# KUREHA CORPORATION
## Business Report 2019
Year ended March 31, 2019



*The Pursuit of Excellence*

# Building on Core Strengths

Kureha Corporation is a manufacturer of highly originative specialty chemicals and plastics that leverages proprietary technologies to develop products in the fields of advanced materials, agrochemicals, pharmaceuticals, and packaging materials. Since its establishment in 1944, Kureha has utilized its strengths in technology and innovation to provide a wide range of solutions suited to the market needs of each era.

Today, this corporate DNA drives Kureha to always pursue originality and excellence in harmony with the environment, and consistently create products that bring value to customers and society.

## Corporate Philosophy

To be a company supporting an ever-changing society.
To be a company that changes society for the better.
We formulated our Corporate Identity to reflect our vision for Kureha.

- **We treasure people and the natural environment.**
- **We constantly evolve through innovation.**
- **We contribute to society by developing beneficial products.**


## Contents

## R&D Innovation:
### The Source of Our Competitiveness

We pride ourselves on our expertise in polymer engineering and processing as well as organic synthesis and carbon materials development. These technologies provide the base for the development of our original innovative materials and products. We are constantly adding and fusing new ideas to these accumulated technologies, and in the spirit of "if it doesn't exist, let's create it," each day we pursue technology solutions that only Kureha can provide to meet unmet needs.

## Originality and Quality to Answer Global Needs:
### The Growth Potential in Global Markets

Kureha's overseas sales had reached 30% of total revenue in FY2018. Along with exports from Japan, we have production, processing and sales locations in the United States, Germany, the Netherlands, France, the U.K., China, Vietnam and Australia, enabling an effective response to needs in overseas markets. With continued growth expected in newly emerging countries and many other regions, we are taking active and strategic steps to expand sales of highly competitive products in line with the needs of overseas markets, whether for advanced materials, chemicals, or plastic products.


## Maximizing Earnings & Diversifying Risks:
### The Path to Sustainable Growth

Our innovative products and services are broadly based but highly specialized, supporting a wide range of industries, including electrical and electronic-appliances, automotive, agriculture, medicine and energy. We maximize earnings and diversify risk through broad-based business development in promising growth fields such as the environment, energy, health and lifestyle. We continuously optimize our portfolio to align with shifting market needs while securing our earnings path.

FY2018 Revenue by Segment


## Advanced Materials

¥45,749 million

30.8%

## Specialty Chemicals

¥27,309 million

18.4%

## Specialty Plastics

¥45,148 million

30.5%

## Construction and Other Operations

¥12,415 million

8.4%

(Construction)

¥17,643 million

11.9%

(Other Operations)

# Consolidated Financial Highlights

Kureha Corporation and Consolidated Subsidiaries
Years ended March 31, 2019 (FY2018) and 2018 (FY2017)

## Business Areas

Advanced Plastics
Carbon Fibers & Products
Battery Materials

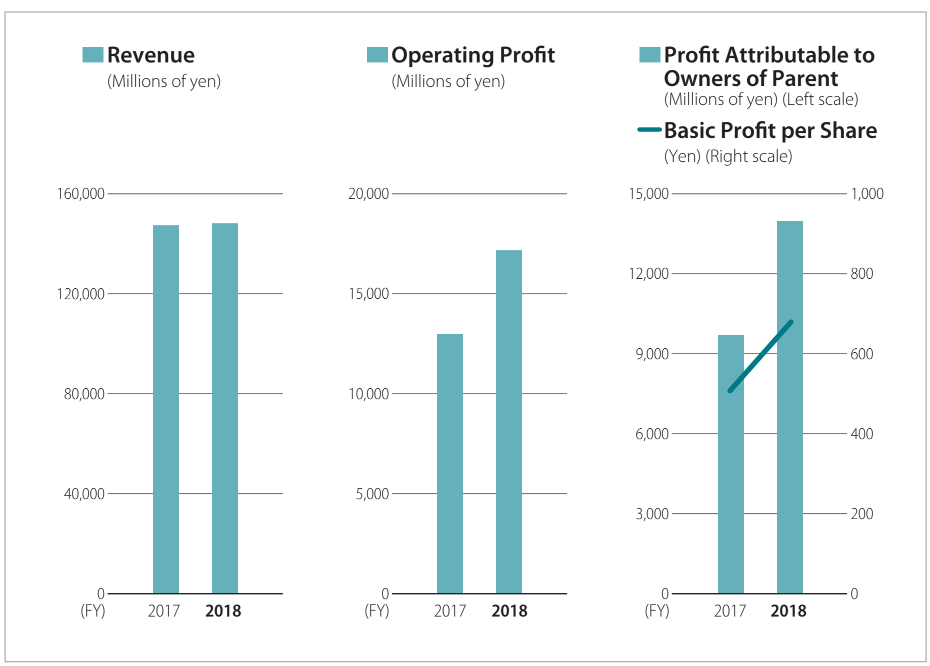
Agrochemicals
Pharmaceuticals
Industrial Chemicals

