash flows that are solely payments of principal and interest on principal amounts outstanding

Equity instruments other than those for trading purpose are designated as measured at fair value through profit or loss or as measured at fair value through other comprehensive income. Such designations are applied subsequently on a consistent basis.

Except for financial assets measured at fair value through profit or loss, financial instruments are measured at fair value plus transaction costs attributable directly to them.

(ii) Subsequent Measurements

After initial recognition, financial assets are measured based on the following classifications:

(a) Financial Assets Measured at Amortized Cost

Financial assets measured at amortized cost are measured at amortized cost using the effective interest method.

(b) Other Financial Assets

Financial assets other than those measured at amortized cost are measured at fair value.

Changes in the fair value of financial assets measured at fair value are recognized in profit or loss or in other comprehensive income.

Changes in the fair value of equity instruments designated as measured at fair value through other comprehensive income are recognized in other comprehensive income and the amount in other comprehensive income is transferred to retained earnings when equity instruments are derecognized or when the fair value of equity instruments declines significantly.

(iii) Derecognition

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the financial asset expire or when the Group transfers the financial asset and the substantially all the risks and rewards of ownership of the financial asset are transferred.

If the Group neither transfers nor retains substantially all the risks and rewards of ownership of a transferred asset and retains control of the transferred asset, the Group recognizes the residual interest in the transferred asset and the associated liability to be payable to the extent of the Group's continuing involvement.

(iv) Impairment

At each closing date, the Group assesses whether the credit risk on a financial asset or a financial asset group measured at amortized cost or a financial guarantee contract has increased significantly since initially recognizing the impairment of a financial asset or financial guarantee contract.

If, at the closing date, the credit risk of a financial asset or a financial asset group has not increased significantly since initial recognition, the Group measures the loss allowance for that financial asset at an amount equal to 12-month expected credit losses. However, the Group recognizes the expected credit losses of trade receivables over the remaining period from the initial recognition.

If a credit risk has increased significantly since initial recognition, the Group recognizes an expected credit loss over the remaining period as a loss allowance.

The Group assesses whether the credit risk has increased significantly using the change in the risk of default, and assesses whether the default risk has changed mainly using delinquent (past due information).

The Group measures a credit loss using the discounted present value of the difference between the contractual amount receivable and the estimate amount receivable based on the past credit loss.

(2) Financial Liabilities (Except Derivatives)

(i) Initial Recognition and Measurement

Financial liabilities are classified into financial liabilities measured at fair value through profit or loss and financial liabilities measured at amortized cost. The Group determines classifications at initial recognition.

Although all financial liabilities are measured at fair value at initial recognition, financial liabilities measured at amortized cost are measured at cost after deducting, from the fair value, transaction costs that are directly attributable to the financial liabilities.

(ii) Subsequent Measurement

After initial recognition, financial liabilities are measured based on classifications as follows:

(a) Financial Liabilities Measured at Fair Value through Profit or Loss

Financial liabilities measured at fair value through profit or loss are measured at fair value. After initial recognition, portions of changes in fair value and interest cost attributed to the change in credit risk of the Group are recognized in other comprehensive income, and the balance is recognized in profit or loss.

(b) Financial Liabilities Measured at Amortized Cost

After initial recognition, financial liabilities measured at amortized cost are measured at amortized cost using the effective interest method. Amortization under the effective interest method and gains or losses on derecognition is recognized in profit or loss.

(iii) Derecognition

Financial liabilities are derecognized when the obligation is discharged, canceled or expired, or when they are exchanged with substantially different terms or their terms are modified substantially.

(3) Complex Financial Instruments

The Group measures and initially recognizes hybrid financial instrument liabilities at the fair value of similar liabilities that do not have equity conversion options. Equity is measured and initially recognized at fair value after deducting the fair value of the liabilities of complex financial instruments overall. Direct transaction costs are allocated according to initial carrying amount ratio of liabilities and equity. After initial recognition, complex financial instruments liabilities are measured at amortized cost using the effective interest method. The Company does not remeasure complex financial instrument equity after initial recognition.

(4) Offsetting of Financial Instruments

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

(5) Derivatives and Hedge Accounting

The Group uses derivatives, including forward foreign exchange contracts and interest rate swap contracts, to hedge foreign exchange and interest rate risks. These derivatives are initially measured at fair value when contracts are entered into and are subsequently remeasured at fair value.

Changes in the fair value of derivatives are recognized in profit or loss, although gains or losses on hedging instruments relating to the effective portions of cash flow hedges and hedges of net investments in foreign operations are recognized in other comprehensive income.

At the inception of hedging relationships, the Group formally designates and documents relationships to which hedge accounting applies and the objectives and strategies of risk management for undertaking the hedges. The documentation includes identifying hedging instruments, the hedged items or transactions, the nature of the risks being hedged and how the hedging instrument effectiveness (including its analysis of the sources of hedge ineffectiveness and how it determines the hedge ratio) is assessed in offsetting the exposure to changes in hedged item fair value or cash flows attributable to hedged risks. When designating a hedging relationship and on an ongoing basis, the Group analyses whether a derivative used to a hedge transaction is effective to offset the change in the fair value or the cash flow of a hedged item. The Group specifically determines that a hedge is effective when the economic relationship between the hedged item and the hedging instrument is offset.

Hedges that meet the requirements for hedge accounting are classified in the following categories and accounted for in accordance with IFRS 9 “Financial Instruments”.

(a) Fair Value Hedges

Changes in the fair value of derivatives are recognized in profit or loss. For changes in the fair value of hedged items attributable to the hedged risks, carrying amounts of hedged items are adjusted, with changes recognized in profit or loss.

(b) Cash Flow Hedges

The effective portion of gains or losses on hedging instruments is recognized in other comprehensive income, while the ineffective portion is recognized immediately in profit or loss.

Hedging instrument amounts recognized in other comprehensive income are reclassified to profit or loss when the transactions of the hedged items affect profit or loss. Where hedged items result in the recognition of non-financial assets or liabilities, the amounts recognized in other comprehensive income are accounted for as adjustments to the original carrying amount of non-financial assets or liabilities.

When forecast transactions are no longer expected to occur, any related cumulative gain or loss that has been recognized in equity as other comprehensive income is reclassified to profit or loss. When hedging instruments expire, are sold, terminated or exercised without the replacement or rollover of other hedging instruments, or when the hedge designation is revoked due to change in the risk management objective, accumulated amounts that have been recognized in other comprehensive income continue to be recognized in other comprehensive income until the forecast transactions occur.

(c) Hedges of Net Investments in Foreign Operations

Translation differences resulting from hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. The effective portion of gains or losses on hedging instruments is recognized in other comprehensive income. The ineffective portion is recognized in profit or loss. At the time of the disposal of the foreign operations, any related cumulative gain or loss recognized in equity as other comprehensive income is reclassified to profit or loss.

(6) Fair Value of Financial Instruments

The fair value of financial instruments that are traded in active financial markets at the fiscal year-end refers to quoted prices or dealer quotations.

If there is no active market, the fair value of financial instruments is determined referring to appropriate valuation models or prices presented by related financial institutions.

Note 4

Segment Information

1. Overview of Reporting Segments

The Group's reporting segments are the components for which separate financial information is available, and the Board of Directors regularly assesses this information in deciding how to allocate resources and evaluate results. No operating segments or components have been aggregated in preparing the reporting segment information.

The Group operates in four business areas centered on four operating companies. They are Mitsubishi Chemical Corporation, Mitsubishi Tanabe Pharma Corporation, Life Science Institute, Inc., and Taiyo Nippon Sanso Corporation. The business segments are Performance Products, Chemicals, Industrial Gases, and Health Care.

The businesses in each reporting segment are as follows:

Business Domains	Business Segments	Sub Business Segments		
				Businesses
Performance Products	Performance Products	Functional Products	Information, Electronics and Displays	Optical films, information and electronics materials, and acetyl
			High Performance Films	Packaging and industrial films
			Environment and Living Solutions	Aqua and separator solutions, infrastructure solutions, and agricultural materials
			Advanced Moldings and Composites	High-performance engineering plastics, fibers and textiles, carbon fiber and composite materials, functional moldings and composites, alumina fibers light and metal products
		Performance Chemicals	Advanced Polymers	Performance and engineering polymers and sustainable resources
			High Performance Chemicals	Performance chemicals and materials and food ingredients
			New energy	Lithium-ion battery materials and energy transduction materials
Industrial Materials	Chemicals	MMA	MMA	MMA
		Petrochemicals	Petrochemicals	Basic petrochemicals, polyolefins, and basic chemical derivatives
		Carbon Products	Carbon Products	Carbon products
	Industrial Gases			Industrial gases
Health Care	Health Care			Ethical pharmaceuticals
				Life science

Accounting policies for reportable segments are identical to those Group accounting policies stated in Note 3, Significant Accounting Policies. Inter-segment sales and transfers are based mainly on prevailing market prices.

2. Revenues and Operating Results for the Group's Reporting Segments

The Group evaluates results based on segment profits.

Year ended March 31, 2018

Millions of yen

	REPORTING SEGMENT					Others (Note 1)	Subtotal	Adjustments (Note 2)	Consolidated
	Performance Products	Chemicals	Industrial Gases	Health Care	Total				
Sales revenue									
External revenue	¥1,145,932	¥1,177,352	¥638,675	¥ 556,568	¥3,518,527	¥205,879	¥3,724,406	¥ —	¥3,724,406
Inter-segment revenue	65,280	83,720	7,543	2,214	158,757	129,947	288,704	(288,704)	—
Total	¥1,211,212	¥1,261,072	¥646,218	¥ 558,782	¥3,677,284	¥335,826	¥4,013,110	¥(288,704)	¥3,724,406
Segment profit (loss) Core operating income (Note 3)	¥ 93,995	¥ 147,868	¥ 57,467	¥ 81,227	¥ 380,557	¥ 7,119	¥ 387,676	¥ (7,187)	¥ 380,489
Segment assets	1,215,112	1,290,102	1,016,171	1,167,599	4,688,984	961,554	5,650,538	(949,123)	4,701,415
Other items									
Depreciation and amortization	54,861	53,741	45,708	19,049	173,359	3,018	176,377	2,518	178,895
Share of profit of investments accounted for using the equity method	10,865	12,946	3,488	4	27,303	(15)	27,288	—	27,288
Investments accounted for using the equity method	61,459	69,327	28,033	16,595	175,414	491	175,905	—	175,905
Capital expenditures	68,301	61,910	61,549	27,505	219,265	3,535	222,800	2,389	225,189

Notes:

1. The Others category consists of businesses not included in reporting segments and mainly includes engineering, transportation, and warehousing operations.
2. The segment profit (loss) adjustment includes corporate costs of ¥(7,618) million not allocated to reporting segments and inter-segment eliminations of ¥431 million. Corporate costs include expenditures on basin testing, research, and other activities not allocated to reporting segments.
   The segment assets adjustment includes corporate assets of ¥104,279 million not allocated to reporting segments and inter-segment eliminations of ¥(1,053,402) million. Corporate assets include financial assets not allocated to reporting segments.
3. Segment profit (loss) is Operating profit in accordance with IFRS after excluding earnings from non-recurring factors, such as losses from business withdrawals and downsizings, representing core operating income.

Year ended March 31, 2019

Millions of yen

	REPORTING SEGMENT					Others (Note 1)	Subtotal	Adjustments (Note 2)	Consolidated
	Performance Products	Chemicals	Industrial Gases	Health Care	Total				
Sales revenue									
External revenue	¥1,170,119	¥1,270,750	¥732,837	¥ 545,666	¥3,719,372	¥ 204,072	¥3,923,444	¥ —	¥3,923,444
Inter-segment revenue	59,447	73,301	7,504	3,244	143,496	127,929	271,425	(271,425)	—
Total	¥1,229,566	¥1,344,051	¥740,341	¥ 548,910	¥3,862,868	¥ 332,001	¥4,194,869	¥(271,425)	¥3,923,444
Segment profit (loss) Core operating income (Note 3)	¥ 68,564	¥ 131,132	¥ 63,323	¥ 56,865	¥ 319,884	¥ 7,553	¥ 327,437	¥ (10,250)	¥ 317,187
Segment assets	1,216,636	1,340,129	1,849,857	1,171,411	5,578,033	1,002,178	6,580,211	(1,007,703)	5,572,508
Other items									
Depreciation and amortization	55,661	59,563	58,554	19,549	193,327	3,273	196,600	2,732	199,332
Share of profit of investments accounted for using the equity method	8,189	14,692	3,836	12	26,729	82	26,811	—	26,811
Investments accounted for using the equity method	62,524	68,182	34,318	16,536	181,560	1,507	183,067	—	183,067
Capital expenditures	65,188	70,623	72,056	17,985	225,852	3,729	229,581	2,161	231,742

Notes:

1. The Others category consists of businesses not included in reporting segments and mainly includes engineering, transportation, and warehousing operations.
2. The segment profit (loss) adjustment includes corporate costs of ¥(10,218) million not allocated to reporting segments and inter-segment eliminations of ¥(32) million. Corporate costs include expenditures on basin testing, research, and other activities not allocated to reporting segments.
   The segment assets adjustment includes corporate assets of ¥95,968 million not allocated to reporting segments and inter-segment eliminations of ¥(1,103,671) million. Corporate assets include financial assets not allocated to reporting segments.
3. Segment profit (loss) is Operating profit in accordance with IFRS after excluding earnings from non-recurring factors, such as losses from business withdrawals and downsizings, representing core operating income.

Adjustments to income before tax from segment operating results are as follows:

	Year ended March 31, 2018	Year ended March 31, 2019
		Millions of yen
Segment operating results	¥380,489	**¥317,187**
Gain on sales of shares of subsidiaries and associates	3,683	**7,538**
Gain on sales of property, plant and equipment	3,628	**2,622**
Impairment loss	(9,662)	**(11,775)**
Loss on sales and disposal of fixed assets	(5,556)	**(8,542)**
Provision for loss on business liquidation	—	**(5,169)**
Early retirement program expenses	(2,408)	**(931)**
Environmental measures costs	(1,001)	**(886)**
Provision for loss on litigation	(1,170)	**(626)**
Prior service cost	(4,996)	**(177)**
Cost related to integration of subsidiaries	(3,774)	**—**
Others	(3,522)	**(1,291)**
Operating income	355,711	**297,950**
Financial income	8,404	**10,243**
Financial expenses	(20,038)	**(20,137)**
Income before taxes	¥344,077	**¥288,056**

3. Geographic Information

The breakdown of external sales revenue and non-current assets is as follows:

External sales revenue

	Year ended March 31, 2018	Year ended March 31, 2019
		Millions of yen
Japan	¥2,177,346	**¥2,258,869**
U.S.A.	406,730	**453,174**
PRC	289,083	**292,023**
Others	851,247	**919,378**
Total	¥3,724,406	**¥3,923,444**

Note: Sales revenue are based on the locations of customers.

Non-current assets

	As of March 31, 2018	As of March 31, 2019
		Millions of yen
Japan	¥1,215,479	**¥1,219,668**
U.S.A.	357,269	**432,163**
Others	548,882	**1,257,299**
Total	¥2,121,630	**¥2,909,130**

Notes:

1. Non-current assets are based on the locations of the assets and do not include financial instruments, deferred tax assets and retirement benefit asset.
2. The Others category mainly encompasses increases in property, plant and equipment, intangible assets, and goodwill from European business acquisitions by consolidated subsidiary Taiyo Nippon Sanso Corporation. Details are per Note 5 Business Combinations.

4. Information about Major Customers

This information has been omitted because no external customers account for more than 10% of sales revenue.

Note 5

Business Combinations

Year ended March 31, 2019

(Completion of provisional business combination accounting)

1. Acquisition of NeuroDerm Ltd. by Mitsubishi Tanabe Pharma Corporation

On October 18, 2017, consolidated subsidiary Mitsubishi Tanabe Pharma Corporation acquired all of the outstanding shares (including shares underlying options) of NeuroDerm Ltd., which researches and develops central nervous system drugs to treat Parkinson's Disease and other illnesses. The latter thereby became a wholly owned subsidiary of Mitsubishi Tanabe Pharma Corporation.

The fair values of assets acquired and liabilities assumed were provisional in the previous fiscal year but were finalized in the second quarter of the year ended March 31, 2019. Provisional amounts were corrected as follows.

Assets acquired, liabilities assumed, and goodwill

	Acquisition date (October 18, 2017)
	Millions of yen
Current assets:	
Cash and cash equivalents	**¥ 4,686**
Other financial assets	**8,705**
Other current assets	**303**
Non-current assets:	
Intangible assets	**136,178**
Others	**217**
Acquired assets	**150,089**
Current liabilities	**4,571**
Non-current liabilities:	
Deferred tax liabilities	**32,692**
Liabilities assumed	**37,263**
Net assets acquired and liabilities assumed	**112,826**
Goodwill (Note)	**11,584**

During the second quarter of the year ended March 31, 2019, current liabilities increased ¥874 million following additional analysis of NeuroDerm's fair value, thereby increasing goodwill by ¥874 million.

In line with the completion of initial business combination accounting, the Consolidated Statement of Financial Position for the previous fiscal year was revised retroactively. Goodwill and current liabilities for the previous fiscal year each increased ¥823 million from before the retroactive adjustment.

Note:
Goodwill
Goodwill mainly comprises anticipated synergies and excess earnings capabilities arising from acquisition that do not match specific recognition criteria. Goodwill is not deductible for tax purposes.

(Significant business combinations in the year ended March 31, 2019)

1. Taiyo Nippon Sanso Corporation acquisition of European business of Plaxair of the United States

Consolidated subsidiary Taiyo Nippon Sanso Corporation acquired the European business of Plaxair, Inc., of the United States on December 3, 2018, through subsidiary Nippon Gases Euro-Holding S.L.U. and other entities.

(1) Overview of business combination

1. Names and business descriptions of acquired companies
   Name : Praxair Espana S.L.U. and 36 other entities
   Description of business : Praxair's European operations, including industrial gas businesses in Germany, Spain, Portugal, Italy, Norway, Denmark, Sweden, Netherlands, and Belgium, carbon dioxide businesses in the United Kingdom, Ireland, Netherlands, and France, and helium-related businesses

2. Main reason for business combination
Taiyo Nippon Sanso Corporation aims to enhance its global competitiveness amid an ongoing industry reorganization and solidify its position by pursuing a long-term business vision of generating ¥1 trillion in sales revenue, an operating margin of 10%, and a return on capital employed of more than 10%, deriving more than half of its sales revenues from overseas markets. The acquisition is a major step toward materializing that vision, and also represents a solid, strategically significant investment opportunity.

Europe's industrial gas market ranks second only to North America's, and features a stable competitive climate. Acquiring businesses with market shares in areas that it had yet to tap enable the company to make strong progress in globalizing. While acquiring highly profitable businesses of a certain scale and network (including manufacturing units), it also secures talented people, including top management, and business platforms. Under such business foundations, Taiyo Nippon Sanso Corporation will cultivate products, including by drawing on offerings that are compatible with environmental regulations, while pursuing a policy of strengthening the Group's cross-functional capabilities, including by expanding marketing to global enterprises.