Household Products
Packaging Materials
Synthetic Fiber Products

Engineering & Construction
Environment Management
Transport/Warehousing

| | Millions of yen | | Thousands of U.S. dollars |
|---|---|---|---|
| | **FY2018** | FY2017 | **FY2018** |
| **For the year:** | | | |
| Revenue | **¥148,265** | ¥147,329 | **$1,335,848** |
| Operating profit | **17,172** | 12,973 | **154,724** |
| Profit attributable to owners of parent | **13,933** | 9,697 | **125,539** |
| Capital expenditure | **13,174** | 9,768 | **118,700** |
| Depreciation and amortization | **10,310** | 9,898 | **92,893** |
| Research and development expenses | **5,270** | 4,962 | **47,488** |
| **Year-end:** | | | |
| Total assets | **¥247,352** | ¥242,281 | **$2,228,599** |
| Total equity attributable to owners of parent | **160,551** | 150,193 | **1,446,542** |
| Interest-bearing debt | **39,018** | 48,089 | **351,550** |
| | Yen | | U.S. dollars |
| **Amounts per share:** | | | |
| Basic profit per share | **¥ 679.55** | ¥ 507.48 | **$ 6.12** |
| Owners' equity per share | **7,922.58** | 7,271.67 | **71.38** |
| | Percent | | |
| **Ratios:** | | | |
| Profit attributable to owners of parent to revenue | **9.4%** | 6.6% | |
| Return on equity | **9.0** | 7.1 | |
| Return on assets | **7.1** | 5.3 | |
| Owner's equity ratio | **64.9** | 62.0 | |

Notes: 1. For convenience only, U.S. dollar amounts have been translated from Japanese yen at the rate of ¥110.99 to US$1, the rate of exchange prevailing on the Tokyo Foreign Exchange Market on March 31, 2019.
2. Return on equity = Profit attributable to owners of parent/Shareholders' equity × 100
3. Return on assets = Profit before tax/Total assets × 100
4. Owner's equity ratio = Owner's equity/Total liabilities and equity



# President's Message


**Yutaka Kobayashi**
President & Chief Executive Officer

# Dear Shareholders,

FY2018 (ended March 31, 2019) was a year that inspires confidence in Kureha's future growth. We recorded operating profit of 17.2 billion yen (32% up from 13.0 billion yen in FY17) due to steady expansion in the Advanced Materials segment, one of our strategic businesses. Profit attributable to the owners of Kureha rose to 13.9 billion yen (44% up from 9.7 billion yen in FY17) on the increase in operating profit and greater efficiency in asset utilization. Return on sales, an indicator of business operating efficiency, was 11.6%, finally exceeding the 10% considered required by specialty chemicals companies. As a result, together with the commemorative dividend to mark 75 years since Kureha's founding, we were able to increase returns to shareholders by 40 yen per share, for an annual dividend of 165 yen per share.

FY2018 was also the final year of the medium-term management plan Kureha's Challenge 2018. As promised in last year's business report, Kureha made a positive start to establishing a "history of reliable growth" by not only achieving, but significantly surpassing, the operating profit target of 14.0 billion yen set out in the initial plan.

Our continuous efforts to improve the competitiveness and earnings capacity of existing businesses, indeed one of the plan's key strategies, contributed significantly toward this success. Along with the favorable business environment for polyvinylidene fluoride (PVDF) and carbon products in the Advanced Materials segment, we enhanced product differentiation and expanded earnings. Similarly, in the Specialty Plastics segment, we recorded steady growth for our flagship household product NEW Krewrap plastic wrap, as well as in leisure products such as fishing lines. We also enhanced operating efficiency throughout the corporate group, and began to see the real effects of our successful cost reduction program, which over the six years since its introduction has lowered group-wide costs by 8.8 billion yen.