3. Acquisition date
December 3, 2018

4. Method for gaining control of acquired company
Acquisition of shares for cash

5. Percentage of voting rights acquired
100%

(2) Fair value of consideration transferred

Millions of yen

	Acquisition date (December 3, 2018)
Cash	**¥635,847**
Cost of the acquisition	**¥635,847**

(3) Assets acquired, liabilities assumed, non-controlling interests, and goodwill

Millions of yen

	Acquisition date (December 3, 2018)
Current assets:	
Cash and cash equivalents	**¥ 4,354**
Trade receivables	**32,664**
Inventories	**8,368**
Others	**3,681**
Non-current assets:	
Property, plant and equipment (Note 1)	**190,561**
Intangible assets (Note 1)	**208,301**
Investments accounted for using the equity method	**5,998**
Others	**4,196**
Acquired assets	**458,123**
Current liabilities:	
Trade payables	**23,882**
Other financial liabilities	**13,593**
Others	**12,254**
Non-current liabilities:	
Retirement benefit liabilities	**6,942**
Deferred tax liabilities	**72,444**
Others	**1,297**
Liabilities assumed	**130,412**
Net assets acquired and liabilities assumed	**327,711**
Non-controlling interests	**2,265**
Goodwill (Note 2)	**310,401**

Although the Company provisionally accounted for the transaction in the third quarter of the year ended March 31, 2019, it completed accounting for the initial business combination in the fourth quarter.

Notes
1. Composition of property, plant and equipment and intangible assets
Property, plant and equipment mainly comprised ¥136,460 million in machinery, equipment, and vehicles. Intangible assets of ¥203,900 million were mainly for customers.
2. Goodwill
Goodwill mainly comprises anticipated synergies and excess earnings capabilities arising from acquisition that do not match specific recognition criteria. Goodwill is not deductible for tax purposes.

(4) Acquisition-related expenses

Acquisition-related costs were ¥6,722 million, of which ¥2,695 million in selling, general and administrative expenses and ¥548 million in financial expenses were included in the Consolidated Statement of Income for the year ended March 31, 2019. The Consolidated Statement of Financial Position for the year included ¥(771) million in bonds and borrowings in current liabilities and ¥(2,708) million in bonds and borrowings in non-current liabilities. Acquisition-related expenses in the Consolidated Statement of Financial Position were costs of bond issue expenses and debt origination costs from obtaining to acquisition funds deducted from fair value at the time of initial recognition of the bonds and borrowings during the year ended March 31, 2019 that were not posted as financial expenses at the end of the period.

(5) Impact on Group business results

The Consolidated Statement of Income for the year ended March 31, 2019 included sales revenue of ¥55,101 million and net income of ¥6,167 million that the acquired company generated subsequent to the acquisition date.
If the business combination were on April 1, 2018, the start of the year ended March 31, 2019, the Group's pro forma sales revenue would have been ¥4,040,646 million, with net income of ¥226,781 million. The pro forma information has not been audited.

2. Acquisition of hydrogen and carbon monoxide business and related business assets in United States by Matheson Tri-Gas

Through Matheson Tri-Gas, Inc., a wholly owned subsidiary of consolidated subsidiary Taiyo Nippon Sanso Corporation acquired a portion of the hydrogen and carbon monoxide (HyCO) business and related U.S. assets of Linde Gas North America LLC.

(1) Overview of business combination

1. Name of counterparty company and description of business
Name : Linde Gas North America LLC
Description of business: Portion of HyCO business (see note) of Linde Gas North America LLC in the United States

Note: Large-scale supply of hydrogen and carbon monoxide derived from natural gas and other sources with steam reforming and other apparatuses through pipelines to petroleum refining and petrochemical industries

2. Main reason for business combination
Under the Ortus Stage 2 medium-term management plan, Taiyo Nippon Sanso Corporation aims to strategically expand in the gas technology area through mergers and acquisitions, and explored fully entering the HyCO business from the perspective of bolstering its product lineup to strengthen its proposal capabilities. The acquisition will enable the company to materialize that goal, generating the following envisaged benefits for the Taiyo Nippon Sanso Group.
(i) Secure stable medium- and long-term earnings from on-site supplies of hydrogen and carbon monoxide
(ii) Secure human and technological resources to streamline HyCO business operations
(iii) Strengthening proposal capabilities for new on-site demand (including oil refining and petrochemicals) in the United States

3. Acquisition date: February 27, 2019

4. Method for gaining control of acquired company
A portion of the HyCO business of Linde Gas North America LLC in the United States and related U.S. business assets was acquired for cash by consolidated subsidiary Matheson Tri-Gas, Inc.

(2) Fair value of consideration transferred

Millions of yen

	Acquisition date (February 27, 2019)
Cash	¥46,133
Cost of the acquisition	¥46,133

(3) Assets acquired, liabilities assumed, and goodwill

Millions of yen

	Acquisition date (February 27, 2019)
Current assets	¥ 215
Non-current assets:	
Property, plant and equipment (Note 1)	30,875
Intangible assets (Note 1)	8,356
Acquired assets	39,446
Non-current liabilities	498
Liabilities assumed	498
Net assets acquired and liabilities assumed	38,948
Goodwill (Note 2)	7,185

Since initial accounting for the business combination has yet to be completed, the above amounts are provisional fair values based on best estimates. Once additional information on the facts and circumstances as of the acquisition date are obtained, the above amounts could be revised one year after the acquisition date.

Notes:
1. Composition of property, plant and equipment and intangible assets
Property, plant and equipment mainly comprised ¥30,851 million in machinery, equipment and vehicles.
Intangible assets of ¥8,356 million were mainly customer-related intangible assets.
2. Goodwill
Goodwill mainly comprises anticipated synergies and excess earnings capabilities arising from acquisition that do not match specific recognition criteria. Goodwill is tax deductible for fixed periods.

(4) Acquisition related expenses

Acquisition-related expenses were ¥149 million and were included in selling, general and administrative expenses in the Consolidated Statement of Income for the year ended March 31, 2019.

(5) Impact on Group business results

If the business combination were on April 1, 2018, the start of the year ended March 31, 2019, the Group's pro forma sales revenue would have been ¥3,933,102 million, with net income of ¥219,046 million. The pro forma information has not been audited.

Note 6

Sales Revenue

(1) Disaggregation of sales revenue

The Group operates in four business areas centered on four operating companies. They are Mitsubishi Chemical Corporation, Mitsubishi Tanabe Pharma Corporation, Life Science Institute, Inc., and Taiyo Nippon Sanso Corporation. The business segments are Performance Products, Chemicals, Industrial Gases, and Health Care. Progress reports on enhancing overseas sales ratios as a key operational measure go regularly to the Board of Directors. The relationship between geographic and segment revenue described in Note 4 Segment Information is as follows.

Year ended March 31, 2019

Millions of yen

	Japan	U.S.A.	PRC	Others	Total
Performance Products	594,161	154,802	101,209	319,947	1,170,119
Chemicals	767,498	76,215	110,702	316,335	1,270,750
Industrial Gases	369,033	177,941	22,128	163,735	732,837
Health Care	405,679	41,425	7,767	90,795	545,666
Others (Note 2)	122,498	2,791	50,217	28,566	204,072
Total	¥2,258,869	¥453,174	¥292,023	¥919,378	¥3,923,444

Notes
1. Amounts are shown as sales revenue from external customers.
2. The Others category consists of businesses not included in reporting segments and mainly includes engineering, transportation, and warehousing operations.
3. Sales revenue is mostly recognized from contracts with customers. Sales revenue recognized from other sources is immaterial.

Performance Products Segment
This segment encompasses the functional products business (information, electronics and displays, high-performance films, environment and living solutions, and advanced moldings and composites) and the performance chemical business (advanced polymers, high-performance chemicals, and new energy). We sell to domestic and overseas customers.

Once customers gain control over products, when products are delivered to customer-designated locations, the legal title and physical possession of products and significant risks associated with product possession and rewards have been transferred, and we accordingly determine at that stage that we have satisfied our performance obligations and recognize sales revenue. Sales revenue from selling these products is measured at transaction prices relating to agreements with customers.

Sales revenue is measured at the amount of consideration promised in contracts with customers, net of discounts, rebates and returns. Rebates and other estimates use the most frequent techniques based on experience. Sales revenue is recognized only to the extent of no possibility of a significant reversal. Considerations in product sales contracts are generally collected within one year after control of products transfers to customer, and do not include significant financial elements.

Chemicals Segment
In the Chemicals segment, we conduct the MMA, petrochemicals, and carbon products businesses, and sell to domestic and overseas customers.

Upon satisfying performance obligations in selling products in these businesses, calculations of transaction prices and payment terms are identical to those of the Performance Products segment.

Industrial Gases Segment
In this segment, our gas business serves the steel, chemical and electronics industries. We manufacture such household items as stainless steel thermoses. We sell to domestic and overseas customers.

Upon satisfying performance obligations in selling products in these businesses, calculations of transaction prices and payment terms are identical to those of the Performance Products segment.

Health Care Segment

Here, we engage in the ethical pharmaceuticals business (researching and developing and manufacturing ethical pharmaceuticals) and the life science business (undertaking clinical testing, diagnostic reagents and instruments, capsules and pharmaceutical processing equipment, active pharmaceutical ingredients and intermediates), selling to domestic and foreign customers.

Upon fulfilling performance obligations in selling products in these businesses, calculations of transaction prices and payment terms are identical to those of the Performance Products segment.

Royalty income generated in the Health Care business is from contracts in which the Group has permitted third parties to produce or sell products or use technology. One-off contract payments are recognized as sales revenue when performance obligations are met at certain points. If such obligations are not met, the transaction is recorded as deferred sales revenue and recognized as sales revenue over a certain period as obligations are met. Milestone payments are recognized only to the extent that significant returns are unlikely after reaching contractual milestones. Running royalties are measured based on contractor sales calculations, etc., and sales revenue is recognized as sales occur. Royalty income is generally received within one year of establishing contractual rights, and does not include significant financing components.

(2) Contract balance

Receivables from contracts with customers, contract assets, and liabilities are as follows.

Millions of yen

	As of April 1, 2018	Year ended March 31, 2019
Receivables arising from contracts with customers	851,576	**850,802**
Contract assets	7,893	**12,562**
Contract liabilities	16,582	**16,234**

The Group mainly posts contract assets for compensation from work in progress and posts contract liabilities for advance payments and for deferred sales revenue from derived transactions with customers.

Of sales revenue recognized in the year ended March 31, 2019, ¥10,674 million was included in contract liabilities at the start of the term. Sales revenue recognized from performance obligations satisfied during the year was ¥63,960 million. There were no significant changes in outstanding contract assets and liabilities.

(3) Transaction price allocated to the remaining performance obligations

Total transaction price allocated to the remaining performance obligations and sales revenue recognition periods were as follows. Transactions with estimated contract terms of less than one year are excluded.

Millions of yen

	Year ended March 31, 2019
Due within one year	**15,443**
Due after one year	**26,317**
Total	**¥41,760**

(4) Assets recognized from costs to obtain or fulfill contracts with customers

In the year ended March 31, 2019, no assets were recognized from the costs to obtain or fulfill contracts with customers. As a practical expedient, costs are recognized as expenses when incurred if the amortization period of the asset to be recognized is one year or less.

Note 7

Employee Benefit Expenses

The breakdown of employee benefit expenses is as follows:

Millions of yen

	Year ended March 31, 2018	Year ended March 31, 2019
Wages and salaries	¥563,269	**¥580,944**
Retirement benefit costs	37,196	**31,338**
Total	¥600,465	**¥612,282**

Note: Remuneration for key executives is excluded. Remuneration to major executives is as described in Note 37 Related Parties.

Note 8

Research and Development Expenses

Research and development expenses recognized in the years ended March 31, 2018 and 2019 were ¥138,833 million and ¥143,836 million, respectively.

Note 9

Other Operating Income and Other Operating Expenses

The breakdown of other operating income is as follows:

Millions of yen

	Year ended March 31, 2018	Year ended March 31, 2019
Gain on sales of shares of subsidiaries and associates	¥ 3,747	**¥ 7,546**
Gain on sales of property, plant and equipment	4,183	**3,839**
Rent income	2,639	**2,285**
Others	9,110	**7,792**
Total	¥19,679	**¥21,462**

The breakdown of other operating expenses is as follows:

Millions of yen

	Year ended March 31, 2018	Year ended March 31, 2019
Impairment loss	¥12,062	**¥17,340**
Loss on sales and disposal of fixed assets	10,414	**13,824**
Provision for loss on business liquidation	—	**5,169**
Early retirement program expenses	2,408	**931**
Environmental measures costs	3,672	**886**
Provision for loss on litigation	1,170	**626**
Cost related to integration of subsidiaries	3,712	**—**
Others	12,912	**12,298**
Total	¥46,350	**¥51,074**

The provision for loss on business liquidation is as described in Note 22 Assets Held for Sale.

Note 10

Financial Income and Financial Expenses

The breakdown of financial income is as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Financial income		
Interest income		
Financial assets measured at amortized cost	¥3,365	**¥4,430**
Financial assets at fair value through profit or loss	25	**—**
Dividend income		
Financial assets measured at fair value through other comprehensive income	4,279	**5,197**
Foreign exchange gains	—	**370**
Others	735	**246**
Total	¥8,404	**¥10,243**

The breakdown of financial costs is as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Financial costs		
Interest expenses		
Financial liabilities measured at amortized cost	¥15,652	**¥18,868**
Foreign exchange losses	2,960	**—**
Others	1,426	**1,269**
Total	¥20,038	**¥20,137**

Note 11

Income Taxes

1. Deferred Tax Assets and Liabilities

As of March 31, 2018 and 2019, significant components of deferred tax assets and liabilities are as follows:

Year ended March 31, 2018

Millions of yen

	April 1, 2017	Amounts recognized in profit or loss	Amounts recognized in other comprehensive income	Others (Note)	March 31, 2018
Deferred tax assets:					
Tax loss carryforwards	¥ 64,364	¥(6,396)	¥ —	¥ (545)	¥ 57,423
Net defined benefit liabilities	38,137	1,808	(8,876)	61	31,130
Property, plant and equipment	17,161	(1,655)	—	(29)	15,477
Employees' bonuses	13,593	1,574	—	(29)	15,138
Inventory	4,420	2,589	—	(3)	7,006
Employees' paid leave	6,814	(48)	—	121	6,887
Others	55,709	(3,488)	(969)	(271)	50,981
Total	¥ 200,198	¥(5,616)	¥ (9,845)	¥ (695)	¥ 184,042
Deferred tax liabilities:					
Valuation of assets	¥ (46,197)	¥ 1,916	¥ —	¥(37,409)	¥ (81,690)
Property, plant and equipment	(65,407)	15,617	—	(280)	(50,070)
Securities and other investments	(33,149)	(1)	(4,231)	1,681	(35,700)
Retained earnings of foreign subsidiaries	(12,181)	(1,729)	—	—	(13,910)
Others	(28,788)	(3,120)	(451)	8,813	(23,546)
Total	¥(185,722)	¥12,683	¥ (4,682)	¥(27,195)	¥(204,916)
Net deferred tax assets	¥ 14,476	¥ 7,067	¥(14,527)	¥(27,890)	¥ (20,874)

Year ended March 31, 2019

Millions of yen

	April 1, 2018	Amounts recognized in profit or loss	Amounts recognized in other comprehensive income	Others (Note)	March 31, 2019
Deferred tax assets:					
Tax loss carryforwards	**¥ 57,423**	**¥ 6,392**	**¥ —**	**¥ 254**	**¥ 64,069**
Net defined benefit liabilities	**31,130**	**(1,741)**	**1,631**	**1,842**	**32,862**
Property, plant and equipment	**15,477**	**1,641**	**—**	**120**	**17,238**
Employees' bonuses	**15,138**	**(369)**	**—**	**46**	**14,815**
Inventory	**7,006**	**3,530**	**—**	**57**	**10,593**
Employees' paid leave	**6,887**	**582**	**—**	**676**	**8,145**
Others	**50,981**	**5,136**	**1,383**	**(708)**	**56,792**
Total	**¥ 184,042**	**¥15,171**	**¥ 3,014**	**¥ 2,287**	**¥ 204,514**
Deferred tax liabilities:					
Valuation of assets	**(81,690)**	**4,641**	**—**	**(67,737)**	**(144,786)**
Property, plant and equipment	**¥ (50,070)**	**¥(13,697)**	**¥ —**	**¥(10,415)**	**¥ (74,182)**
Securities and other investments	**(35,700)**	**—**	**(2,397)**	**3,789**	**(34,308)**
Retained earnings of foreign subsidiaries	**(13,910)**	**(4,186)**	**—**	**—**	**(18,096)**
Others	**(23,546)**	**(3,717)**	**(303)**	**1,523**	**(26,043)**
Total	**¥(204,916)**	**¥(16,959)**	**¥ (2,700)**	**¥(72,840)**	**¥(297,415)**
Net deferred tax assets	**¥ (20,874)**	**¥ (1,788)**	**¥ 314**	**¥(70,553)**	**¥ (92,901)**

Note: Others include exchange differences on translation of foreign operations and changes owing to business combinations, etc.

In recognizing deferred tax assets, the Group considers whether it can use all or part of future deductible temporary differences or unused tax loss carryforwards with respect to expected future taxable income. In evaluating the recoverability of deferred tax assets, the Group considers the planned reversal of deferred tax liabilities, expected future taxable income, and tax planning. There is a high probability of collecting recognized deferred tax asset benefits based on historical taxable income levels and on expected future taxable income for the period in which it can recognize deferred tax assets.

Future deductible temporary differences and unused tax loss carryforwards (on an income basis), not recognized as deferred tax assets are as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Future deductible temporary differences	125,508	**106,112**
Unused tax loss carryforwards	447,864	**374,604**

Unrecognized deferred tax assets corresponding to the above are as follows.

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Future deductible temporary differences	34,273	**30,172**
Unused tax loss carryforwards	61,412	**58,308**

The breakdowns of tax loss carryforwards not recognized as deferred tax assets (on an income basis) by expiration date are as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Due within one year	116,157	**65,918**
Due after one year and not later than five years	72,398	**51,169**
Due after five years and not later than 10 years	112,965	**93,829**
Due after 10 years and not later than 20 years	85,038	**95,568**
Indefinite	61,306	**68,120**
Total	¥447,864	**¥374,604**

As of March 31, 2018 and March 31, 2019, total temporary differences related to undistributed earnings of subsidiaries for which deferred tax liabilities were not recognized were ¥1,055,342 million and ¥1,142,046 million, respectively.

The Group does not recognize deferred tax liabilities related to temporary differences when it can control the timing of the reversal of the temporary differences and it is highly probable that temporary differences will not be reversed in the foreseeable future.

2. Income Taxes

The breakdown of income taxes is as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Income taxes	¥74,782	**¥69,539**
Deferred income taxes	(7,067)	**1,788**
Total	¥67,715	**¥71,327**

The President of the United States signed the Tax Cuts and Jobs Act into law on December 22, 2017, thereby lowering the federal corporate tax rate after January 1, 2018.Therefore, deferred tax assets and liabilities subsequent to the third quarter of the year ended March 31, 2018, are calculated based on the effective revised tax rate corresponding to the consolidated fiscal year in which temporary differences are expected to be resolved.

Consequently, income taxes for the year ended March 31, 2018 decreased by ¥12,494 million.

3. Effective Tax Rate Reconciliation Schedule

The Company is principally subject to corporate taxes, resident taxes and business taxes. The statutory effective tax rates that are the bases for these taxes were 30.8% and 30.6% for the years ended March 31, 2018 and 2019, respectively. For overseas subsidiaries, local corporate income taxes are imposed.