## ▶ A New Plan to Solidify Kureha's Future Path

However, for some medium-term plan strategies we were unable to meet our targets, among them the expansion of the polyglycolic acid (PGA) business. Sales and earnings rose steadily for frac plugs used in shale gas and oil extraction—the main application of PGA—but we were unable to broaden sales as expected, and posted an operating loss for the business again in FY2018. Furthermore, in generating new businesses, we do not at present have any projects at the stage where we can announce commercialization. Going forward, we must therefore accelerate our efforts to seek out new lines of business by adopting a more global and market-led approach.

Also, we still have much to do with strengthening our management foundation. We need to further enhance business efficiency throughout the group, and make use of new digital technologies. We must also bolster our efforts to make CSR an integrated part of our group's management, and enforce tighter measures for safety, quality and environmental protection that are aligned with the Sustainable Development Goals (SDGs).

Considering these circumstances, Kureha decided to extend its management plan by two years, and thus formulated the "Kureha's Challenge 2020" plan. This plan sets a target of 18.0 billion yen in operating profit by FY2020, with expanded earnings in the Advanced Materials segment.

Although the overall growth rate will be modest compared with FY2018 due to an anticipated decline in the Specialty Chemicals segment caused by slower agrochemical demand, these next two years will be an important period to solidify the foundations for Kureha's future development. I believe that accomplishing the remaining measures from Kureha's Challenge 2018, while also adapting to new changes in the business environment, will lead to sustainable growth and an increase in enterprise value.

## Strengthening Our Growth Drivers

It is vital that we address the lagging performance in the PGA business, which will be a pillar for earnings going forward. To comprehensively cover the entire North American shale gas and oil market, we must strengthen our lineup of frac plugs that degrade at various soil temperatures, and put this business on a solid growth track.

Kureha is also seeking further growth for the polyvinylidene fluoride (PVDF) business in the area of lithium-ion batteries for automotive applications. We are focusing on developing high-performance, competitive products for use as electrode binders in lithium-ion batteries, and are expanding our production structure. For this latter measure, we have already increased production capacity to 2,000 tonnes annually in January 2019, and are considering building a new plant that would begin operating in 2023.

The engineering plastic polyphenylene sulfide (PPS) is another target for future investment. Demand for PPS is expected to grow steadily as a means to make automobiles lighter, and we are constructing facilities at our Iwaki Factory in Japan to increase production capacity by 5,000 tonnes. It will become operational in 2021.

These efforts must of course be backed by solid R&D. Consequently, Kureha will increase investment in R&D by around 30%. We plan to spend 13.0 billion yen over the two-year period of FY2019 - FY2020 to accelerate new business development, seek new applications for existing businesses to enable entry into new markets, and drive downstream business development.

## Building an Efficient, Responsive Business Organization

At the same time, it is extremely important that we control costs across all aspects of our operations to strengthen our business foundation. To enhance operational efficiency and productivity, we will therefore seek to achieve a further 1.5 billion yen in cost reductions over the next two years. Going forward, we will also actively pursue digitization in manufacturing and R&D processes.

Kureha's efforts to bolster the management foundation also include measures to strengthen governance. During FY2018, we established a number of advisory committees, comprising mainly outside directors, to consider such issues as the appointment or dismissal of the president and other directors, as well as director compensation. We also revised the director compensation system to be more performance-oriented, and abolished the system of appointing retiring directors as special advisers or counselors.

## ▶ The Key to the Future: Our Employees

Kureha seeks to develop differentiated high-value products that contribute to society. In this way, we will become a company that generates sustainable value and profit growth. This is the goal toward which we continually strive.

Our employees are the force driving us forward. Thanks to their skill and passion, and their ability to realize numerous technological innovations and overcome all manner of difficulties, I believe Kureha is moving toward a prosperous future. I would like to thank all of our employees for their hard work, and ask that they pursue their goals with passion and fully demonstrate their potential. Our company will spare no investment to support them toward this goal, and realize sustainable long-term growth for all of our stakeholders.

We thank you for your investment and confidence in us, and look forward to your continued support.

Yutaka Kobayashi

**Yutaka Kobayashi**
President & Chief Executive Officer
June 2019

# From Kureha's Challenge 2018 To Kureha's Challenge 2020

## Review of Kureha's Challenge 2018

Kureha designated the three-year period of KC2018 (FY2016 - 2018) as a period to lay the foundation for future expansion and focused its business operations on achieving the plan's five management goals: 1) Enhance competitiveness and earnings capacity in existing businesses; 2) Expand the PGA business; 3) Explore new business themes; 4) Promote CSR management; and 5) Strengthen management foundations.

As a result, operating profit in FY2018 (ended March 31, 2019) amounted to 17.2 billion yen, significantly surpassing the initial target of 14.0 billion yen. However, some of the management goals were only achieved partway, including 2) Expand the PGA business; 3) Explore new business themes; and 5) Strengthen management foundations.

Consequently, Kureha decided to extend the KC2018 plan by two years in order to complete the management goals that have not been fulfilled as intended, and to adapt to changes in the social structure and business environment. This new medium-term management plan has been named "Kureha's Challenge 2020 (FY2019 - 2020)."

### Review of KC2018

| Management Goals | Results after Three Years |
|---|---|
| Enhance competitiveness and earnings capacity in existing businesses | Profitability has been achieved for carbon fiber, and earnings expanded in home products, but sales expansion targets for packaging materials have yet to be achieved. |
| Expand the PGA business | Expansion targets have not been reached, and the business is still showing losses. |
| Explore new business themes | The market-led approach has been insufficient. |
| Promote CSR management | Expansion to group companies is incomplete. |
| Strengthen management foundations | Cost reduction targets have been met, but measures to enhance efficiency are insufficient. |

## Strategic Direction of Kureha's Challenge 2020

The new plan carries over the vision set out in KC2018. Kureha will, in accordance with its corporate philosophy, seek to grow as a company built on technology, develop differentiated products in the specialty chemicals field, and become a high value-added company that continually contributes to society.

By completing the management goals left over from KC2018, Kureha will pursue business restructuring that shifts the pillar for earnings from pharmaceuticals and agrochemicals to advanced materials. At the same time, we recognize the need to adapt to changes in the business environment and address new issues from a long-term perspective, including the advancement of digitization in society, marine pollution caused by plastic wastes, and countering global warming.

Kureha is positioning the next two years as a "period to solidify the foundation for future expansion," and will steadily achieve the management goals and quantitative targets in Kureha's Challenge 2020, realizing sustainable growth and greater enterprise value.

## Management Goals:

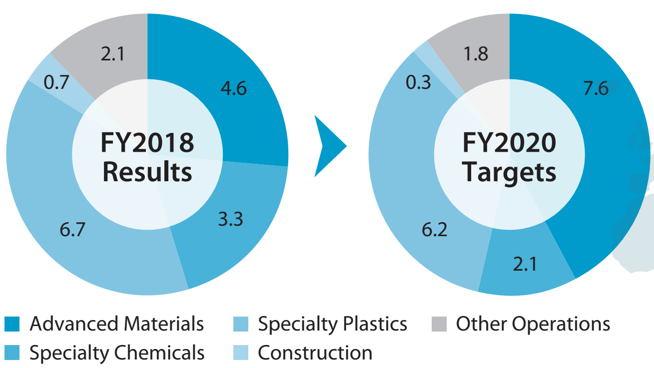
Kureha has defined the next three years as a "period to lay the foundation for future expansion," and set the following goals to fundamentally reform Kureha's earnings structure.

**1) Expand the PGA business and generate earnings**
**2) Strengthen the PVDF business for further expansion**
**3) Optimize the business models for existing businesses**
**4) Explore and develop new businesses in Japan and overseas**
**5) Strengthen management foundations**