A reconciliation of the statutory tax rates to the effective tax rates for the years ended March 31, 2018 and 2019, was as follows:

	Year ended March 31, 2018	**Year ended March 31, 2019**
Statutory tax rate	30.8%	**30.6%**
Difference of statutory tax rate in overseas subsidiaries	(3.3)	**(5.1)**
Share of profit of investments accounted for using the equity method	(2.4)	**(2.8)**
Tax credits for research and development costs	(2.2)	**(1.9)**
Unrecognized deferred tax assets	(1.6)	**(0.6)**
Permanent differences	0.6	**1.8**
Foreign taxes	0.5	**1.0**
Impact of lower U.S. federal corporate tax rate	(3.6)	**—**
Others	0.9	**1.8**
Effective tax rate	19.7%	**24.8%**

Note 12

Per Share Information

The bases for calculating basic and diluted earnings per share attributable to owners of the parent were as follows:

	Year ended March 31, 2018	**Year ended March 31, 2019**
		(Millions of yen)
Net income attributable to owners of the parent	¥211,788	**¥169,530**
Adjustment	283	**285**
Net income used to calculate diluted earnings per share	212,071	**169,815**
		(Thousands of shares)
Average number of ordinary shares during period	1,439,338	**1,422,018**
Impact of potentially dilutive ordinary shares		
Convertible bond-type bonds with subscription rights to shares	118,388	**119,685**
Subscription rights to shares	955	**1,388**
Average number of diluted ordinary shares during period	1,558,681	**1,543,091**
		(Yen)
Basic earnings per share attributable to owners of the parent	¥147.14	**¥119.22**
Diluted earnings per share attributable to owners of the parent	¥136.06	**¥110.05**

Note: In the calculation of basic and diluted net income per share attributable to owners of the parent, the Company stocks held by Board Incentive Plan trust are included in shares of treasury stock deducted in calculating the average number of shares during the period.

Note 13

Goodwill and Intangible Assets

1. Schedule of Goodwill and Intangible Assets

The acquisition cost, accumulated amortization, accumulated impairment losses and carrying amount of goodwill and intangible assets were as follows:

Year ended March 31, 2018

Acquisition cost

Millions of yen

	Goodwill	Intangible assets: Technology-related intangible assets	Customer-related intangible assets	Software	Other	Total
Balance as of April 1, 2017	¥312,950	¥138,456	¥115,637	¥70,083	¥52,300	¥376,476
Acquisitions	—	17,792	—	7,013	5,996	30,801
Acquisitions through business combinations	13,358	136,266	—	507	15	136,788
Sale or disposal	—	(1,022)	—	(1,844)	(358)	(3,224)
Transfers	—	103	—	28	6,293	6,424
Exchange differences on translation of foreign operations	(2,107)	(8,797)	(2,795)	627	(1,110)	(12,075)
Balance as of March 31, 2018	¥324,201	¥282,798	¥112,842	¥76,414	¥63,136	¥535,190

Accumulated amortization, accumulated impairment losses

Millions of yen

	Goodwill	Intangible assets: Technology-related intangible assets	Customer-related intangible assets	Software	Other	Total
Balance as of April 1, 2017	¥—	¥46,199	¥26,554	¥49,868	¥26,686	¥149,307
Amortization	—	6,973	7,081	7,512	2,622	24,188
Impairment losses	—	3,364	—	218	18	3,600
Sale or disposal	—	(973)	—	(1,780)	(262)	(3,015)
Exchange differences on translation of foreign operations	—	(114)	(414)	1,196	5,291	5,959
Balance as of March 31, 2018	¥—	¥55,449	¥33,221	¥57,014	¥34,355	¥180,039

Carrying amount

Millions of yen

	Goodwill	Intangible assets: Technology-related intangible assets	Customer-related intangible assets	Software	Other	Total
Balance as of April 1, 2017	¥312,950	¥92,257	¥89,083	¥20,215	¥25,614	¥227,169
Balance as of March 31, 2018	¥324,201	¥227,349	¥79,621	¥19,400	¥28,781	¥355,151

Year ended March 31, 2019

Acquisition cost

Millions of yen

	Goodwill	Intangible assets: Technology-related intangible assets	Customer-related intangible assets	Software	Other	Total
Balance as of April 1, 2018	**¥324,201**	**¥282,798**	**¥112,842**	**¥76,414**	**¥63,136**	**¥535,190**
Acquisitions	**—**	**3,192**	**7,127**	**7,922**	**3,149**	**21,390**
Acquisitions through business combinations	**334,121**	**1,688**	**216,914**	**2,470**	**511**	**221,583**
Sale or disposal	**—**	**(4,061)**	**(2)**	**(6,981)**	**(1,790)**	**(12,834)**
Transfers	**—**	**(14)**	**—**	**(3)**	**9**	**(8)**
Exchange differences on translation of foreign operations	**(9,516)**	**8,010**	**(4,431)**	**(311)**	**1,161**	**4,429**
Balance as of March 31, 2019	**¥648,806**	**¥291,613**	**¥332,450**	**¥79,511**	**¥66,176**	**¥769,750**

Accumulated amortization, accumulated impairment losses

Millions of yen

	Goodwill	Intangible assets: Technology-related intangible assets	Customer-related intangible assets	Software	Other	Total
Balance as of April 1, 2018	**¥—**	**¥55,449**	**¥33,221**	**¥57,014**	**¥34,355**	**¥180,039**
Amortization	**—**	**7,422**	**10,595**	**7,805**	**4,012**	**29,834**
Impairment losses	**—**	**383**	**—**	**165**	**63**	**611**
Sale or disposal	**—**	**(3,696)**	**—**	**(6,808)**	**(1,755)**	**(12,259)**
Exchange differences on translation of foreign operations	**—**	**1,728**	**407**	**(294)**	**897**	**2,738**
Balance as of March 31, 2019	**¥—**	**¥61,286**	**¥44,223**	**¥57,882**	**¥37,572**	**¥200,963**

Carrying amount

Millions of yen

	Goodwill	Intangible assets: Technology-related intangible assets	Customer-related intangible assets	Software	Other	Total
Balance as of April 1, 2018	**¥324,201**	**¥227,349**	**¥79,621**	**¥19,400**	**¥28,781**	**¥355,151**
Balance as of March 31, 2019	**¥648,806**	**¥230,327**	**¥288,227**	**¥21,629**	**¥28,604**	**¥568,787**

There were no material internally generated assets in the years ended March 31, 2018 and 2019.

The amortization of intangible assets is included in Cost of sales and Selling, general and administrative expenses in the Consolidated Statement of Income.

The carrying amounts of intangible assets with indefinite useful lives were ¥183,790 million and ¥192,381 million as of March 31, 2018 and March 31, 2019, respectively. The main items were in-process research and development expenses recognized when Mitsubishi Tanabe Pharma Corporation acquired Medicago Inc. in 2013 and NeuroDerm Ltd. in 2017 (both in the Health Care segment), and which were included in Technology-related intangible assets. Given that the assets are at the research and development stage, have yet to obtain marketing approval from regulatory authorities, and cannot be in use, the period in which they could deliver future economic benefits is unforeseeable, so the assets are classified as intangible assets with indefinite useful lives.

2. Significant Intangible Assets

Significant intangible assets in the Consolidated Statement of Financial Position include technology-related intangible assets that the Company obtained in acquiring Mitsubishi Rayon Co., Ltd. (now Mitsubishi Chemical Corporation), in March 2010. The carrying amounts of these intangible assets were ¥20,891 million as of March 31, 2018 and ¥18,254 million as of March 31, 2019. The remaining amortization periods were 6 to 10 years.

The carrying amounts of technology-related intangible assets of Medicago Inc., which Mitsubishi Tanabe Pharma Corporation acquired in September 2013, were ¥25,885 million as of March 31, 2018 and ¥25,967 million as of March 31, 2019. Impairment tests are conducted every year, as these items are classified as intangible assets with indefinite useful lives.

The carrying amounts of customer-related intangible assets of Taiyo Nippon Sanso Corporation, which the Company acquired in November 2014, were ¥30,291 million as of March 31, 2018, and ¥28,187 million as of March 31, 2019. The remaining amortization periods were 9 to 14 years.

The carrying amounts of technology-related intangible assets of NeuroDerm Ltd. which Mitsubishi Tanabe Pharma Corporation acquired in October 2017, were ¥ 128,338 million as of March 31, 2018 and ¥134,076 million as of March 31, 2019. This item is classified as intangible assets with indefinite useful lives.

The carrying amount of customer-related intangible assets of European businesses which Taiyo Nippon Sanso Corporation acquired in December 2018, was ¥194,267 million as of March 31, 2019. The remaining amortization periods were mainly 29 years.

3. Impairment Losses

The Group has recognized impairment losses of ¥3,600 million during the year ended March 31, 2018 and ¥611 million during the year ended March 31, 2019, in other operating expenses in the Consolidated Statement of Income.

The Company conducts impairment tests at certain times of the year for intangible assets with indefinite useful lives, regardless of whether there are signs of impairment.

In the impairment tests, the recoverable value of intangible assets is measured based on its value in use.

The Company calculates value in use by using cash flow projections based on management-approved business plans. These plans are based on historical experience and external information. Except on justifiable grounds, the plans are, in principle, for up to five years. The Company uses a pretax weighted average cost of capital (discount rate) of 5.5% to 14.8%.

Note 14

Property, Plant and Equipment

The acquisition cost, accumulated depreciation, accumulated impairment losses and carrying amount of property, plant and equipment were as follows:

1. Schedule of property, plant and equipment

Year ended March 31, 2018

Acquisition cost

Millions of yen

	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Total
Balance as of April 1, 2017	¥1,075,780	¥2,908,122	¥314,342	¥286,915	¥141,216	¥4,726,375
Acquisitions	28,141	122,020	21,145	1,764	38,172	211,242
Acquisitions through business combinations	2,222	1,887	4,752	944	66	9,871
Sale or disposal	(21,870)	(69,601)	(13,907)	(8,424)	(670)	(114,472)
Transfers	(1,603)	(2,407)	(263)	(7)	(13,894)	(18,174)
Exchange differences on translation of foreign operations	(167)	(9,860)	(8,801)	2,515	(15,462)	(31,775)
Balance as of March 31, 2018	¥1,082,503	¥2,950,161	¥317,268	¥283,707	¥149,428	¥4,783,067

Accumulated depreciation, accumulated impairment losses

Millions of yen

	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Total
Balance as of April 1, 2017	¥739,906	¥2,302,687	¥241,587	¥5,241	¥5,273	¥3,294,694
Depreciation	24,746	112,686	17,275	—	—	154,707
Impairment losses	2,347	4,271	80	1,546	218	8,462
Sale or disposal	(19,767)	(63,920)	(13,113)	(1,650)	—	(98,450)
Transfers	(1,897)	(1,524)	23	—	—	(3,398)
Exchange differences on translation of foreign operations	634	(3,644)	(2,452)	2,754	(3,749)	(6,457)
Balance as of March 31, 2018	¥745,969	¥2,350,556	¥243,400	¥7,891	¥1,742	¥3,349,558

Carrying amount

Millions of yen

	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Total
Balance as of April 1, 2017	¥335,874	¥605,435	¥72,755	¥281,674	¥135,943	¥1,431,681
Balance as of March 31, 2018	¥336,534	¥599,605	¥73,868	¥275,816	¥147,686	¥1,433,509

Year ended March 31, 2019

Acquisition cost

Millions of yen

	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Total
Balance as of April 1, 2018	¥1,082,503	¥2,950,161	¥317,268	¥283,707	¥149,428	¥4,783,067
Acquisitions	31,620	184,832	23,936	1,992	(11,923)	230,457
Acquisitions through business combinations	12,259	171,121	29,263	9,923	8,451	231,017
Sale or disposal	(16,081)	(71,148)	(12,196)	(2,349)	(913)	(102,687)
Transfers	(2,338)	(2,867)	(1,671)	(482)	(12,894)	(20,252)
Exchange differences on translation of foreign operations	(3,038)	(978)	189	(2,680)	707	(5,800)
Balance as of March 31, 2019	¥1,104,925	¥3,231,121	¥356,789	¥290,111	¥132,856	¥5,115,802

Accumulated depreciation, accumulated impairment losses

Millions of yen

	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Total
Balance as of April 1, 2018	¥745,969	¥2,350,556	¥243,400	¥7,891	¥1,742	¥3,349,558
Depreciation	25,906	125,004	18,507	—	—	169,417
Impairment losses	6,958	4,418	415	2,283	2,655	16,729
Sale or disposal	(13,906)	(66,379)	(11,416)	(377)	(219)	(92,297)
Transfers	(1,599)	(4,111)	(1,626)	(6)	281	(7,061)
Exchange differences on translation of foreign operations	(3,555)	123	834	(422)	(878)	(3,898)
Balance as of March 31, 2019	¥759,773	¥2,409,611	¥250,114	¥9,369	¥3,581	¥3,432,448

Carrying amount

Millions of yen

	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Total
Balance as of April 1, 2018	¥336,534	¥599,605	¥73,868	¥275,816	¥147,686	¥1,433,509
Balance as of March 31, 2019	¥345,152	¥821,510	¥106,675	¥280,742	¥129,275	¥1,683,354

Depreciation of property, plant and equipment is included in the Cost of sales and Selling, general and administrative expenses in the Consolidated Statement of Income. Expenditure on construction work in progress for property, plant and equipment is included in construction in progress.

2. Leased Assets

The carrying amounts of leased assets included in property, plant and equipment were as follows:

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Buildings and structures	¥1,583	**¥1,221**
Machinery and vehicles	4,101	**3,557**
Tools, furniture and fixtures	3,309	**3,529**
Total	¥8,993	**¥8,307**

Note 15

Impairment Losses

In principle, the Group determines its cash-generating units considering operational, production processes, regions, and other factors based on business units. The Group tests idle assets individually to recognize impairment losses.

Impairment losses recognized in the years ended March 31, 2018 and 2019 are as follows. Impairment losses are included in Other operating expenses in the Consolidated Statement of Income.

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Property, plant and equipment		
Buildings and structures	¥ 2,347	**¥ 6,958**
Machinery and vehicles	4,271	**4,418**
Tools, furniture and fixtures	80	**415**
Land	1,546	**2,283**
Construction in progress	218	**2,655**
Total of property, plant and equipment	¥ 8,462	**¥16,729**
Intangible assets	3,600	**611**
Total impairment losses	¥12,062	**¥17,340**

The main assets for which impairment losses were recognized are as follows:

Year ended March 31, 2019

Use	Location	Category	Reporting segment	Impairment loss
Pharmaceuticals research facilities	Mitsubishi Tanabe Pharma Corporation's Toda Office (Toda, Saitama Prefecture)	Buildings and land, etc.	Health Care	¥5,271 million

Composition of Impairment Losses

Pharmaceuticals research facilities

¥5,271 million (including ¥3,537 million in buildings and structures, ¥1,720 million in land, and ¥14 million in others)

Consolidated subsidiary Mitsubishi Tanabe Pharma Corporation decided to close its Toda Office in line with a research bases reorganization. Because of the likelihood of the property, plant and equipment of the office becoming idle owing to the closure, its book value has been reduced to the recoverable value. The recoverable amount is measured at ¥4,062 million, representing the fair value, less disposal costs based on the appraised property value. The fair value hierarchy is Level 3.

The carrying amounts of goodwill allocated to cash-generating units (groups of cash-generating units) are as follows:

Millions of yen

Reporting segment	Cash-Generating Unit (Groups of Cash-Generating Units)	March 31, 2018	**March 31, 2019**
Performance Products	High-performance engineering plastics	¥ 21,371	**¥ 21,029**
	Other	28,069	**37,036**
	Total	¥ 49,440	**¥ 58,065**
Chemicals	MMA	¥ 36,813	**¥ 36,813**
	Other	2,863	**2,887**
	Total	¥ 39,649	**¥ 39,700**
Industrial Gases	Industrial gases	¥142,902	**¥459,013**
Health Care	Ethical Pharmaceuticals	¥ 58,742	**¥ 59,246**
	Pharmaceutical formulation materials	33,295	**32,626**
	Other	173	**156**
	Total	¥ 92,210	**¥ 92,028**
Total		¥324,201	**¥648,806**

The recoverable amount of goodwill in cash-generating units and groups of cash generating units is measured by the value in use.

The value in use is based on a management-approved five-year plan reflecting past experience and external source of information. After considering future uncertainties after the five-year period, the Company assumed a zero growth rate, with value equaling cash flows in the fifth year.

The discount rates used for measuring recoverable value are as follows:

Reporting segment	Cash-Generating Unit (Groups of Cash-Generating Units)	March 31, 2018	**March 31, 2019**
Performance Products	High-performance engineering plastics	7.5%	**8.1%**
Chemicals	MMA	6.3%	**7.7%**
Industrial Gases	Industrial gases	6.3%	**7.7%**
Health Care	Ethical pharmaceuticals	6.1%	**5.5%**
	Pharmaceutical formulation materials	6.1%	**6.5%**

It was possible that the recoverable amount of goodwill allocated to pharmaceutical formulation materials would equal the carrying amount if the discount rate rose 0.8% in the previous fiscal year. If the discount rate increased by 1.9% in the year ended March 31, 2019, the recoverable amount could have equaled the carrying amount.

Note 16

Individually Insignificant Investments Accounted for Using Equity Method

The carrying amounts of individually insignificant investments in joint ventures accounted for using the equity method are as follows:

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Carrying amounts of investments in joint ventures	¥89,109	**¥92,615**

Equity in earnings of joint ventures accounted for using the equity method for total comprehensive income is as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Share of profit using equity method	¥17,390	**¥14,219**
Share of other comprehensive income using equity method	507	**(1,180)**
Share of total shareholders' equity in total comprehensive income	¥17,897	**¥13,039**

Carrying amounts of individually insignificant investments in associates accounted for using the equity method are as follows:

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Carrying amounts of investments in associates	¥86,796	**¥90,452**

Equity in earnings of associates accounted for using the equity method for total comprehensive income is as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Share of profit using equity method	¥9,247	**¥12,631**
Share of other comprehensive income using equity method	75	**(1,009)**
Share of total shareholders' equity in total comprehensive income	¥9,322	**¥11,622**

Note 17

Other Financial Assets

The breakdown of other financial assets is as follows:

Millions of yen

	As of March 31, 2018	As of March 31, 2019
Stocks and investments	¥200,347	**¥192,413**
Certificate of deposits	98,000	**129,500**
Accounts receivable	41,235	**41,507**
Time deposits	65,563	**36,560**
Bonds	31,710	**30,000**
Other	57,047	**48,403**
Allowance for doubtful accounts	(2,048)	**(1,550)**
Total	¥491,854	**¥476,833**
Current assets	¥247,365	**¥248,262**
Non-current assets	244,489	**228,571**
Total	¥491,854	**¥476,833**

Stocks and investments are classified mainly equity financial assets measured at fair value through other comprehensive income. Certificate of deposits, accounts receivable, time deposits and bonds are classified financial assets mainly measured at amortized cost.

The major issues and fair values of equity financial assets measured at fair value through other comprehensive income are as follows:

As of March 31, 2018

Company name	Millions of yen
TOHO HOLDINGS CO., LTD.	¥8,955
SUZUKEN CO., LTD.	6,804
JFE Holdings Corporation	5,515
Alfresa Holdings Corporation	5,271
Mitsubishi UFJ Financial Group, Inc.	4,997
Tosoh Corporation	4,649
MEDIPAL HOLDINGS CORPORATION	4,634
ONO PHARMACEUTICAL CO.,LTD.	3,617
Azbil Corporation	3,469
KOATSU GAS KOGYO CO., LTD.	2,957

As of March 31, 2019

Company name	Millions of yen
SUZUKEN CO., LTD.	**¥9,924**
TOHO HOLDINGS CO., LTD.	**9,873**
Alfresa Holdings Corporation	**7,011**
MEDIPAL HOLDINGS CORPORATION	**5,591**
JFE Holdings Corporation	**4,833**
Tosoh Corporation	**3,834**
Mitsubishi UFJ Financial Group, Inc.	**3,481**
Daicel Corporation	**3,085**
KOATSU GAS KOGYO CO., LTD.	**2,862**
Mitsubishi Research Institute, Inc.	**2,790**

As well as the assets above, the Group holds financial assets measured at fair value through other comprehensive income for which quoted prices in active markets are unavailable, mainly comprising stocks related to the chemicals and oil refining sectors.