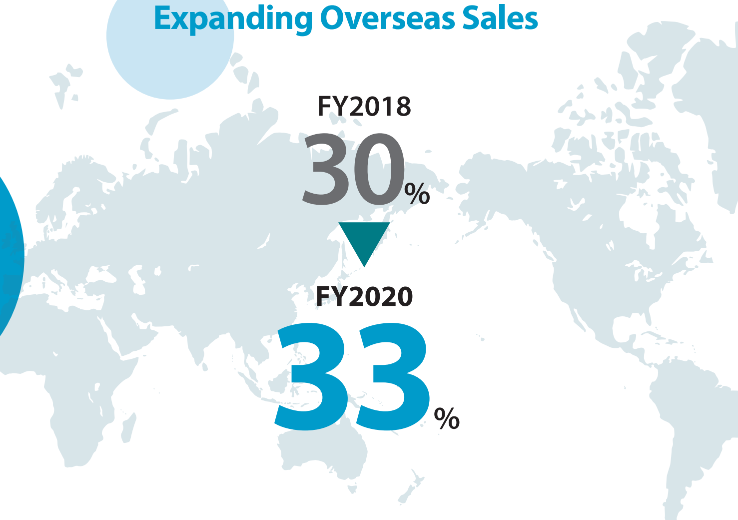
Next page for detailed information

## Breakdown by Business Segment

**Operational Profit** (Billions of yen)

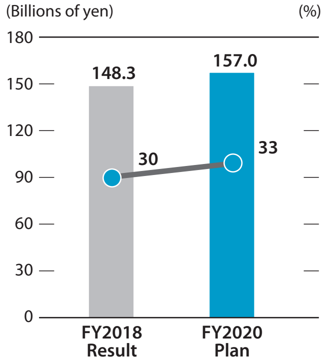



## Expanding Overseas Sales

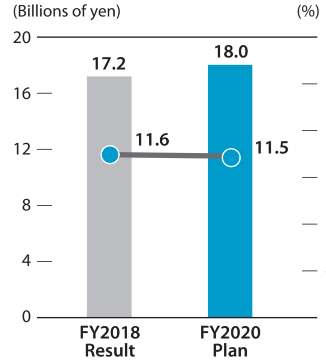



## Quantitative Targets

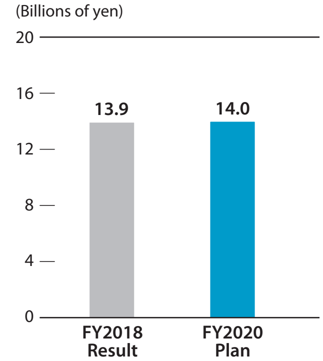
**Revenue/ Overseas Proportion**




**Operating Profit/ Operating Margin**




**Profit Attributable to Owners of Kureha**




(Presumptions) Forex: ¥110/$, ¥125/€, ¥16.5/yuan; Crude oil: $70/bbl

# Management Goals and Priority Measures
## (Asterisks indicate a new priority measure)

**Action 01**

### Expand the PGA Business and Generate Earnings
- Increase and stabilize sales of Kureha's original frac plugs, and establish a business foundation

**Action 02**

### Strengthen the PVDF Business for Further Expansion
- Advance the development of high-performance LiB binders with competitive advantages
- Secure raw materials and raise production capacity to support business expansion

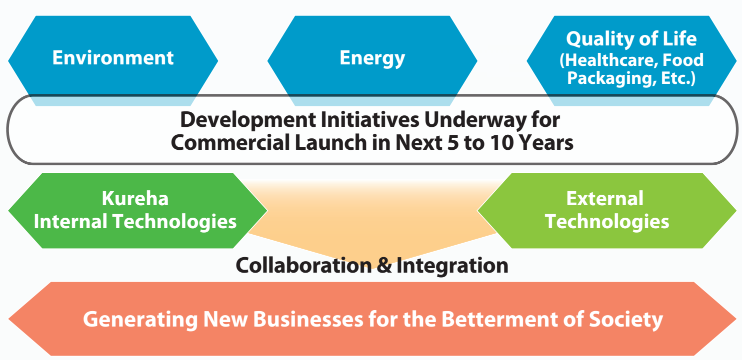
**Action 03**

### Optimize the Business Models for Existing Businesses
- Revise business strategies and alliances to better respond to changes in the business environment*
- Develop new applications for downstream business; expand existing business in different markets and application fields*

**Action 04**

### Explore and Develop New Businesses in Japan and Overseas
- Seek out new application business themes in Japan and overseas*
- Assess the themes already identified, prioritize the necessary resources, and utilize outside resources to accelerate commercialization
- Cultivate the personnel needed for downstream business development; invest the resources needed to accelerate technological innovations*