As stocks are held mainly to maintain and strengthen business and collaborative ties and financial transactions, they are designated as equity financial assets measured at fair value through other comprehensive income.

The Company endeavors to enhance the efficiency and effective use of its assets by selling (derecognizing) equity financial assets measured at fair value through other comprehensive income. Fair values upon sales and cumulative gains or losses on sales are as follows. Cumulative gains or losses (after tax) recognized in other components of equity are transferred to retained earnings at the time of sale.

Millions of yen

	Year ended March 31, 2018	Year ended March 31, 2019
Fair value	¥17,801	**¥15,148**
Cumulative gains or losses	5,254	**7,989**

Dividend income from equity financial assets measured at fair value through other comprehensive income is as follows:

Millions of yen

	Year ended March 31, 2018	Year ended March 31, 2019
Derecognized financial assets	¥ 110	**¥ 287**
Financial assets held at year-end	4,169	**4,910**

Note 18

Other Assets

The breakdown of other assets is as follows:

Millions of yen

	As of March 31, 2018	As of March 31, 2019
Accrued income tax	¥24,821	**¥31,510**
Prepaid expenses	23,564	**28,318**
Net defined benefit assets	27,376	**25,390**
Advance payment	7,207	**7,258**
Other	15,227	**17,169**
Total	¥98,195	**¥109,645**
Current assets	62,050	**76,072**
Non-current assets	36,145	**33,573**
Total	¥98,195	**¥109,645**

Note 19

Inventory

The breakdown of inventory is as follows:

Millions of yen

	As of March 31, 2018	As of March 31, 2019
Finished goods	¥354,129	**¥365,278**
Raw materials and supplies	176,985	**177,863**
Work in process	76,557	**79,908**
Total	¥607,671	**¥623,049**

Inventories measured at net realizable value as of March 31, 2018 and March 31, 2019 were ¥78,463 million and ¥96,463 million, respectively.

In the years ended March 31, 2018 and 2019, write-downs of inventories recognized as expenses were ¥6,687 million and ¥7,483 million, respectively.

Note 20

Trade Receivables

The breakdown of trade receivables is as follows:

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Accounts receivable	¥859,469	**¥863,364**
Allowance for doubtful accounts	(4,665)	**(8,257)**
Total	¥854,804	**¥855,107**

Trade receivables are classified as financial assets measured at amortized cost.

Note 21

Cash and Cash Equivalents

The breakdown of cash and cash equivalents is as follows:

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Cash and deposits	¥205,934	**¥219,968**
Short-term investments	71,690	**101,573**
Total	¥277,624	**¥321,541**

Note 22

Assets Held for Sale

The breakdowns of assets held for sale and directly related liabilities are as follows:

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Assets held for sale:		
Cash and cash equivalents	¥ 253	**¥ 2,152**
Trade receivables	353	**5,165**
Inventories	390	**7,359**
Property, plant and equipment	693	**1,782**
Other financial assets	407	**532**
Others	43	**820**
Total	¥2,139	**¥17,810**
Liabilities related directly to assets held for sale:		
Trade payables	¥ 292	**¥ 2,090**
Other financial liabilities	23	**3,563**
Provision	—	**5,169**
Others	49	**901**
Total	¥ 364	**¥ 11,723**

Assets held for sale and directly related liabilities as of March 31, 2019, were the recording media and other global businesses of the Verbatim Group, as subsidiary of Mitsubishi Chemical Media Co., Ltd. (MCM), a consolidated subsidiary of the Group in the performance products segment, and covered sales of assets related to those businesses of MCM.

Assets held for sale and liabilities related directly to them are classified as held for sale based on a resolution of the Corporate Executive Officers Committee on March 28, 2019.

On June 14, 2019, MCM entered into a transfer agreement relating to the above business with CMC Magnetics Corporation of Taiwan to strengthen portfolio management. The fair value is based on the price negotiated with the seller. The hierarchy is Level 3.

Of the difference between the fair value (expected selling price) after deducting selling costs and the book value, the estimated loss exceeding the book value of non-current assets is posted as a provision for loss on business liquidation.

As of March 31, 2018 and 2019, the amount of other components of equity relating to assets held for sale was ¥(264) million and ¥(528) million, respectively.

Note 23

Capital

1. Common stock and Treasury Stock

Number of shares authorized and issued is as follows:

Thousands of shares

	Year ended March 31, 2018	**Year ended March 31, 2019**
Number of shares authorized	6,000,000	**6,000,000**
Number of shares issued:		
At the beginning of the period	1,506,288	**1,506,288**
Increase (decrease)	—	**—**
At the end of the period	1,506,288	**1,506,288**

The Company's shares are ordinary shares without par value. The shares issued were fully paid.

Changes in the number of shares of treasury stock during the year are as follows:

Thousands of shares

	Year ended March 31, 2018	**Year ended March 31, 2019**
At the beginning of the period	67,025	**66,902**
Increase (note 1)	57	**19,584**
Decrease (note 2)	(180)	**(84)**
At the end of the period	66,902	**86,402**

Notes:

1. An increase in the number of shares of treasury stock in the year ended March 31, 2018 was due to purchases of shares of less than one unit.
   An increase in the number of shares of treasury stock in the year ended March 31, 2019 was due to the acquisition of 19,549,000 shares through a resolution of the Board of Directors and the purchase of 35,000 shares of less than one unit.
2. A decrease in the number of shares of treasury stock in the year ended March 31, 2018 was due to the payment of 179,000 shares through the exercise of stock options and the sale of 1,000 shares of less than one unit.
   A decrease in the number of shares of treasury stock in the year ended March 31, 2019 was due to the payment of 71,000 shares through the exercise of stock options, 9,000 shares from the Board Incentive Plan trust, and the sale of 3,000 shares of less than one unit.
3. The Company stocks held by the Board Incentive Plan trust are included.
   March 31, 2018 – March 31, 2019 3,285,000 shares

2. Additional paid-in capital and Retained Earnings

Additional paid-in capital comprises amounts arising from capital transactions that are not included in common stock. The main component is legal capital surplus and other capital surplus. Retained earnings comprise legal retained earnings and other retained earnings.

The Japanese Company Law mandates that at least half of paid-in capital be appropriated as common stock and the rest be appropriated as a legal reserve within the legal capital surplus. Under that law, the legal capital surplus can be incorporated in common stock by resolution at a shareholders' meeting.

Amounts classified as equity elements at the time of issuance of convertible bond type bonds with stock acquisition rights are included in other capital surplus as a capital element of compound financial products.

That law requires that 10% of the surplus appropriated for dividends be retained until the total amount of the legal capital surplus and legal retained earnings reaches a quarter of the amount of common stock. The accumulated legal retained earnings can be appropriated for deficit disposition, and legal retained earnings may be available for dividends by resolution at a shareholders' meeting.

3. Other Components of Equity

Other components of equity are as follows:

(Financial Assets Measured at Fair Value through Other Comprehensive Income)
Unrealized gains on financial assets are measured at fair value through other comprehensive income.

(Remeasurement of Defined Benefit Pension Plans)
This remeasurement is for differences between actuarial assumptions at the beginning of the year and actual experience and the effects of changes in actuarial assumptions. This amount is recognized in other comprehensive income when it occurs and is immediately transferred from other components of equity to retained earnings.

(Exchange Differences on Translation of Foreign Operations)
These adjustments result from consolidating the financial statements of foreign operations.

(Effective Portion of Net Change in Fair Value of Cash Flow Hedges)
This is the cumulative amount of effective portions of hedges from gains or losses arising from changes in the fair value of hedging instruments relating to cash flow hedges.

Note 24

Dividends

Dividends paid to shareholders are as follows:

Year ended March 31, 2018

Date of approval	Resolution approved by	Type of shares	Amount (Millions of yen)	Amount per share (Yen)	Entitlement date	Effective date
May 17, 2017	Board of Directors	Common stock	¥17,271	¥12	March 31, 2017	June 6, 2017
November 2, 2017	Board of Directors	Common stock	¥21,590	¥15	September 30, 2017	December 4, 2017

Year ended March 31, 2019

Date of approval	Resolution approved by	Type of shares	Amount (Millions of yen)	Amount per share (Yen)	Entitlement date	Effective date
May 16, 2018	Board of Directors	Common stock	¥24,470	¥17	March 31, 2018	June 5, 2018
November 1, 2018	Board of Directors	Common stock	¥28,463	¥20	September 30, 2018	December 4, 2018

Note: Total dividends from a resolution of the Board of Directors on November 1, 2018, included ¥66 million in dividends of the Company stock held by the Board Incentive Plan trust.

Dividends with a record date in the year ended March 31, 2019, with an effective date in the following fiscal year are as follows:

Year ended March 31, 2019

Date of approval	Resolution approved by	Type of shares	Amount (Millions of yen)	Paid from	Amount per share (Yen)	Entitlement date	Effective date
May 22, 2019	Board of Directors	Common stock	¥28,463	Retained earnings	¥20	March 31, 2019	June 4 2019

Note: Total dividends included ¥66 million in dividends of the Company stock held by the Board Incentive Plan trust.

Note 25

Other Comprehensive Income

Changes in each item of other comprehensive income during the year are as follows:

	Year ended March 31, 2018 (Millions of yen)	**Year ended March 31, 2019** (Millions of yen)
Financial assets measured at fair value through other comprehensive income:		
Amounts arising during period	¥ 13,929	**¥ 7,629**
Tax effects	(4,247)	**(2,886)**
Net amount	¥ 9,682	**¥ 4,743**
Remeasurements of defined benefit pension plans:		
Amounts arising during period	¥ 31,452	**¥ (6,227)**
Tax effects	(9,282)	**1,745**
Net amount	¥ 22,170	**¥ (4,482)**
Exchange differences on translation of foreign operations:		
Amounts arising during period	¥ (13,713)	**¥ (6,848)**
Reclassification adjustments	166	**1,032**
Tax effects	(51)	**65**
Net amount	¥ (13,598)	**¥ (5,751)**
Effective portion of net change in fair value of cash flow hedges:		
Amounts arising during period	¥ 1,157	**¥ (3,220)**
Reclassification adjustments	2,068	**(1,322)**
Tax effects	(947)	**1,390**
Net amount	¥ 2,278	**¥ (3,152)**
Share of other comprehensive income (loss) of investments accounted for using equity method:		
Amounts arising during period	¥ 596	**¥ (2,193)**
Reclassification adjustments	(14)	**4**
Net amount	¥ 582	**¥ (2,189)**
Total other comprehensive income	¥ 21,114	**¥(10,831)**

Note 26

Share-based Payment

1. Stock Option System

(1) Details of Equity-Settled Share-Based Compensation Plan

Based on a resolution of the Remuneration Committee, the Company issues share-based compensation stock options as a form of performance-related payment to its corporate executive officers (directors excluding outside directors until the year ended March 31, 2015. The same shall apply hereinafter) and executive officers who will share with shareholders not only the benefits due to a rise in the Company's stock price but also losses due to a decline in the stock price as an incentive to boost corporate performance and enhance medium- to long-term corporate value taking into consideration the Company's financial results for each fiscal year as well as the status of achieving of business targets by the corporate executive officers or executive officers (including those who have the retired) based on their degree of contribution, etc.

All stock options that the Company issues are equity-settled share-based compensation. There are no vesting conditions. The exercise period is principally 20 years from the date of grant, and is, in principle, effective for 5 years from the day after the first year after recipients lose their status as director, executive officer, executive, or corporate auditor of the Company and/or its subsidiaries.

In line with the deployment of a share-based compensation plan using the Board Incentive Plan trust, there will be no new share-based compensation stock option grants from the fiscal year ending March 2020.

(2) Changes in the Number of Stock Options

		Number of shares
	Year ended March 31, 2018	**Year ended March 31, 2019**
Outstanding at the beginning of the period	937,100	**921,300**
Granted	162,750	**178,500**
Exercised	(178,550)	**(71,300)**
Forfeited	—	**—**
Expired	—	**—**
Outstanding at the end of the period	921,300	**1,028,500**
Exercisable at the end of the period	91,550	**123,350**

The exercise price for all stock options is ¥1 per share.

The weighted average share prices for exercised stock options were ¥1,016.7 and ¥967.8 in the years ended March 31, 2018 and 2019, respectively.

The weighted average remaining contractual years of stock options outstanding at year-end were 13.2 years and 11.4 years as of March 31, 2018 and 2019, respectively.

(3) Fair Value of Stock Options

The weighted average fair value of stock options granted in years ended March 31, 2018 and 2019 as of the measurement date were ¥887 and ¥834, respectively.

The Company employs the Black-Scholes model to calculate the fair value of stock options, using the following assumptions.

		Millions of yen
	Year ended March 31, 2018	**Year ended March 31, 2019**
Share price	¥974.2	**¥954.7**
Share price volatility (note 1)	32.917%	**31.808%**
Expected period (note 2)	4.52years	**3.98years**
Expected dividends (note 3)	¥20 per share	**¥32 per share**
Risk-free interest rate (note 4)	(0.070)%	**(0.102)%**

Notes: 1. Calculated based on the daily share price over the past 4.52 years and 3.98 years for the fiscal years ended March 31, 2018 and 2019, respectively.
2. Using a period up to the expected average exercise time from the grant date.
3. Based on the latest dividends for each fiscal year.
4. The yield on Japanese government bonds for the expected period.

(4) Share-Based Compensation Expenses

Stock option-related expenses were ¥ 144 million and ¥149 million in the years ended March 31, 2018 and 2019, respectively, and were posted in Selling, general and administrative expenses in the Consolidated Statement of Income.

For stock options that do not have vesting conditions, bulk expenses are applied at the time of grant.

2. Share-Based Compensation Plans using Board Incentive Plan Trusts of the Company and Mitsubishi Chemical Corporation

(1) Details of Share-Based Compensation Plans

In the year ended March 31, 2019, the Company and Mitsubishi Chemical Corporation began offering performance-based share compensation plans (“the Plans”) to executive officers and directors (excluding non-residents of Japan, the same applying hereafter) and the president & CEO of Mitsubishi Chemical Corporation and to directors and executives concurrently serving as executive officers (excluding nonresidents of Japan; executive officers and directors collectively referred to as executive officers below).

The Plans cover five consecutive fiscal years (initially, three through the fiscal year ending March 2021) that correspond to the period covered by the Company’s medium-term management plan. Based on assessments of progress toward corporate performance targets, each executive officer is granted a number of points each year according to that person’s position. The Company stocks equivalent to accumulated points calculated after the retirements of executive officers (1 point = 1 share) are provided as executive remuneration.

The Plans employ the Board Incentive Plan trust. The Company and Mitsubishi Chemical Corporation contribute funds to acquire the Company stocks through the trust, which delivers the shares to executive officers.

The Plans are accounted for as equity-settled share-based compensation.

(2) Number of Points Granted during the Period and Weighted Average Fair Value of Points

The number of points granted during the period and weighted average fair value of points are as follows. The fair value on the day points were granted uses the share price on that day since the share price on the day of grant is a close approximation of fair value.

	Year ended March 31, 2018	**Year ended March 31, 2019**
Number of points granted during the period	—	**464,540**
Weighted average fair value of points (yen)	—	**991**

(3) Share-Based Compensation Expenses

Stock option-related expenses were ¥460 million in the year ended March 31, 2019. These expenses were presented within Selling, general and administrative expenses and Cost of sales in the Consolidated Statement of Income.

3. Share-Based Compensation Plan using the Board Incentive Plan Trust of Mitsubishi Tanabe Pharma Corporation

(1) Details of Share-based Compensation Plan

Mitsubishi Tanabe Pharma Corporation (MTPC), a consolidated subsidiary of the Company, has introduced a performance-based share compensation plan (hereinafter, “the plan”) from the fiscal year ended March 31, 2018. The plan clarifies the linkage between remuneration of MTPC’s board directors and executive officers (excluding non-residents of Japan and outside board directors; hereinafter “MTPC directors and executive officers”) and the MTPC group’s business performance. The objectives of introducing the plan are to provide incentives to MTPC directors and executive officers to strive for sustained growth of the MTPC group and enhance medium- to long-term corporate value, as well as raise management team morale. These objectives will be achieved by sharing with shareholders not only the benefits of rises in MTPC’s share price but also the risk of share price decline.

MTPC has adopted a Board Incentive Plan (BIP) trust as the structure for the plan. Under the plan, MTPC shares are acquired through the trust using money contributed by MTPC as the source of funds. In accordance with “Rules relating to grant of shares” established by MTPC, from the date of commencement of the plan, points (1 point = 1 share) are granted to MTPC directors and executive officers each year on the final day of the fiscal year during the period in which the plan applies. Vesting conditions include the requirement that the recipient is a current office holder as an MTPC director or executive officer, and points are granted according to office held and the degree of achievement of performance targets. In principle, when MTPC directors and executive officers retire from office, by carrying out the prescribed beneficiary vesting procedures, they are able to receive shares of the Company, with the number of shares corresponding to the number of points granted.

The plan is accounted for as equity-settled share-based compensation.

(2) Number of Points Granted during the Period and Weighted Average Fair Value of Points

The number of points granted during the period and weighted average fair value of points are as follows. The fair value on the day points were granted uses the share price on that day since the share price on the day of grant is a close approximation of fair value.

	Year ended March 31, 2018	**Year ended March 31, 2019**
Number of points granted during the period	15,259	**11,975**
Weighted average fair value of points (yen)	2,582	**2,532**

(3) Share-Based Compensation Expenses

Stock option-related expenses were ¥41 million and ¥33 million in the years ended March 31, 2018 and 2019, respectively. These expenses were presented within Selling, general and administrative expenses in the Consolidated Statement of Income.

Note 27

Retirement Benefits

The Company's consolidated subsidiaries maintain lump-sum retirement and retirement benefit plans. The retirement benefit plans are defined benefit (fund- and contract-type) and defined contribution plans. Some consolidated subsidiaries also maintain welfare pension plans.

1. Defined Benefit Plans

The defined benefit plans of the Company's consolidated subsidiaries are mainly cash balance pension plans. Benefits under these plans are based on such conditions as years of service, points gained from results and contributions during employment. Investment yields are determined after taking into consideration the yields of 10-year national government bonds.

Cash balance pension plans are managed by corporate pension funds that are legally separated from the consolidated subsidiaries of the Company pursuant to Japan's Defined Benefit Corporate Pension Plan Act. Consolidated subsidiaries, or pension fund directors, and pension investment management institutions are legally required to accord top priority to plan participants, and must manage plan assets based on prescribed policies.

Contract-type cash balance plans are run in line with Bureau of Health and Welfare-approved pension provisions. The management and operation of reserve funds is through contracts with trust banks and other entrusted management institutions on the basis of duty of care and damages stipulations for trustees.

Funded cash balance pension plans are run by corporate pension funds. If fund directors neglect to faithfully discharge their duties concerning reserve management and operations, they assume liability for fund damages.

Defined benefit plan amounts in the Consolidated Statement of Financial Position are as follows:

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Present value of the defined benefit obligation	¥613,261	**¥617,139**
Fair value of the plan assets	(529,998)	**(521,713)**
Net defined benefit liabilities	¥ 83,263	**¥ 95,426**
Retirement benefit liabilities	¥110,639	**¥120,816**
Retirement benefit assets	(27,376)	**(25,390)**
Net defined benefit liabilities	¥ 83,263	**¥ 95,426**

For defined benefit plans, amounts recognized as expenses in the Consolidated Statement of Income are as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Current service cost	¥18,974	**¥19,091**
Prior service cost	5,482	**31**
Interest expense	4,952	**4,477**
Interest income	(4,254)	**(3,913)**
Total	¥25,154	**¥19,686**

Changes in the present value of the defined benefit obligation are as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Outstanding at the beginning of the period	¥630,280	**¥613,261**
Current service cost	18,974	**19,091**
Interest expense	4,952	**4,477**
Remeasurements:		
Actuarial gains and losses arising from changes in demographic assumptions	(1,396)	**41**
Actuarial gains and losses arising from changes in financial assumptions	(2,257)	**5,466**
Other	(605)	**1,349**
Benefits paid	(41,913)	**(37,797)**
Prior service cost	5,482	**31**
Acquisitions through business combinations	—	**12,817**
Exchange differences on translation of foreign operations	(256)	**(1,597)**
Outstanding at the end of the period	¥613,261	**¥617,139**

Changes in the fair value of plan assets are as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Outstanding at the beginning of the period	¥531,840	**¥529,998**
Interest income	4,254	**3,913**
Remeasurements:		
Return on plan assets	27,194	**629**
Contributions by the employer	10,380	**13,563**
Benefits paid	(38,272)	**(32,429)**
Acquisitions through business combinations	—	**5,275**
Exchange differences on translation of foreign operations	(5,398)	**764**
Outstanding at the end of the period	¥529,998	**¥521,713**

The principal actuarial assumptions used to calculate present values of defined benefit obligations are as follows:

	As of March 31, 2018	**As of March 31, 2019**
Discount rate	0.64%	**0.57%**

In the event of a 0.5% increase or decrease in the discount rate, the principal actuarial assumption, the impact on the present value of defined benefit obligation as of March 31, 2018 and 2019 would be as follows. This sensitivity analysis assumes that all actuarial assumptions other than that subject to analysis are held constant.

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Increase by 0.5%	¥(32,970)	**¥(33,558)**
Decrease by 0.5%	25,902	**21,757**

Note: The discount rate is determined by referring to yields on high-quality bonds with maturities similar to periods in which benefits are anticipated. The sensitivity analysis is therefore based on a minimum reasonable discount rate of 0%.

The fair value of plan assets are as follows:

As of March 31, 2018

Millions of yen

	Fair value with quoted prices in active markets	Fair value without quoted prices in active markets	Total
Cash and cash equivalents	¥ 25,424	¥ —	¥ 25,424
Equity instruments			
Domestic equities	42,568	—	42,568
Foreign equities	31,401	—	31,401
Other	—	76,579	76,579
Debt instruments			
Domestic bonds	9,043	—	9,043
Foreign bonds	39,077	—	39,077
Other	—	167,690	167,690
General accounts of life insurance companies	—	97,564	97,564
Other	—	40,652	40,652
Total	¥147,513	¥382,485	¥529,998

As of March 31, 2019

Millions of yen

	Fair value with quoted prices in active markets	Fair value without quoted prices in active markets	Total
Cash and cash equivalents	**¥ 15,601**	**¥ —**	**¥ 15,601**
Equity instruments			
Domestic equities	**37,550**	**—**	**37,550**
Foreign equities	**33,413**	**—**	**33,413**
Other	**—**	**101,119**	**101,119**
Debt instruments			
Domestic bonds	**8,766**	**—**	**8,766**
Foreign bonds	**25,256**	**—**	**25,256**
Other	**—**	**168,237**	**168,237**
General accounts of life insurance companies	**—**	**103,260**	**103,260**
Other	**—**	**28,511**	**28,511**
Total	**¥120,586**	**¥401,127**	**¥521,713**

The Company's consolidated subsidiaries secure the total investment returns required within an acceptable range of risk to sufficiently fund payments of pension benefits and lump-sum payments, and endeavor to minimize long-term contributions and amass financing for payments of benefits.

To achieve targeted rates of return, management sets percentages of policy assets based on medium- to long-term perspectives, reviewing them regularly, and endeavors to maximize returns in keeping with risk assumptions.

Standard and special contributions to defined benefit plans cover the expenses necessary to provide benefits.

In keeping with laws and regulations, the Company regularly recalculates pension financing to balance pension funding for the future. The recalculations review basal rates (including projected mortality, withdrawal, and interest rates) related to setting contributions, and validating premiums.

Scheduled contributions to plan assets for the year ending March 31, 2020 are ¥16,200 million.

The Company's consolidated subsidiaries may pay premium benefits to employees on retirement.

Some domestic consolidated subsidiaries have established retirement benefits trusts.

The weighted average durations of defined benefit plan obligations as of March 31, 2018 and March 31, 2019 were13.1 years and 10.8 years, respectively.

2. Defined Contribution and Public Plans

Amounts recognized as expenses under defined contribution and public plans are as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Defined contribution plan cost	¥ 6,662	**¥ 8,451**
Public plan cost	20,075	**24,821**

Note 28

Provisions

The breakdowns and schedule of provisions are as follows:

Year ended March 31, 2018

Millions of yen

	Asset retirement obligations	Provision for litigation	Provision for environmental measures	Other	Total
As of April 1, 2017	¥15,584	¥7,961	¥2,425	¥5,105	¥31,075
Arising during the year	1,412	1,401	3,399	7,166	13,378
Interest cost associated with passage of time	201	12	—	—	213
Utilized	(97)	(775)	(2,309)	(911)	(4,092)
Unused amounts reversed	(205)	(28)	(45)	(1,778)	(2,056)
Exchange differences on translation of foreign operations	(24)	—	(4)	(159)	(187)
Other	(168)	—	—	12	(156)
As of March 31, 2018	¥16,703	¥8,571	¥3,466	¥9,435	¥38,175
Current liabilities	¥137	¥ —	¥1,207	¥6,119	¥ 7,463
Non-current liabilities	16,566	8,571	2,259	3,316	30,712
Total	¥16,703	¥8,571	¥3,466	¥9,435	¥38,175

Year ended March 31, 2019

	Asset retirement obligations	Provision for litigation	Provision for environmental measures	Other	Total
					Millions of yen
As of April 1, 2018	**¥16,703**	**¥8,571**	**¥3,466**	**¥9,435**	**¥38,175**
Arising during the year	**1,414**	**992**	**1,054**	**7,065**	**10,525**
Interest cost associated with passage of time	**557**	**12**	**—**	**57**	**626**
Utilized	**(146)**	**(1,974)**	**(1,462)**	**(5,665)**	**(9,247)**
Unused amounts reversed	**(139)**	**—**	**—**	**(2,672)**	**(2,811)**
Exchange differences on translation of foreign operations	**427**	**—**	**3**	**108**	**538**
Other	**(878)**	**—**	**—**	**(338)**	**(1,216)**
As of March 31, 2019	**¥17,938**	**¥7,601**	**¥3,061**	**¥7,990**	**¥36,590**
Current liabilities	**¥29**	**¥ —**	**¥ 841**	**¥7,426**	**¥ 8,296**
Non-current liabilities	**17,909**	**7,601**	**2,220**	**564**	**28,294**
Total	**¥17,938**	**¥7,601**	**¥3,061**	**¥7,990**	**¥36,590**

Asset retirement obligations
The Company covers recovery obligations for the rental real estate of the Group by recording projected payments based on historical amounts. These expenses are expected to be paid after one year or more; however, they may be affected by future business plans.

Reserves for Possible Losses in Connection with Litigation
Reserves for possible losses in connection with litigation are set aside for payments to settle lawsuits and in preparation for payments that may arise in the future. The main provisions for loss on litigation are as follows:

(1) Reserve for Health Management Allowances for HIV Compensation

To provide for future payments of health management allowances and settlement payments (including attorney fees) in connection with a lawsuit for damages filed by plaintiffs infected with HIV, the consolidated subsidiary, Mitsubishi Tanabe Pharma Corporation (MTPC) has set aside an estimated amount for such future payments.

In accordance with the finalization of the settlement concluded in March 1996, regarding the health management allowances, the present value of the estimated amounts to be paid in the future calculated based on the actual payment record up to the present time for AIDS patients who have reached a settlement is recognized. Regarding settlements, the corresponding estimated amounts calculated based on the actual settlements record up to the present time for HIV plaintiffs as of March 31, 2019 and HIV-infected patients due to anti-haemophilia preparations (unheated concentrate) who have not filed lawsuits are recognized.

(2) Reserve for Health Management Allowances for Sub-acute Myelo-Optical Neuropathy (SMON) Compensation

MTPC has made a provision in the accompanying consolidated financial statements for the estimated future medical treatment payments to be made over the remaining lives of the parties entitled to such payments under the compromise settlement.

(3) Reserve for HCV Litigation

To provide for losses that may arise in the future from a settlement of lawsuits filed by plaintiffs infected with HCV (hepatitis C virus), MTPC has set aside an estimated amount for payments related to such settlement based on estimates of the number of people receiving relief and the amount of relief payments required under a law which stipulates that relief be provided to people who contacted hepatitis C from specific fibrinogen products or specific coagulation factor IX products.

Reserve for environmental measures
The Company records estimated losses to cover future losses from construction and environmental remediation activities. These expenses are expected to be paid after one year or more; however, they may be affected by future business plans.

Note 29

Bonds and Borrowings

The breakdown of bonds and borrowings is as follows:

	As of March 31, 2018	**As of March 31, 2019**
		Millions of yen
Short-term borrowings	¥ 349,641	**¥ 771,340**
Current portion of long-term borrowings	116,025	**180,873**
Commercial paper	24,000	**68,000**
Current portion of bonds	65,000	**60,000**
Loans due to the transfer of trade receivables	22,410	**24,322**
Loans due to the transfer of trade receivables of subsidiaries	3,778	**4,108**
Bonds	320,000	**392,065**
Convertible bond-type bonds with subscription rights to shares	148,027	**148,403**
Long-term borrowings	557,241	**597,640**
Total	¥1,606,122	**¥2,246,751**
Current liabilities	¥580,854	**¥1,108,643**
Non-current liabilities	1,025,268	**1,138,108**
Total	¥1,606,122	**¥2,246,751**

Bonds and borrowings are classified as financial liabilities measured at amortized cost.

The average interest rates for short- and long-term borrowings as of March 31, 2018 were 1.001% and 1.493%, respectively.

The average interest rates for short- and long-term borrowings as of March 31, 2019 were 0.736% and 1.585%, respectively.

Repayment terms for long-term borrowings are from 2019 to 2059.

Loans due to the transfer of trade receivables are liabilities for transfers that do not meet the criteria for derecognition as financial assets.

Borrowings by consolidated subsidiaries from trade receivable transfers are liabilities related to transfers to consolidated subsidiaries.

The breakdown of bonds is as follows:

Millions of yen

Note	Name of bond	Term	Interest rate	As of March 31, 2018	**As of March 31, 2019**
1	2nd unsecured bond	2011-2021	1.204%	¥ 10,000	**¥ 10,000**
1	4th unsecured bond	2012-2019	0.556%	10,000	**10,000**
1	6th unsecured bond	2012-2019	0.665%	10,000	**10,000**
1	7th unsecured bond	2013-2018	0.615%	20,000	**—**
1	8th unsecured bond	2013-2020	0.948%	10,000	**10,000**
1	9th unsecured bond	2013-2023	1.226%	10,000	**10,000**
1	10th unsecured bond	2013-2018	0.319%	10,000	**—**
1	11th unsecured bond	2013-2020	0.604%	15,000	**15,000**
1	12th unsecured bond	2013-2023	0.918%	15,000	**15,000**
1	13th unsecured bond	2014-2019	0.319%	25,000	**25,000**
1	14th unsecured bond	2014-2021	0.482%	15,000	**15,000**
1	15th unsecured bond	2014-2024	0.800%	15,000	**15,000**
1	16th unsecured bond	2015-2022	0.433%	10,000	**10,000**
1	17th unsecured bond	2015-2025	0.755%	10,000	**10,000**
1	18th unsecured bond	2015-2020	0.281%	20,000	**20,000**
1	19th unsecured bond	2015-2022	0.476%	10,000	**10,000**
1	20th unsecured bond	2015-2025	0.711%	10,000	**10,000**
1	21st unsecured bond	2016-2021	0.120%	10,000	**10,000**
1	22nd unsecured bond	2016-2026	0.320%	10,000	**10,000**
1	23rd unsecured bond	2016-2036	0.850%	20,000	**20,000**
1	24th unsecured bond	2018-2028	0.370%	15,000	**15,000**
1	25th unsecured bond	2018-2038	0.890%	15,000	**15,000**
1	26th unsecured bond	2018-2028	0.410%	—	**12,000**
1	27th unsecured bond	2018-2038	1.000%	—	**8,000**
1	28th unsecured bond	2008-2048	1.380%	—	**5,000**
2	37th unsecured bond	2008-2018	2.030%	20,000	**—**
2	38th unsecured bond	2009-2019	2.020%	10,000	**10,000**
3	6th unsecured bond	2009-2019	1.940%	5,000	**5,000**
4	11th unsecured bond	2014-2019	0.319%	15,000	**—**
4	12th unsecured bond	2014-2021	0.558%	10,000	**10,000**
4	13th unsecured bond	2016-2021	0.140%	15,000	**15,000**
4	14th unsecured bond	2016-2026	0.390%	15,000	**15,000**
5	1st series deferrable interest and callable unsecured subordinated bonds	2019-2054	1.410%	—	**99,153**
6	2nd series deferrable interest and callable unsecured subordinated bonds	2019-2059	1.870%	—	**7,912**
	Subtotal			¥385,000	**¥452,065**
1	Zero coupon convertible bond-type bonds with subscription rights to shares due 2022	2017-2022	0.196%	74,415	**74,561**
1	Zero coupon convertible bond-type bonds with subscription rights to shares due 2024	2017-2024	0.312%	73,612	**73,842**
	Subtotal			148,027	**148,403**
	Total			¥533,027	**¥600,468**

Notes:
1. These corporate bonds are issued by the Company.
2. These corporate bonds are issued by Mitsubishi Chemical Corporation, a domestic consolidated subsidiary. As of March 28, 2016, the Company began managing the bonds because the company took over them based on the absorption-type company split.
3. This corporate bond is issued by Mitsubishi Plastic, Inc. (now Mitsubishi Chemical Corporation), a domestic consolidated subsidiary. As of March 28, 2016, the Company began managing the bond because the company took over it based on the absorption-type company split.
4. These corporate bonds are issued by Taiyo Nippon Sanso Corporation, a domestic consolidated subsidiary.
5. These corporate bonds are issued by Taiyo Nippon Sanso Corporation, a domestic consolidated subsidiary. A fixed interest rate from the day following January 29, 2019 to January 29, 2024 and a variable interest rate from the day following January 29, 2024 (with a step-up in the interest rate scheduled for January 30, 2024).
6. These corporate bonds are issued by Taiyo Nippon Sanso Corporation, a domestic consolidated subsidiary. A fixed interest rate from the day following January 29, 2019 to January 29, 2029 and a variable interest rate from the day following January 29, 2029 (with a step-up in the interest rate scheduled for January 30, 2029).

Assets pledged as collateral and collateralized obligations are as follows:
Assets pledged as collateral

Assets pledged as collateral and collateralized obligations are as follows:
Assets pledged as collateral

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Buildings and structures	¥ 6,595	**¥ 6,248**
Machinery and vehicles	9,892	**11,979**
Land	7,699	**6,667**
Other	1,402	**763**
Total	¥25,588	**¥25,657**

Collateralized obligations

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Trade payables	¥ 1,732	**¥ 389**
Short-term borrowings	51	**49**
Current portion of long-term borrowings	1,857	**1,486**
Long-term borrowings	5,778	**6,882**
Other	104	**50**
Total	¥ 9,522	**¥ 8,856**

Note 30

Changes in Liabilities Relating to Financing Activities

Changes in liabilities relating to financing activities are as follows:

Year ended March 31, 2018

Millions of yen

	Short-term borrowings	Commercial paper	Long-term borrowings (Note)	Bonds (Note)
As of April 1, 2017	¥356,713	¥40,000	¥754,377	¥542,652
Cash flows	25,243	(16,000)	(67,378)	(10,172)
Increase (decrease) due to transfer to liabilities related directly associated with assets held for sale	(199)	—	(983)	—
Changes from acquisition or loss of control over subsidiaries or other businesses	(1,480)	—	5	—
Impact of foreign exchange rate fluctuations, etc.	(4,448)	—	(12,755)	547
As of March 31, 2018	¥375,829	¥24,000	¥673,266	¥533,027

Note: Including amounts due or scheduled for redemption within one year.

Year ended March 31, 2019

Millions of yen

	Short-term borrowings	Commercial paper	Long-term borrowings (Note)	Bonds (Note)
As of April 1, 2018	**¥375,829**	**¥24,000**	**¥673,266**	**¥533,027**
Cash flows	**428,298**	**44,000**	**90,228**	**67,036**
Increase (decrease) due to transfer to liabilities related directly associated with assets held for sale	**(400)**	**—**	**—**	**—**
Changes from acquisition or loss of control over subsidiaries or other businesses	**841**	**—**	**5,978**	**—**
Impact of foreign exchange rate fluctuations, etc.	**(4,798)**	**—**	**9,041**	**405**
As of March 31, 2019	**¥799,770**	**¥68,000**	**¥778,513**	**¥600,468**

Note: Including amounts due or scheduled for redemption within one year.

Note 31

Other Financial Liabilities

The breakdown of other financial liabilities is as follows:

Millions of yen

	As of March 31, 2018	As of March 31, 2019
Accounts payable-other	¥ 115,030	**¥ 124,855**
Accrued expenses	64,161	**75,174**
Lease obligations	17,334	**16,329**
Deposits	8,169	**8,699**
Other	25,688	**24,075**
Total	¥230,382	**¥249,132**
Current liabilities	¥201,208	**¥222,377**
Non-current liabilities	29,174	**26,755**
Total	¥230,382	**¥249,132**

Other financial liabilities are mainly classified as financial liabilities measured at amortized cost.

Note 32

Lease Transactions

1. Finance Leases (Lessee)

Future minimum lease payments and the present value of future minimum lease payments are as follows:

Millions of yen

	As of March 31, 2018			As of March 31, 2019		
	Total future minimum lease payments	Future finance costs	Present value	Total future minimum lease payments	Future finance costs	Present value
Due within one year	¥ 3,741	¥ (205)	¥ 3,536	**¥ 3,849**	**¥ (184)**	**¥ 3,665**
Due after one year and not later than five years	8,782	(621)	8,161	**7,711**	**(403)**	**7,308**
Later than five years	5,795	(158)	5,637	**5,444**	**(88)**	**5,356**
Total	¥18,318	¥ (984)	¥17,334	**¥17,004**	**¥ (675)**	**¥16,329**

2. Operating Lease (Lessee)

Future minimum lease payments under noncancellable operating lease contracts are as follows:

Millions of yen

	As of March 31, 2018	As of March 31, 2019
Due within one year	¥11,795	**¥14,638**
Due after one year and not later than five years	18,788	**24,504**
Later than five years	8,526	**9,578**
Total	¥39,109	**¥48,720**

In the years ended March 31, 2018 and 2019, lease fees recognized as expenses were ¥18,318 million and ¥22,154 million, respectively.

Note 33

Other Liabilities

The breakdown of other liabilities is as follows:

Millions of yen

	As of March 31, 2018	As of March 31, 2019
Employees' bonuses	¥ 48,778	**¥ 48,537**
Employees' paid leave related obligations	31,753	**35,646**
Advances received	12,806	**14,243**
Accrued consumption taxes	15,163	**12,319**
Deferred income from out-licensing agreements	4,464	**3,777**
Social insurance premiums received	4,918	**6,199**
Other	47,240	**59,339**
Total	¥165,122	**¥180,060**
Current liabilities	¥127,108	**¥138,089**
Non-current liabilities	38,014	**41,971**
Total	¥165,122	**¥180,060**

Note 34

Trade Payables

Trade payables are as follows:

Millions of yen

	As of March 31, 2018	As of March 31, 2019
Accounts payable	¥488,592	**¥492,404**

Trade payables are classified as financial liabilities measured at amortized cost.