**Targeted Domain:**



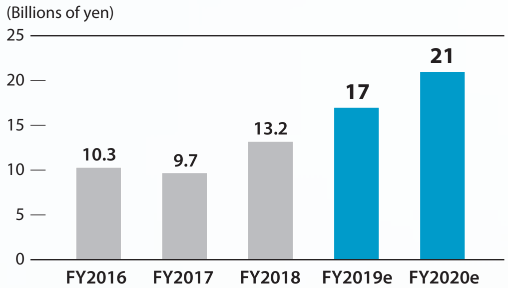

**Action 05**

### Strengthen Management Foundations
- Build a value chain management structure led by business divisions
- Enhance efficiency of administrative tasks and group management
- Reinforce performance-based personnel and pay systems; promote talented middle-age/young employees and recruit senior workers; cultivate and strengthen human resources
- Enhance productivity by utilizing digital technologies; build smart operation models for production and R&D*
- Strengthen corporate social responsibility (CSR) management to encompass Sustainable Development Goals (SDGs); ensure strong governance particularly for safety, quality, and environment (SQE) management*

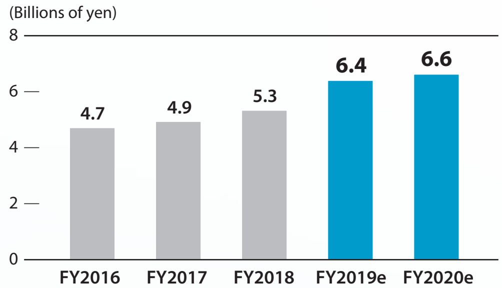
# Capital Investment and R&D Expenditures

During the FY2018 - 2020 period, Kureha will enhance its facilities and R&D activities as follows.

**FY2019 - 20 Capital Investment**
- PPS 5000t capacity increase
- PVDF capacity increase, 5000t or more
- New business development/R&D facilities, etc.




**FY2019 - 20 R&D Expenditures**
- Accelerate the development of new businesses
- Improve process technologies and develop downstream businesses
- Accelerate the development of new azole-type agrochemicals
- Promote collaborative work with other companies and universities




**Capital Investment and R&D Expenditures**

| (Billions of yen) | FY2018 Result | FY2019 – 2020 Plan (2yrs) |
|---|---|---|
| Capital investment | 13.2 | 38.0 |
| Depreciation | 10.3 | 23.0 |
| R&D expenditures | 5.3 | 13.0 |

# Basic Capital Policy

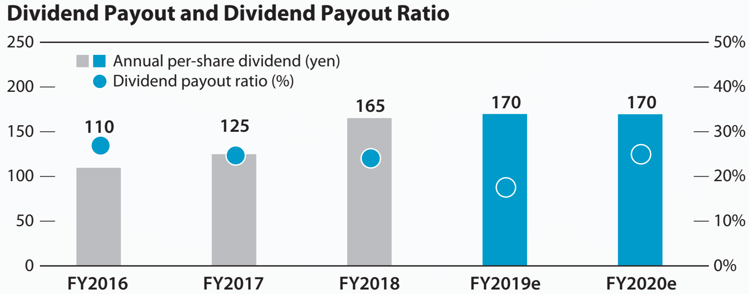
## Capital Management

Kureha will aim for sustainable growth that leads to long-term increase in enterprise value. We will steadily achieve the business goals and quantitative targets outlined in Kureha's Challenge 2020, while maintaining financial stability, enhancing earnings capacity and capital efficiency, and paying stable dividends to shareholders.

**ROA and ROE**

| | FY2018 Result | FY2020 Plan |
|---|---|---|
| ROA | 7.1% | Same level as FY2018 |
| ROE | 9.0% | 8.0% |

**Dividend Payout and Dividend Payout Ratio**




Note:
- Kureha conducted a ten-to-one share consolidation on October 1, 2016. All figures in this chart are presented on a post share consolidation basis for comparison purposes.

**Share Repurchase**

| FY2018 | FY2019 (Plan) |
|---|---|
| ¥3 billion | ¥5 billion |

Note:
- Share buybacks are conducted to flexibly adjust to varying financial conditions.