Note 35

Financial Instruments

1. Capital Management

Under the APTSIS 20 medium-term management plan (fiscal 2016 to 2020), which commenced from the year ended March 31, 2017, the Group aims to become a fast-growing, highly profitable corporate entity through its business domains in Performance Products, Health Care and Industrial Materials. The Company aims to balance efforts to invest in growth business, bolster shareholder returns, and reinforce its financial position and thereby enhance enterprise value. Key benchmarks are core operating income, core operating income return on sales, net income attributable to owners of the parent, return on equity, and the net debt-to-equity ratio.

	As of or year ended March 31, 2018	**As of or year ended March 31, 2019**
Return on Equity (ROE) (Note 1)	17.8%	**12.7%**
Net D/E ratio (Note 2)	0.89	**1.26**

Notes:

1. Net income attributable to owners of the parent / equity attributable to owners of the parent (averages of beginning and end of fiscal years)
2. Net interest-bearing debt*1 / equity attributable to owners of the parent (end of fiscal years)
   *1Net interest-bearing debt = Interest-bearing debt - (cash and cash equivalents + cash reserves*2)
   *2 Cash reserves comprise certificates of deposits, securities, and other instruments other than cash equivalents that the Group holds to manage surplus funds.

2. Financial Risk Management

The Group is exposed to financial risks in the course of doing business in an array of fields around the world. It manages risks based on certain policies to reduce or avoid such risks. The policy with derivatives transactions is to restrict their use to actual demand. The Group does not enter into derivative transactions for speculative purposes. The relevant officers are informed about contract balances, fair value, and other elements of these transactions based on internal regulations for transaction authority and limits.

3. Credit Risk

The Group is exposed to customer credit risk for trade and other receivables acquired in the course of business. The securities that the Group holds are exposed to the credit risk of issuers. Derivatives transactions that the Group conducts to hedge financial risks are exposed to the credit risks of counterparty financial institutions.

In keeping with its credit management rules, the Group regularly monitors the trade receivables and long-term loans of major customers, oversees due dates and balances for each counterparty, and endeavors to swiftly identify and mitigate collections concerns arising from deteriorating financial positions. The Group only invests in bonds with high ratings, so credit risk is inconsequential. Derivatives transactions are only entered into with financial institutions with high credit ratings to minimize credit risk from nonperformance by counterparties. The Group prevents excessive concentrations of credit risk through special management procedures.

At the end of the fiscal year, the Group recognizes impairment losses based on historical rates to the Allowance for doubtful accounts, for significant uncollectible financial assets, and for insignificant financial assets. The Allowance for doubtful accounts relating to such assets is included in Trade receivables and Other financial assets in the Consolidated Statement of Financial Position.

Changes in the Allowance for doubtful accounts, measured at amounts equivalent to projected losses for the entire period, are as follows.

There were no significant differences between projected 12-month credit losses on loans and the projected credit losses for the entire period.

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Outstanding at the beginning of the period	¥5,811	**¥6,713**
Addition	2,277	**5,465**
Decrease (intended use)	(434)	**(1,462)**
Decrease (reversal)	(818)	**(699)**
Other	(123)	**(210)**
Outstanding at the end of the period	¥6,713	**¥9,807**

The maximum exposure to the credit risks of financial assets is the carrying amount after impairment presented in the Consolidated Statement of Financial Position.

The Group holds real estate, securities, etc. as collateral for receivables against certain customers.

Maximum exposure on credit risk of financial guarantee contracts is the amount of guarantee obligations etc. described in "Note 39 Contingent Liabilities".

4. Liquidity Risk

The Group's trade payables obligations and borrowings are exposed to liquidity risk. The Group manages this risk by producing cash plan and ensuring liquidity by maintaining commitment lines with several financial institutions.

Outstanding financial liabilities (including derivative financial instruments) by fiscal year are as follows:

As of March 31, 2018

Millions of yen

	Carrying amount	Contractual cash flow	Due within one year	Due after one year through two years	Due after two years through three years	Due after three years through four years	Due after four years through five years	Due after five years
Non-derivative financial liabilities:								
Trade payables	¥488,592	¥488,592	¥488,592	¥ —	¥ —	¥ —	¥ —	¥ —
Short-term borrowings	375,829	375,829	375,829	—	—	—	—	—
Commercial paper	24,000	24,000	24,000	—	—	—	—	—
Bonds	533,027	535,000	65,000	60,000	55,000	125,000	20,000	210,000
Long-term borrowings	673,266	673,523	116,542	174,551	108,564	68,883	54,454	150,529
Accounts payable-other	115,030	115,030	115,030	—	—	—	—	—
Accrued expenses	64,161	64,161	64,161	—	—	—	—	—
Others	50,830	51,557	23,139	4,951	3,222	2,314	1,269	16,662
Derivative liabilities:								
Foreign exchange forward contracts	¥ 105	¥ 105	¥ 105	¥ —	¥ —	¥ —	¥ —	¥ —
Currency swaps	24	24	4	4	4	4	2	6
Interest rate swaps	232	238	153	72	7	—	—	6

As of March 31, 2019

	Carrying amount	Contractual cash flow	Due within one year	Due after one year through two years	Due after two years through three years	Due after three years through four years	Due after four years through five years	Due after five years
								Millions of yen
Non-derivative financial liabilities:								
Trade payables	¥492,404	¥492,404	¥492,404	¥ —	¥ —	¥ —	¥ —	¥ —
Short-term borrowings	799,770	799,770	799,770	—	—	—	—	—
Commercial paper	68,000	68,000	68,000	—	—	—	—	—
Bonds	600,468	603,000	60,000	55,000	125,000	20,000	100,000	243,000
Long-term borrowings	778,513	780,598	181,298	114,325	84,036	64,495	96,187	240,257
Accounts payable-other	124,855	124,855	124,855	—	—	—	—	—
Accrued expenses	75,174	75,174	75,174	—	—	—	—	—
Others	48,964	49,638	23,715	4,253	2,447	1,626	1,215	16,382
Derivative liabilities:								
Foreign exchange forward contracts	¥ 38	¥ 38	¥ 38	¥ —	¥ —	¥ —	¥ —	¥ —
Currency swaps	4	4	1	1	1	1	—	—
Interest rate swaps	89	84	75	9	—	—	—	—
Others	8	8	8	—	—	—	—	—

For financial guarantee agreements, maximum amounts based on performance requests are the outstanding guaranteed liabilities described in Note 39 Contingent Liabilities.

The total commitment line and borrowing balance is as follows:

	As of March 31, 2018	**As of March 31, 2019**
		Millions of yen
Total commitment line	¥131,162	**¥131,589**
Borrowing balance	7,437	**7,769**
Unused balance	¥123,725	**¥123,820**

We are also diversifying funding, notably by obtaining uncommitment-based overdraft facilities with several financial institutions and by securing frameworks to issue commercial paper or register corporate bond issues.

5. Foreign Exchange Risk

Foreign currency denominated receivables and payables from the Group's global operations are exposed to foreign exchange fluctuation risk. The Group uses foreign exchange forward contracts and currency swaps as needed to hedge against the foreign currency risk associated with such receivables and payables.

Foreign Exchange Sensitivity Analysis

If the yen at the end of the fiscal year was 1% higher against the U.S. dollar and the euro for the foreign currency denominated financial instruments that the Group held at the year end, the impact on income before taxes in the Consolidated Statement of Income would be as follows.

This analysis is based on multiplying each currency risk exposure by 1%, based on the assumption that other variables (including other foreign exchange rates and interest rates) are held constant.

	Year ended March 31, 2018	**Year ended March 31, 2019**
		Millions of yen
U.S. dollar (1% appreciation of yen)	¥(100)	**¥(388)**
Euro (1% appreciation of yen)	(30)	**118**

6. Interest Rate Risk

Interest rate risk within the Group arises from interest-bearing debt net of cash equivalents. The Group raises funds needed to do business and make capital investments through borrowings and the issuance of corporate bonds. Borrowings and corporate bonds with floating rates are exposed to interest rate fluctuation risk.

The Group uses derivatives transactions (interest rate swaps) to hedge against interest rate fluctuation risk.

Interest Rate Sensitivity Analysis

In the event the interest rate on financial instruments that the Group holds at the end of each fiscal year increases by 100 basis points, the impact on income before taxes in the Consolidated Statement of Income would be as follows:

The analysis is for financial instruments affected by interest rate fluctuations and assumes that other factors, including the impacts of foreign exchange fluctuations, are held constant.

	Year ended March 31, 2018	**Year ended March 31, 2019**
		Millions of yen
Income before taxes	¥(1,607)	**¥(3,300)**

7. Market Price Fluctuation Risk

The Group's securities holdings are exposed to market price fluctuation risk.

With respect to securities, the Group regularly reviews the fair value and financial positions of issuers (business partners), and constantly reviews holdings by taking into account its relationships with business partners.

8. Fair Value of Financial Instruments

Financial instruments are classified into the following three-level fair value hierarchy:

Level 1: Unadjusted quoted prices for identical assets or liabilities in active markets
Level 2: Valuations measured by direct or indirect observable inputs other than Level 1
Level 3: Valuations measured by significant unobservable inputs

Whether any financial instruments are determined to have been transferred between levels is considered at year-end. There were no significant transfers between levels in the years ended March 31, 2018 and 2019.

(1) Financial instruments measured at fair value on a recurring basis

Financial assets and liabilities measured at fair value on a recurring basis were as follows:

As of March 31, 2018

	Level 1	Level 2	Level 3	Total
				Millions of yen
Assets				
Stocks and investments	¥127,192	¥ —	¥73,155	¥200,347
Stocks and investments held for sale	317	—	89	406
Derivatives	—	1,618	—	1,618
Total	¥127,509	¥1,618	¥73,244	¥202,371
Liabilities				
Derivatives	¥ —	¥ 361	¥ —	¥ 361
Total	¥ —	¥ 361	¥ —	¥ 361

As of March 31, 2019

Millions of yen

	Level 1	Level 2	Level 3	Total
Assets				
Stocks and investments	**¥108,249**	**¥ —**	**¥84,164**	**¥192,413**
Stocks and investments held for sale	**449**	**—**	**9**	**458**
Derivatives	**—**	**258**	**—**	**258**
Total	**¥108,698**	**¥ 258**	**¥84,173**	**¥193,129**
Liabilities				
Derivatives	**¥ —**	**¥ 139**	**¥ —**	**¥ 139**
Total	**¥ —**	**¥ 139**	**¥ —**	**¥ 139**

Stocks and investments

The fair value of marketable shares classified as Level 1 is based on unadjusted quoted prices in active markets for identical assets or liabilities.

The fair value of Level 3 unlisted shares and investments for which quoted prices in active markets are unavailable is calculated by using reasonably available inputs through similar company comparisons or other appropriate valuation techniques. Illiquidity discounts are added as needed.

Derivative assets and liabilities

The fair value of Level 2 derivative assets and liabilities is based on such observable inputs as prices provided by counterparty financial institutions or exchange and interest rates and such like.

The fair value of Level 3 financial instruments is calculated by valuation specialists determining valuation methods for each relevant financial instrument in accordance with valuation policies and procedures that include valuation methods for fair value calculations approved by suitably authorized personnel

Changes in Level 3 financial instruments are as follows:

Millions of yen

	Year ended March 31, 2018	**Year ended March 31, 2019**
Balance at beginning of period	¥81,875	**¥73,244**
Other comprehensive income (Note)	(1,346)	**13,354**
Purchases	1,345	**1,794**
Sales or redemptions	(4,379)	**(3,582)**
Others	(4,251)	**(637)**
Balance at end of period	¥73,244	**¥84,173**

Note: Included in “Financial assets measured at fair value through other comprehensive income” in the Consolidated Statement of Comprehensive Income

(2) Financial instruments measured at amortized cost

The carrying amounts and estimated fair values of the financial instruments measured at amortized cost are as follows:

As of March 31, 2018

Millions of yen

	Carrying amounts	Fair value			
		Level 1	Level 2	Level 3	Total
Assets:					
Debt securities	¥ 31,710	¥ —	¥ 702	¥30,960	¥ 31,662
Total	¥ 31,710	¥ —	¥ 702	¥30,960	¥ 31,662
Liabilities:					
Long-term borrowings	¥ 673,266	¥ —	¥ 672,380	¥ —	¥ 672,380
Bonds	533,027	—	539,649	—	539,649
Total	¥1,206,293	¥ —	¥1,212,029	¥ —	¥1,212,029

As of March 31, 2019

Millions of yen

	Carrying amounts	Fair value			
		Level 1	Level 2	Level 3	Total
Assets:					
Debt securities	**¥ 30,000**	**¥ —**	**¥ —**	**¥29,982**	**¥ 29,982**
Total	**¥ 30,000**	**¥ —**	**¥ —**	**¥29,982**	**¥ 29,982**
Liabilities:					
Long-term borrowings	**¥ 778,513**	**¥ —**	**¥ 793,472**	**¥ —**	**¥ 793,472**
Bonds	**600,468**	**—**	**609,081**	**—**	**609,081**
Total	**¥1,378,981**	**¥ —**	**¥1,402,553**	**¥ —**	**¥1,402,553**

The carrying amounts of financial assets and liabilities measured at amortized cost, other than debt securities, long-term borrowings and bonds presented in the tables above, are approximately the same as the fair values of such financial assets and liabilities.

Debt securities

The fair value of Level 1 bonds is based on the market price.

The fair value of Level 2 bonds is based on prices provided by counterparty financial institutions.

The fair value of Level 3 subordinated and other bonds is calculated with reference to prices provided by counterparty financial institutions.

Long-term borrowings

The fair value of Level 2 long-term loans is based on the present value, calculated by discounting the total principal and interest by the interest rate assumed for similar new borrowings.

Bonds

The fair value of Level 2 corporate bonds is based on the market price.

9. Transfers of Financial Assets

The Group transfers some operating receivables to a business entity comprising third-party financial institutions. The entity operates as part of these institutions and purchases a large amount of assets from customers other than those of the Group, so trade receivables that the Group transferred constitute a small proportion of the entity's total assets. The relevance of the Group to the assessment of exposure to the risks of this entity is therefore low.

(1) Transfers of financial assets that are not derecognized overall

As of March 31, 2018 and 2019, Trade receivables included ¥19,337 million and ¥20,097 million, respectively, of trade receivables that were transferred without satisfying financial asset derecognition requirements. Bonds and borrowings included ¥22,410 million and ¥24,322 million in transfers. These fair values approximate their carrying values. The net positions mainly stem from differences in periods for retained portions relating to sales of trade receivables and deposits of trade receivables and repayments of borrowings.

If debtors defaulted on these trade receivables, the Group would be deemed to hold most of the risks and economic value of ownership of the transferred assets, as payment obligations would revert to the Group.

(2) Transfers of financial assets that are derecognized overall
In the years ended March 31, 2018 and 2019, expenses arising from transfers of trade receivables that were derecognized in their entirety were ¥156 million and ¥224 million, respectively.

10. Derivative Transactions

(1) Derivative transactions to which hedge accounting is applied

The analysis of contract amounts of derivative transactions by due dates is as follows:

As of March 31, 2018

Millions of yen

	Contract amount	Due within one year	Due after one year through two years	Due after two years through three years	Due after three years through four years	Due after four years through five years	Due after five years
Cash flow hedges							
Foreign exchange risk:							
Foreign exchange forward contracts	¥11,888	¥11,849	¥ 39	¥ —	¥ —	¥ —	¥ —
Interest rate risk:							
Interest rate swaps	81,166	18,509	58,352	2,272	272	272	1,489
Interest rate currency swaps	14,000	14,000	—	—	—	—	—
Others	221	221	—	—	—	—	—

As of March 31, 2019

Millions of yen

	Contract amount	Due within one year	Due after one year through two years	Due after two years through three years	Due after three years through four years	Due after four years through five years	Due after five years
Cash flow hedges							
Foreign exchange risk:							
Foreign exchange forward contracts	**¥5,436**	**¥4,766**	**¥ 670**	**¥ —**	**¥ —**	**¥ —**	**¥ —**
Interest rate risk:							
Interest rate swaps	**63,893**	**60,332**	**2,284**	**284**	**284**	**284**	**425**
Others	**292**	**292**	**—**	**—**	**—**	**—**	**—**

The principal rates on forward exchange contracts and currency swap transactions and the principal rates on payments under interest rate swaps are as follows:

Millions of yen

	As of March 31, 2018	**As of March 31, 2019**
Cash flow hedges		
Foreign exchange risk:		
Foreign exchange forward contracts		
U.S. dollars	¥103.36-112.13	**¥107.13-111.82**
Euros	¥130.41-132.96	**¥124.43-131.48**
Interest rate risk		
Interest rate swaps		
Pay fixed rate, receive floating rate	0.23%-2.30%	**0.23%-2.30%**
Interest rate currency swaps		
Pay fixed rate, receive floating rate	0.59%	**—**

Amounts for derivatives designated as hedges are as follows:

As of March 31, 2018

Millions of yen

	Contract amount	Carrying amount: Assets	Carrying amount: Liabilities	Items in Consolidated Statement of Financial Position	Change in fair value of hedged item used as the basis for recognizing hedge ineffectiveness
Cash flow hedges					
Foreign exchange risk:					
Foreign exchange forward contracts	¥ 11,888	¥ 146	¥ 99	Other financial assets Other financial liabilities	¥ 894
Interest rate risk:					
Interest rate swaps	81,166	248	232	Other financial assets Other financial liabilities	805
Interest rate currency swaps	14,000	1,180	—	Other financial assets	(761)
Others	221	15	—	Other financial assets	22

As of March 31, 2019

Millions of yen

	Contract amount	Carrying amount: Assets	Carrying amount: Liabilities	Items in Consolidated Statement of Financial Position	Change in fair value of hedged item used as the basis for recognizing hedge ineffectiveness
Cash flow hedges					
Foreign exchange risk:					
Foreign exchange forward contracts	**¥ 5,436**	**¥ 46**	**¥ 27**	Other financial assets Other financial liabilities	**¥ (28)**
Interest rate risk:					
Interest rate swaps	**63,893**	**158**	**89**	Other financial assets Other financial liabilities	**53**
Interest rate currency swaps	**—**	**—**	**—**	Other financial assets	**(1,180)**
Others	**292**	**—**	**8**	Other financial assets	**(23)**

Amounts for items designated as hedges are as follows:

Millions of yen

	As of March 31, 2018		**As of March 31, 2019**	
	Change in fair value of hedged item used as the basis for recognizing hedge ineffectiveness	Cash flow hedge reserve	Change in fair value of hedged item used as the basis for recognizing hedge ineffectiveness	Cash flow hedge reserve
Cash flow hedges				
Foreign exchange risk:				
Planned to purchase	¥ (894)	¥ 55	**¥ 28**	**¥ 54**
Interest rate risk:				
Interest on borrowings	(44)	87	**1,127**	**95**
Others	(22)	31	**23**	**38**

The breakdown of cash flow hedges is as follows:

Year ended March 31, 2018

Millions of yen

	Changes in fair value of hedges recognized in other comprehensive income	Ineffective portions of hedges recognized in profit or loss	Consolidated Statement of Income items in which ineffective portions of hedges are included in profit or loss	Reclassification adjustments from cash flow hedge reserve to profit or loss	Consolidated Statement of Income items including profit from reclassification adjustments
Cash flow hedges					
Foreign exchange risk:					
Foreign exchange forward contracts	¥ 594	¥—	¥—	¥611	Financial expenses
Currency options	1,033	—	—	—	—
Interest rate risk:					
Interest rate swaps	557	—	—	433	Financial expenses
Interest rate currency swaps	65	—	—	475	Financial expenses
Others	29	—	—	—	—

Year ended March 31, 2019

Millions of yen

	Changes in fair value of hedges recognized in other comprehensive income	Ineffective portions of hedges recognized in profit or loss	Consolidated Statement of Income items in which ineffective portions of hedges are included in profit or loss	Reclassification adjustments from cash flow hedge reserve to profit or loss	Consolidated Statement of Income items including profit from reclassification adjustments
Cash flow hedges					
Foreign exchange risk:					
Foreign exchange forward contracts	**¥(2,960)**	**¥—**	**¥—**	**¥(124)**	Financial expenses
Others	**(199)**	**—**	**—**	**—**	**—**
Interest rate risk:					
Interest rate swaps	**48**	**—**	**—**	**61**	Financial expenses
Interest rate currency swaps	**(24)**	**—**	**—**	**(832)**	Financial expenses
Others	**(17)**	**—**	**—**	**—**	**—**

(2) Derivative transactions to which hedge accounting is not applied

Amounts relating to items not designated as hedges are as follows:

	As of March 31, 2018			**As of March 31, 2019**		
	Contract amount	Over one year	Fair value	Contract amount	Over one year	Fair value
Foreign exchange forward contracts	¥ 5,075	¥—	¥ (6)	**¥ 7,250**	**¥ —**	**¥ 1**
Currency swaps	795	623	5	**626**	**458**	**38**
Total	¥ 5,870	¥623	¥ (1)	**¥ 7,876**	**¥458**	**¥ 39**

Note 36

Subsidiaries Subsidiaries with significant non-controlling interests are as follows:

Name of subsidiary	Location	Percentage of non-controlling interest	
		As of March 31, 2018	**As of March 31, 2019**
Mitsubishi Tanabe Pharma Corporation	Japan, others	43.6%	**43.6%**
Taiyo Nippon Sanso Corporation	Japan, others	49.4%	**49.4%**

Net income attributable to non-controlling interests of relevant subsidiaries and dividends paid to non-controlling interests are as follows:

Millions of yen

	Year ended March 31, 2018		**Year ended March 31, 2019**	
	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation
Net income attributable to non-controlling interests	¥21,335	¥24,793	**¥10,714**	**¥21,528**
Dividends paid to non-controlling interests	16,277	5,285	**13,982**	**5,735**

Cumulative non-controlling interests of relevant subsidiaries are as follows:

Millions of yen

	As of March 31, 2018		**As of March 31, 2019**	
	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation
Cumulative non-controlling interests amounts	¥362,174	¥208,239	**¥369,091**	**¥ 219,605**

Summary financial information on relevant subsidiaries is as follows. Summary financial information below is calculated based on the amounts before elimination in consolidation, adjusting goodwill and other items recognized at the time of a business combination.

Summary Consolidated Statements of Financial Position

Millions of yen

	As of March 31, 2018		**As of March 31, 2019**	
	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation
Current assets	¥ 585,525	¥ 278,302	**¥ 588,433**	**¥ 347,143**
Non-current assets	433,672	742,942	**438,606**	**1,508,420**
Total	¥1,019,197	¥1,021,244	**¥1,027,039**	**¥1,855,563**
Current liabilities	98,193	221,087	**91,699**	**719,177**
Non-current liabilities	56,575	308,878	**55,406**	**626,225**
Total	¥ 154,768	¥ 529,965	**¥ 147,105**	**¥1,345,402**
Equity	864,429	491,279	**879,934**	**510,161**
Total	¥1,019,197	¥1,021,244	**¥1,027,039**	**¥1,855,563**

Summary Consolidated Statements of Income and Consolidated Statements of Comprehensive Income

Millions of yen

	Year ended March 31, 2018		**Year ended 31, 2019**	
	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation
Sales revenue	¥433,855	¥646,218	**¥424,767**	**¥740,341**
Net income	53,992	49,062	**32,216**	**42,017**
Total comprehensive income	56,620	44,908	**40,894**	**26,161**

Summary Consolidated Statements of Cash Flows

Millions of yen

	Year ended March 31, 2018		**Year ended March 31, 2019**	
	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation	Mitsubishi Tanabe Pharma Corporation	Taiyo Nippon Sanso Corporation
Cash flows from operating activities	¥66,943	¥ 83,199	**¥41,460**	**¥ 98,686**
Cash flows from investing activities	(19,178)	(52,088)	**(31,212)**	**(754,969)**
Cash flows from financing activities	(32,501)	(39,859)	**(25,869)**	**664,925**
Effect of exchange rate changes on cash and cash equivalents	(1,457)	1,841	**531**	**3,128**
Net increase (decrease) in cash and cash equivalents	¥13,807	¥(6,907)	**¥(15,090)**	**¥ 11,770**

Note 37

Related Parties

1. Related Party Transactions

Transactions with major related parties are as follows. For sales of goods and services, the principal transactions are product sales, while the main transactions for goods purchases are purchases of raw materials. The terms for transactions with related parties are similar to those of independent third-party transactions.

Millions of yen

	Year ended March 31, 2018		**Year ended March 31, 2019**	
	Joint venture	Associates	Joint venture	Associates
Sales of goods and services	¥63,690	¥27,081	**¥64,441**	**¥37,058**
Purchases of goods and services	22,978	41,068	**23,138**	**45,824**

Receivables and obligations to major related parties as a result of the above transactions are as follows:

	As of March 31, 2018		As of March 31, 2019	
Millions of yen	Joint venture	Associates	Joint venture	Associates
Receivables				
Accounts receivable	¥12,054	¥8,734	**¥12,538**	**¥ 9,658**
Others	2,501	507	**509**	**2,145**
Total	¥14,555	¥9,241	**¥13,047**	**¥11,803**
Obligations				
Accounts payable	¥ 4,265	¥4,073	**¥3,467**	**¥4,516**
Others	7	102	**2**	**841**
Total	¥ 4,272	¥4,175	**¥ 3,469**	**¥5,357**

Remuneration for key Group executives is as follows:

Millions of yen	Year ended March 31, 2018	Year ended March 31, 2019
Remuneration and bonuses	¥2,149	**¥1,952**
Share-based compensation	87	**237**
Total	¥2,236	**¥2,189**

Note 38

Commitments

Commitments relating to acquisitions of property, plant and equipment and intangible assets are as follows:

Millions of yen	As of March 31, 2018	As of March 31, 2019
Acquisitions of property, plant and equipment and intangible assets	¥143,540	**¥152,883**

Note 39

Contingent Liabilities

Guarantee Obligations
Guarantees and similar undertakings for borrowings from joint ventures, associates and financial institutions of general business partners are as follows.

Millions of yen	As of March 31, 2018	As of March 31, 2019
Joint ventures	¥9,400	**¥8,201**
Associates	421	**372**
General business partners	641	**361**
Others	1,445	**1,262**
Total	¥11,907	**¥10,196**

Note 40

Subsequent event

Strategic Capital Partnership for Health Care-Related Businesses by Life Science Institute, Inc.
On May 14, 2019, consolidated subsidiary Life Science Institute, Inc., agreed to form a strategic capital partnership with PHC Holdings Corporation, which engages in the health care business in Japan and overseas. Life Science Institute, Inc., will further expand its health care-related businesses exchanging all of its shares in LSI Medience Corporation with PHC Holdings Corporation to acquire a 13.72% stake in PHC Holdings Corporation.

PHC Holdings Corporation and Life Science Institute, Inc., will plan to complete this share exchange, subject to competition law-related regulatory approval.

Note 41 (Unaudited)

Litigation

Court action for compensation by patients infected with HCV (hepatitis C virus)
Consolidated subsidiary Mitsubishi Tanabe Pharma Corporation was a codefendant with the Japanese government in damages lawsuits over blood products tainted with hepatitis C virus. In September 2008, the defendants concluded a basic agreement with nationwide plaintiff groups and their attorneys to resolve this case in response to the Act on Special Measures concerning the Payment of Benefits to Relieve the Victims of Hepatitis C Infected through Specified Fibrinogen Concentrates and Specified Coagulation Factor XI Concentrates. The plaintiffs began dropping litigation against the company, and in April 2009 the company decided to pay costs to the hepatitis C sufferers according to the payment apportionment standards of the above act.

Arbitration regarding GILENYA, the treatment for multiple sclerosis
Consolidated subsidiary Mitsubishi Tanabe Pharma Corporation (MTPC) has received a notice of request for arbitration from Novartis in February 2019. Novartis has asked the arbitral tribunal to rule that Novartis has no obligation to pay certain royalties, because some terms of the license agreement entered into with MTPC in 1997 are allegedly invalid. MTPC maintains it is entitled to receive the full royalty amounts due according to the license agreement with Novartis, and MTPC will rigorously pursue its rights in the arbitration.

Besides, given the arbitration proceeding, as for the part of "GILENYA Royalty" amounts that was not recognized as sales revenue in accordance with IFRS 15, those will be recognized as revenue at the end of the arbitration, depending on the outcome of the arbitration.

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Independent Auditor's Report

The Board of Directors
Mitsubishi Chemical Holdings Corporation

We have audited the accompanying consolidated financial statements of Mitsubishi Chemical Holdings Corporation and its consolidated subsidiaries, which comprise the consolidated statement of financial position as at March 31, 2019, and the consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information, all expressed in Japanese yen.

Management's Responsibility for the Consolidated Financial Statements

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

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. The purpose of an audit of the consolidated financial statements is not to express an opinion on the effectiveness of the entity's internal control, but in making these risk assessments the auditor considers internal controls relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Mitsubishi Chemical Holdings Corporation and its consolidated subsidiaries as at March 31, 2019, and their consolidated financial performance and cash flows for the year then ended in conformity with International Financial Reporting Standards.

Ernst & Young ShinNihon LLC

June 25, 2019
Tokyo, Japan

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Report on Matters Equivalent to Key Audit Matters

The Board of Directors
Mitsubishi Chemical Holdings Corporation

We issued our independent auditor's report dated June 25, 2019 in relation to the audit of the consolidated financial statements of Mitsubishi Chemical Holdings Corporation and its consolidated subsidiaries, which comprise the consolidated statement of financial position as at March 31, 2019, and the consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information. Our report is included in the Company's KAITEKI Report 2019. Matters equivalent to key audit matters in the audit of the consolidated financial statements are as follows:

Matters Equivalent to Key Audit Matters

Matters equivalent to 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.

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Acquisition of industrial gas business	
Description and reasons for determination of a matter equivalent to a key audit matter	**Auditor's response**
As described in note 5 to the consolidated financial statements, on December 3, 2018, Taiyo Nippon Sanso Corporation, a consolidated subsidiary of the Company, acquired from Praxair, Inc. its industrial gas business in Europe. The consideration transferred was ¥635,847 million. The Company consulted with external experts to recognize and measure the identifiable assets acquired and liabilities assumed and, as a result, it recognized intangible assets and goodwill of ¥208,301 million and ¥310,401 million, respectively. Identified intangible assets are primarily customer-related intangible assets. The significant assumptions for measurements of the customer-related intangible assets are the revenue projections, the attrition rates of existing customers and the discount rates. As measuring the customer-related intangible assets in the business combination is complex and requires management to apply judgment, we determined it to be a matter equivalent to a key audit matter.	We performed the following procedures to assess measurements of the customer-related intangible assets, among others: - We examined the related agreements to gain an understanding of the transaction to acquire the business. We also discussed with management and reviewed related management presentation materials to the Board of Directors. - We assessed the competence, capabilities and objectivity of the external experts engaged by management, and made inquiries of the external experts throughout our audit procedures. - With the involvement of the valuation specialists of our network firm, we assessed measurement methodologies of the customer-related intangible assets and evaluated the significant assumptions used by management. - We assessed the revenue projections through discussion with management and persons responsible for business planning and by comparing the projections with historical data and data from similar industrial gas companies. In addition, considering estimation uncertainties, we compared the projections with estimates of future revenues using publicly available data. - We assessed the attrition rates of existing customers by obtaining and examining historical attrition rates with major customers and the supply agreements with those customers. We also performed sensitivity analysis considering risks of changes in attrition rates. - We assessed the discount rates by comparing the ones used by management with the estimates made by the valuation specialists of our network firm using available external data.

Valuation of goodwill	
Description and reasons for determination of a matter equivalent to a key audit matter	**Auditor's response**
As described in note 13 to the consolidated financial statements, goodwill is valued at ¥648,806 million (11.6% of total assets) on March 31, 2019. Assumptions used in impairment tests of goodwill are disclosed in note 15 to the consolidated financial statements. In the impairment tests, the recoverable amount of cash generating units including goodwill is measured based on value in use. The value in use is measured using discounted cash flow projections. The cash flow projections are based on the medium-term management plan for a five-year period approved by management. After the five-year plan, the Company estimates growth rates considering future uncertainties. The significant assumptions in estimating the value in use are the cash flow projections based on the medium-term management plan for a five-year period, the growth rates for subsequent periods and the discount rates. The medium-term management plan is affected primarily by the sales volume developments and the market growth rates. As the impairment test of goodwill is complex and requires management to apply judgment, and the assumptions in the future cash flows, growth rates and discount rates involve uncertainties, we determined it to be a matter equivalent to a key audit matter.	We performed the following procedures to assess valuation of goodwill, among others: - With the involvement of the valuation specialists of our network firm, we assessed valuation methodologies for calculation of the value in use and evaluated the discount rates used. - We assessed the future cash flows for the five-year period by evaluating consistency of the underlying business plan with the budget for the next year and the medium-term management plan approved by management. In addition, we assessed the degree of accuracy of estimation for the business plan by comparing the budgets and medium-term management plans in the prior years with actual results. - We assessed the key inputs included in the estimation for the business plan such as the sales volume developments and the market growth rates by discussing with management, comparing the relevant assumptions with market forecasts and publicly available data, performing comparisons with similar companies, and analyzing trends using actual results. - We assessed the growth rates for the periods following the five-year medium-term management plan by evaluating management's assessment of estimation uncertainties related to long-term market growth rates. - We assessed the discount rates by comparing the ones used by management with the estimates made by the valuation specialists of our network firm using available external data.

Valuation of intangible assets with indefinite useful lives	
Description and reasons for determination of a matter equivalent to a key audit matter	**Auditor's response**
As described in note 13 to the consolidated financial statements, intangible assets with indefinite useful lives are valued at ¥192,381 million on March 31, 2019. Intangible assets with indefinite useful lives mostly consist of in-process research and development expenses recognized when Mitsubishi Tanabe Pharma Corporation, a consolidated subsidiary of the Company, acquired Medicago Inc. in September 2013 and NeuroDerm Ltd. in October 2017. These carrying amounts are ¥25,967 million and ¥134,076 million, respectively. Because the in-process research and development expenses are at the research and development stage, have yet to obtain marketing approval from regulatory authorities, and are not available for use, the period during which the future economic benefits embodied in the assets are consumed is unforeseeable and therefore, the assets are classified as intangible assets with indefinite useful lives. The Company does not amortize intangible assets with indefinite useful lives and conducts impairment tests annually and whenever there are indications of impairment. In the impairment tests, the recoverable amount of the in-process research and development expenses is measured based on value in use. The value in use is measured using discounted cash flow projections, and the significant assumptions thereof are the probability of obtaining marketing approval from regulatory authorities, the projected revenues after launch of products and the discount rates. The research and development processes involve inherent uncertainties. Further, the impairment tests of in-process research and development expenses require management to apply judgment on the assumptions in the future cash flows and discount rates; and therefore we determined it to be a matter equivalent to a key audit matter.	We performed the following procedures to assess valuation of the in-process research and development expenses, among others: - With the involvement of the valuation specialists of our network firm, we assessed valuation methodologies for calculation of the value in use and evaluated the discount rates used. - We assessed the probability of obtaining marketing approval from regulatory authorities by considering publicly available and observable success ratios for each stage of research and development. We also discussed the current development status of the products and the probability of approval with management and the persons responsible for the products. - We assessed the key inputs such as projected sales prices and volumes, and market share of the products to evaluate the projected revenues after launch of the products. We compared the relevant assumptions with market forecasts from external institutions and examined changes from the projections in the previous year. We compared management's assumptions with external data where it was available. We also discussed with management and reviewed management presentation materials to the Board of Directors. - We assessed the discount rates by comparing the ones used by management with the estimates made by the valuation specialists of our network firm using available external data. - We evaluated management's assessment of estimation uncertainties related to the assumptions with high sensitivity resulting in the outcome of value in use calculation.

Valuation of deferred tax assets	
Description and reasons for determination of a matter equivalent to a key audit matter	**Auditor's response**
On March 31, 2019, deferred tax assets are valued at ¥84,509 million in the consolidated statement of financial position. The related disclosure of income taxes is made in note 11 to the consolidated financial statements. The Company recognizes deferred tax assets for future deductible temporary differences and unused tax loss carryforwards, considering the planned reversal of deferred tax liabilities, expected future taxable income and tax planning. In particular, the Company has unused tax loss carryforwards incurred in the prior years, and recognizes the deferred tax assets of ¥64,069 million for unused tax loss carryforwards considering estimates of the expected future taxable income. The estimates of future taxable income are based on the Company's business plan, and the significant assumptions thereof are primarily the projected revenue growth and the forecasted market prices of raw materials. As the valuation of deferred tax assets is based on primarily management's estimates of future taxable income, and the underlying business plan is affected by significant assumptions involving management's judgment, we determined it to be a matter equivalent to a key audit matter.	We performed the following procedures to assess valuation of the deferred tax assets, among others: - With the involvement of the tax specialists of our network firm, we assessed balances of temporary differences and unused tax loss carryforwards. We also assessed the scheduling of the reversals of existing temporary differences and the utilizations of unused tax loss carryforwards. - We assessed the future taxable income estimated by management by evaluating the underlying business plan. We also assessed consistency of the business plan with the budget for the next year approved by management, and evaluated the degree of accuracy of estimation for the business plan by comparing past business plans with historical results. - We assessed the significant assumptions included in the business plan such as the projected revenue growth and the forecasted market prices of raw materials by discussing with management, performing trend analysis considering actual results and performing comparisons with publicly available data. - We evaluated management's assessment of estimation uncertainties related to the business plan.

Ernst & Young ShinNihon LLC

June 25, 2019

Tokyo Japan

Indicators with this icon have been assured by KPMG AZSA Sustainability Co., Ltd. for FY2018.

Environmental Data

Scope of data aggregation: The data for FY2015 covers the three operating companies (MCC, MTPC, and LSII), TNSC and their domestic Group companies. The data from FY2016 to FY2018 covers these four operating companies and their domestic and overseas Group companies. (Group companies are directly-owned consolidated subsidiaries.)