## Polyglycolic Acid—A Game-Changing Material in Shale Oil and Gas Exploration

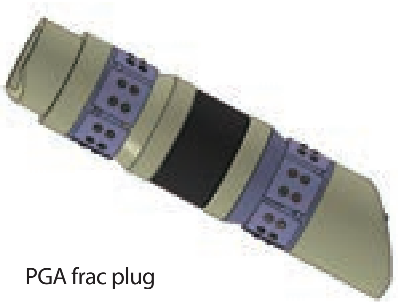
Polyglycolic acid (PGA) is a biodegradable resin with exceptional mechanical strength and gas barrier properties. Kureha is the only company in the world producing this resin on an industrial scale. We have high expectations for this innovative specialty polymer as a frac plug material that will revolutionize the shale oil and gas extraction process.

Shale oil and gas extraction involves drilling a horizontal wellbore into the shale layer, and using hydraulic pressure to create fissures. Frac plugs are used to temporarily block the hole in order to maintain the pressure. Once the fissures are created, the plugs are typically crushed and need to be recovered. Frac plugs made of PGA degrade naturally, eliminating this drill-out process, thereby greatly reducing the cost and time needed for the extraction process. The wellbore can also be extended to a distance beyond the reach of the crusher drills, increasing the amount of shale oil and gas that can be extracted from each rig, thus enhancing productivity.

Currently, the mining areas in North America constitute the principal market for these plugs, with the use of PGA plugs particularly widespread in the large Permian Basin region. The soil temperature in this area is lower than that of other mining regions, so Kureha developed a plug that would degrade at a low temperature, alongside modifications to meet specific customer needs. Some customers have already conducted field tests with positive results. Kureha is steadily expanding its presence in this market thanks to a lineup of frac plug products that degrade at different temperatures.

In 2016, Kureha established Kureha Energy Solutions LLC in Texas. This has allowed us to rapidly grasp market needs and apply that knowledge to product development. Going forward, we will focus on end user-oriented client services and respond precisely to customer needs in order to further raise awareness of the value of PGA frac plugs in the shale oil and gas market.

Kureha aims to achieve profitability in the PGA business in FY2019, targeting 1.0 billion yen in operating profit in FY2020.



PGA frac plug

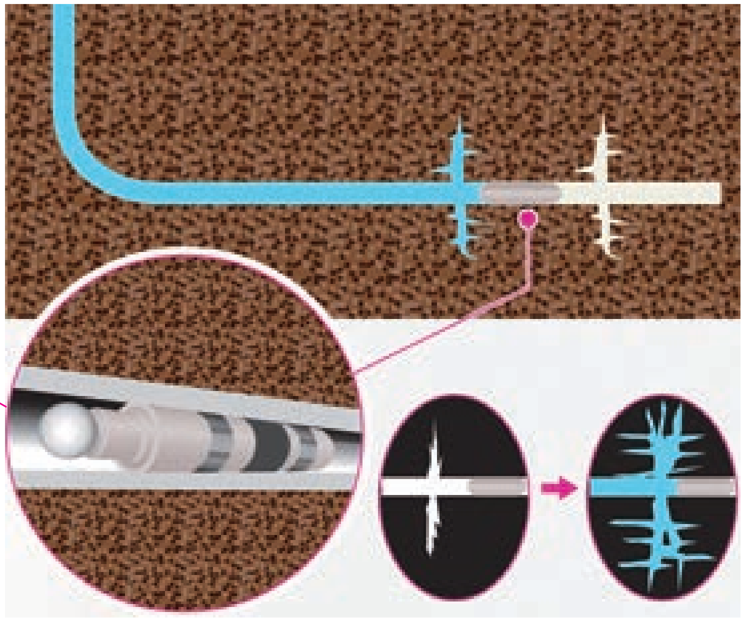


Image of shale oil and gas extraction process

## Polyvinylidene Fluoride—Growing Demand in the EV Market as an LiB Binder Material

Polyvinylidene fluoride (PVDF), when used as a binder for the connecting electrodes in lithium-ion batteries (LiBs), requires advanced electrical characteristics. As one of just a handful of companies that produces PVDF for this purpose, Kureha holds around a 40% share of the worldwide market for automotive PVDF binders, with acclaimed product performance.