Energy Consumption/ Greenhouse Gasses (GHG) *1	FY2015	FY2016	FY2017	FY2018
Greenhouse gas emissions (Scope 1 + Scope 2) (1,000 t-CO_2e)*2	12,054*3	14,269	14,815	14,187
Scope 1	7,771	7,223	7,470	6,787
Scope 2	4,283*3	7,046	7,345	7,400
Scope 3*4	43,240	54,370	49,640	49,260
Energy consumption (GWh) *5	34,935*3	38,950	40,977	39,126

*1 Energy used to produce electricity and steam sold externally and the resulting CO_2 emissions were excluded from figures for FY2015 (CO_2 emissions were excluded from Scope 2 emissions), but in conformity with the GHG protocol, they are not excluded starting in FY2016.
*2 The emission factors specified in the Act on Promotion of Global Warming Countermeasures are used for the calculation of emissions in Japan. GHG emissions that are not subject to reporting under the Act are mostly calculated based on the mass balance of chemical reactions. Overseas Scope 1 emissions are calculated with the emission factors specified in the Act on Promotion of Global Warming Countermeasures or by the IPCC, and overseas Scope 2 emissions are calculated with power company-specific emission factors or country level emission factors for electricity published by the IEA.
*3 The FY2015 results include GHG emissions of 1.65 million tons and energy consumption of 1,942 GWh by affiliate companies that are closely associated in terms of energy management, but the FY2016 results and thereafter exclude GHG emissions and energy consumption of these companies.
*4 For the calculation method for Scope 3 GHG emissions, see page 3 of the non-financial data sheet on the MCHC website.
*5 The unit higher heating values for fuels specified in the Act on the Rational Use of Energy or by the IPCC are used.

Environmental Impact	FY2015	FY2016	FY2017	FY2018
NOx emissions (1,000 tons)	8.04	8.96	8.12	7.54
SOx emissions (1,000 tons)	3.08	4.77	4.42	3.81
COD emissions (1,000 tons) *6	1.74	2.00	2.08	1.84
Total nitrogen emissions in water discharged (1,000 tons) *6	5.53	6.06	6.04	5.64
Total phosphorous emissions (1,000 tons) *6	0.05	0.09	0.07	0.10

*6 Total COD emissions, total nitrogen emissions and total phosphorous emissions each show total volume of emissions discharged into rivers, lakes and oceans. Emissions into sewage systems are excluded.

Water Use	FY2015	FY2016	FY2017	FY2018
water withdrawal (Million m^3) (excluding seawater)	171	189	193	189

Social Data

Constitution of Employees (MCHC Group)	FY2015	FY2016	FY2017	FY2018
Number of consolidated employees	68,988	69,291	69,230	72,020
Number of employees by district In Japan	44,858	44,034	43,406	43,709
Outside Japan	24,130	25,257	25,824	28,311

Aggregation period: Each fiscal year from April 1 to March 31, or as of March 31

Scope of data aggregation: The figures show those employed by MCC, MTPC, TNSC and LSII (including those seconded to other companies but excluding those seconded from other companies).

Diversity / Work-Life Balance / Occupational Safety	FY2015	FY2016	FY2017	FY2018
Number of employees	22,508	21,736	21,770	22,064
Number of employees by gender Male	19,194	18,459	18,440	18,578
Female	3,314	3,277	3,330	3,486
Percentage of females (%)	14.7	15.1	15.3	15.8
Percentage of female managers (%) *7	7.1	7.7	8.0	8.6
Paid leave utilization rate (%)	66.8	67.6	65.4	71.1
Lost-time injuries frequency rate (LTIFR) *8,*9	0.48	0.30	0.26	0.99

*7 Percentage of female employees out of all employees at assistant manager level and above. *8 Scope of data aggregation: The data from FY2015 to FY2017 covers the figures from domestic operations of the four operating companies (MCC, MTPC, LSII and TNSC) and their Group companies with operating divisions active within Japan. The data for FY2018 covers these four operating companies and their domestic and overseas Group companies with operating divisions active. *9 The LTIFR is the number of lost-time injuries, illnesses and fatalities per million hours worked.

Independent Assurance Report

To the President and CEO of Mitsubishi Chemical Holdings Corporation

We were engaged by Mitsubishi Chemical Holdings Corporation (the "Company") to undertake a limited assurance engagement of the environmental and social performance indicators marked with (the "Indicators") for the period from April 1, 2018 to March 31, 2019 included in its KAITEKI REPORT 2019 (the "Report") for the fiscal year ended March 31, 2019.

The Company's Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the "Company's reporting criteria"), as described in the Report.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with the 'International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information' and the 'ISAE 3410, Assurance Engagements on Greenhouse Gas Statements', issued by the International Auditing and Assurance Standards Board. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing the Company's responsible personnel to obtain an understanding of its policy for preparing the Report and reviewing the Company's reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical procedures on the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria, and recalculating the Indicators.
- Visiting the Fukuoka Plant of Mitsubishi Chemical Corporation and Lucite International Singapore Pte. Ltd. selected on the basis of a risk analysis.
- Evaluating the overall presentation of the Indicators.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Report.

Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

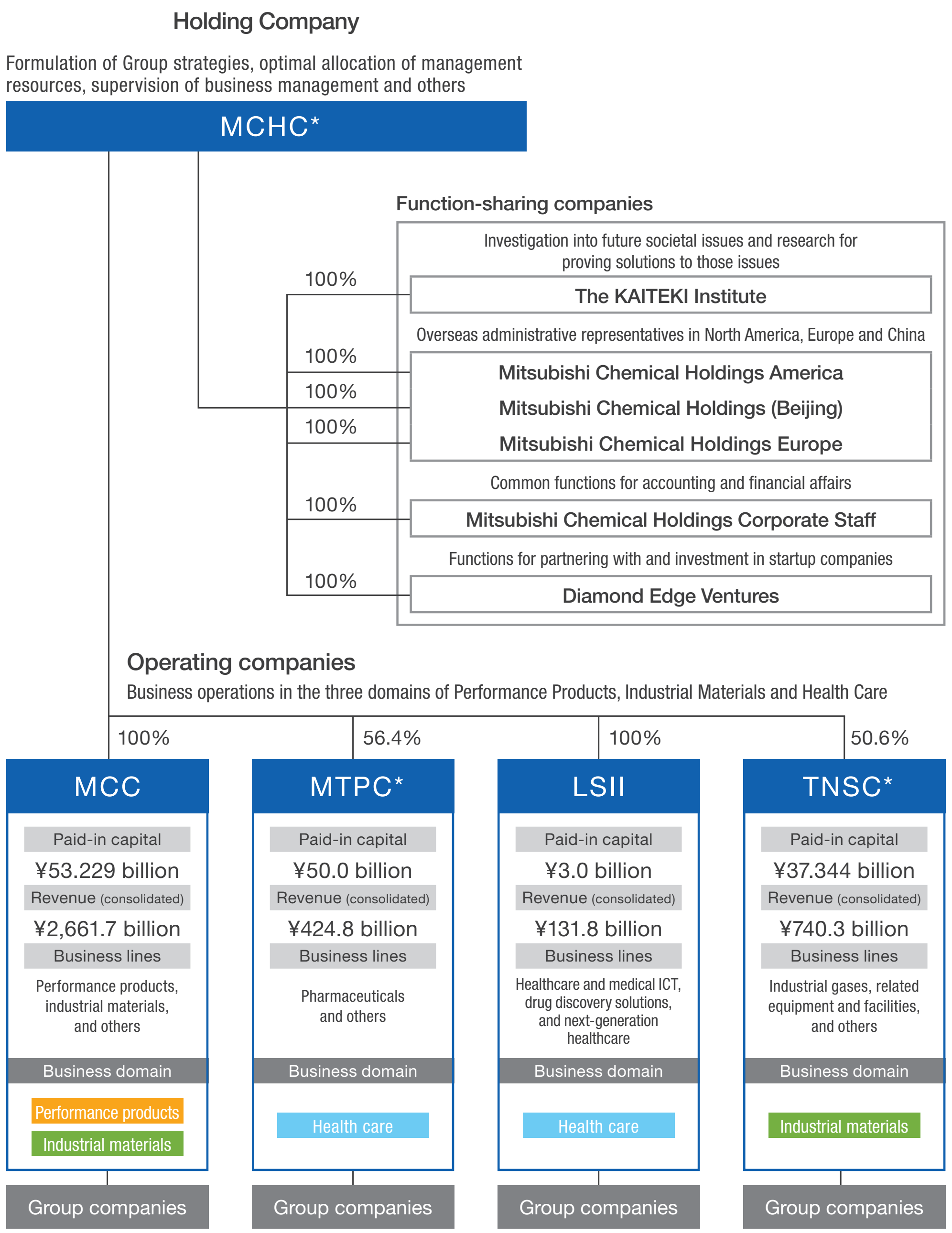
KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.
Tokyo, Japan
September 4, 2019

Mitsubishi Chemical Holdings Corporation (As of March 31, 2019)

Address of the head office	1-1 Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8251
Establishment	October 3, 2005
Paid-in capital	¥50.0 billion
Revenue (consolidated)	¥3,923.4 billion (FY2018)
Number of employees (consolidated)	72,020

Organizational Structure



* Listed company

(As of March 31, 2019)

Direct Investees

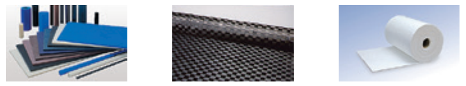
Company Name	Principal Businesses	Paid-in Capital	Equity Participation(%)
Mitsubishi Chemical Corporation	Manufacture and marketing of chemical products	¥53.2 billion	100.0
Mitsubishi Tanabe Pharma Corporation	Manufacture and marketing of pharmaceuticals	¥50.0 billion	56.4
Life Science Institute, Inc.	Healthcare solutions business and holding shares of companies that manage the said businesses, etc.	¥3.0 billion	100.0
Taiyo Nippon Sanso Corporation	Manufacture and marketing of industrial gases	¥37.3 billion	50.6

Indirect Investees

	Company Name	Principal Business	Paid-in Capital	Equity Participation(%)
Performance Products Domain	**Performance Products Segment**			
	J-Film Corporation	Manufacture and marketing of plastic films	¥1.2 billion	100.0
	Mitsubishi Chemical Infratec Co., Ltd.	Manufacture and marketing of house and building materials and infrastructure materials	¥0.4 billion	100.0
	Mitsubishi-Chemical Foods Corporation	Manufacture and marketing of food and pharmaceutical ingredients	¥0.5 billion	100.0
	Mitsubishi Chemical Media Co., Ltd.	Marketing of recording media and computer peripheral equipment	¥4.1 billion	100.0
	MC Ionic Solutions US, Inc.	Manufacture and marketing of electrolytes for lithium-ion batteries	U.S. $100	100.0
	Mitsubishi Chemical Advanced Materials AG	Management of subsidiaries that engage in the engineering plastic business	CHF28 million	100.0
	Mitsubishi Chemical Performance Polymers, Inc.	Manufacture and marketing of thermoplastic compounds and functional polyolefins	U.S. $100	100.0
	Mitsubishi Polyester Film, Inc.	Manufacture and marketing of polyester film	U.S. $100	100.0
Industrial Materials Domain	**Chemicals Segment**			
	Kansai Coke and Chemicals Co., Ltd.	Manufacture and marketing of coke	¥6.0 billion	51.0
	Japan Polyethylene Corporation	Manufacture and marketing of polyethylene	¥7.5 billion	58.0
	Japan Polypropylene Corporation	Manufacture and marketing of polypropylene	¥11.8 billion	65.0
	Mitsubishi Chemical Lucite Group Limited	Management of subsidiaries that engage in the MMA business	£111 million	100.0
	Industrial Gases Segment			
	JFE Sanso Center Corporation	Manufacture and sale of industrial gases	¥0.09 billion	60.0
	NIPPON EKITAN Corporation	Manufacture and marketing of industrial gases	¥0.6 billion	84.2
	Nippon Gases Euro-Holdings S.L.U.	Management of subsidiaries that engage in the industrial gases business	€100 million	100.0
	Matheson Tri-Gas, Inc.	Manufacture and marketing of industrial gases	U.S. $56	100.0
Health Care Domain	**Health Care Segment**			
	Qualicaps Co., Ltd.	Manufacture and marketing of capsules for pharmaceuticals, health and nutrition foods, and pharmaceutical processing equipment	¥2.9 billion	100.0
	LSI Medience Corporation	Clinical testing, manufacture and marketing of diagnostic reagents and instruments, and drug discovery solutions	¥3.0 billion	100.0
	Mitsubishi Tanabe Pharma Factory Ltd.	Manufacture and marketing of pharmaceuticals	¥1.1 billion	100.0
	Mitsubishi Tanabe Pharma Holdings America, Inc.	Planning and execution of targets and strategies relating to development of the pharmaceutical business in the U.S. and management of U.S. subsidiaries	U.S. $167	100.0
Others	Mitsubishi Chemical Engineering Corporation	Engineering and construction services	¥1.4 billion	100.0
	Mitsubishi Chemical Logistics Corporation	Logistics and warehouse services	¥1.5 billion	100.0

(Quadrant AG changed corporate name to Mitsubishi Chemical Advanced Materials AG as of April 1, 2019)

● MCC Group ● MTPC Group ● LSII Group ● TNSC Group

		Main Businesses, Products and Services	Main Uses
Information, Electronics and Displays	 Optical clear adhesive sheet, *Clearfit* / Optical PVOH[*1] film, *OPL film* / Color resist	Display businesses ● Optical films ● Color resist Semiconductor businesses ● High purity chemicals, High-performance cleaning agents ● Solution service	Electronics
High Performance Films	 Food packaging film, *DIAMIRON* / Acrylic film, *ACRYPLEN* / Moisture-proof PVC sheet for tablet and capsule packaging, *VINYFOIL*	● Food packaging materials ● Industrial-use films ● Medical and sanitary films	Foods and household goods Industrial materials Medical care
Environment and Living Solutions	 Water treatment components, equipment and facilities / Hydroponic system for leafy vegetables, *Napperland* / FRP[*2] panel water tank, *HISHITANK*	● Aqua solutions ● Ion-exchange resins ● Separator and aqua chemicals ● Agricultural solutions ● Infrastructure solutions	Environment, infrastructure, household goods, medical care, foods Environment, energy, industrial-use chemicals, electronics, medical care, foods Environment, electronics, medical care, foods Agriculture Environment, infrastructure, industrial materials
Advanced Moldings and Composites	 Engineering plastics / Carbon fiber and compounds materials / Alumina fibers	● High-performance engineering plastics ● Carbon fiber and composite materials ● Alumina fibers ● Functional moldings and composites ● Fibers and textiles	Automobiles, electronics, industrial materials, medical care Automobiles, aircraft, industrial materials, sporting goods Automobiles, industrial materials Industrial materials Household goods, industrial materials
Advanced Polymers	 Thermoplastic elastomer, *TEFABLOC* / Polycarbonate / Biodegradable polymer, *BioPBS*	● Performance polymers ● Phenol and polycarbonate ● PBT[*3] ● Sustainable polymers	Automobiles, industrial materials, electronics, household goods, foods, medical care Industrial-use chemicals, automobiles, electronics Automobiles, electronics, household goods, industrial materials
High Performance Chemicals	 Acrylic resins / Epoxy resin, *jER* / Sugar ester	● Coating materials ● Epoxy resins ● Resin additives ● Inorganic chemicals ● Food ingredients	Industrial materials, automobiles, electronics, household goods, industrial-use chemicals, aircraft Automobiles, electronics, Industrial-use chemicals Foods (beverages, confectionary, nutrition products, etc.)
New Energy	 Lithium-ion battery materials / Phosphors / Scintillator	● Lithium-ion battery materials ● LED materials ● Scintillator	Automobiles, electronics, energy Electronics, automobiles Medical care, electronics
MMA	 MMA monomers / Acrylic molding material *ACRYPET* / Acrylic resin products	● MMA and PMMA	Automobiles, electronics, industrial materials, household goods
Petrochemicals	 Ethylene production facility / Petrochemical derivatives / Automotive gasoline tank	● Basic petrochemicals and basic chemical derivatives ● Polyolefins	Industrial-use chemicals Automobiles, electronics, household goods, industrial materials, medical care
Carbon Products	 Coke / Carbon materials / Carbon black	● Coke ● Carbon materials ● Carbon black ● Synthetic rubber	Industrial materials Industrial materials, automobiles, household goods
Industrial Gases	 Separate gases (oxygen, nitrogen, argon) / Electronics material gases / Air separation units	● Industrial gases ● Industrial gas-related equipment and facilities	Industrial materials, industrial-use chemicals, electronics, automobiles, foods, medical care
Pharmaceuticals	 Treatment agent for autoimmune diseases / Therapeutic agent for amyotrophic lateral sclerosis, *Radicut* / Vaccine	● Ethical pharmaceuticals	Medical care, health
Life Science	 Capsules / Pharmaceutical processing equipment / Pharmaceutical intermediate	● Capsules and pharmaceutical processing equipment ● Active pharmaceutical ingredients and intermediates	Medical care, health

*1 Polyvinyl alcohol *2 Fiber reinforced plastic *3 Polybutylene terephthalate

(As of March 31, 2019)

Number of Subsidiaries and Affiliates (Japan)	Number of Subsidiaries and Affiliates (Outside Japan)
306	448

Total: 754

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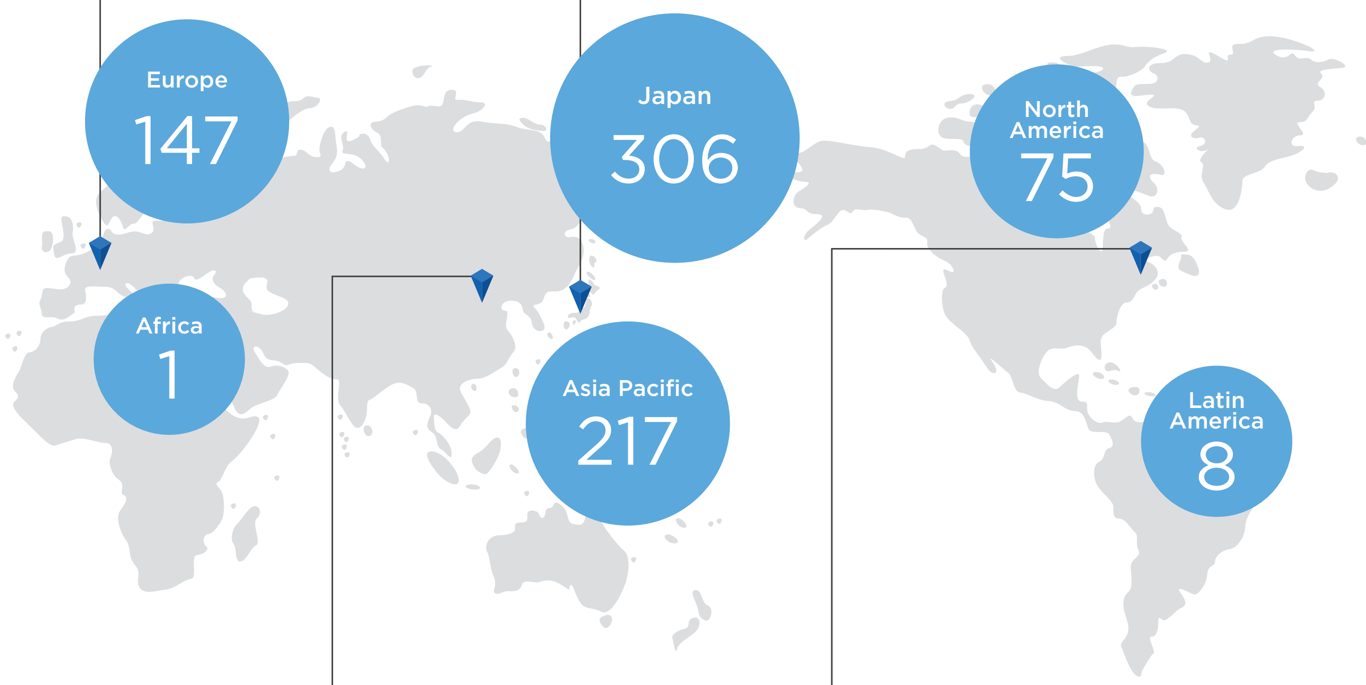

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