Demand for LiBs for automotive use is growing rapidly with the widespread adoption of electric vehicles (EVs), and Kureha is steadily expanding PVDF production capacity in China and Japan. The expanded 2,000-tonne manufacturing plant at Iwaki in Japan began commercial operation in January 2019 and continues to operate at full capacity.

Initially, Kureha considered expanding the facilities at its Changshu site in China, but regulatory changes in the country has led us to explore expansion at other sites. We plan to announce our decision on this matter within FY2019. Nevertheless, Kureha will continue to make proactive investments to ensure it maintain a market-leading position in the global trend toward the adoption of EVs. To this end, we will further strengthen our production capacity incorporating highly efficient manufacturing processes.

PVDF production facility at Iwaki Factory

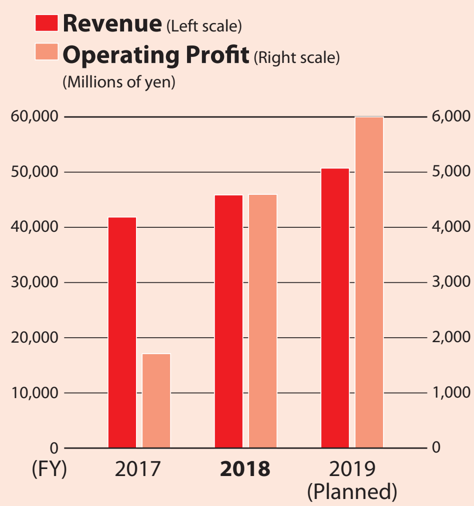
## Kureha Ecology Management Establishes the W.I.L. Center

As the subsidiary of a specialty chemicals manufacturer, Kureha Ecology Management Co., Ltd. is able to apply advanced technological capabilities to operate a business specializing in the proper disposal of waste considered difficult to process by ordinary means. Since 2011, the company has been detoxifying low-concentration PCB waste. While low-concentration PCB is used as an insulating material in electronic devices, its toxicity is considered a social problem. In Japan, it must be processed in accordance with strict government guidelines.

Kureha Ecology Management has established the W.I.L. (Wastech Iwaki Logistic) Center in Iwaki, Japan as a preprocessing facility to dismantle and store large-sized waste electrical equipment, including items containing low-concentration PCB. The center, which is capable of accepting large-sized electrical equipment weighing up to 30 tonnes, began operating on April 1, 2019. Kureha Ecology Management provides quick and efficient detoxification for the many pieces of large-sized electrical equipment stored throughout Japan, thus helping to reduce the workload for waste disposal companies.

W.I.L. Center

# Advanced Materials




**Key products**

- Polyphenylene sulfide (PPS)
- Polyvinylidene fluoride (PVDF)
- Polyglycolic acid (PGA)
- Carbon fibers
- Bead-shaped activated carbon

## *Major Product Areas:*

### *Advanced plastics (PPS, PVDF, PGA), carbon materials*

Advanced Materials revenue rose 10% year-on-year to 45.7 billion yen while operating profit jumped from 1.7 billion yen to 4.6 billion yen.

## Advanced plastics: Continued Momentum for PGA and PVDF

In the polyglycolic acid (PGA) business, higher sales volumes of frac plugs for shale gas and oil extraction enabled revenue of 4.4 billion yen and a significant decrease in the operating loss. Kureha's innovative degradable frac plugs have now been adopted by 17 field operators in the United States, up by 13 since the beginning of FY2018. The first field trial for an improved ultra-low temperature grade frac plug has been successfully completed, and other location trials are being prepared.

Demand for polyvinylidene fluoride (PVDF), an LiB binder material, continued to grow at a rapid rate due to the expanding global market for electric and plug-in hybrid electric vehicles, particularly in China. All of Kureha's PVDF plants are now operating at full capacity, including the latest addition in Iwaki launched in 2019. The continued high demand led operating profit in the PVDF business to increase 166.7% to 2.4 billion yen year-on-year.

The polyphenylene sulfide (PPS) business continued to see demand growth for automotive applications. However, operating profit continued to be affected by Hurricane Florence, which in September 2018 severely disrupted production at Fortron Industries, Kureha's joint venture with Celanese in North Carolina.

## Carbon Products: Continued Healthy Growth

The carbon products business continued to see healthy growth, driven by demand for heat-insulating materials used in the manufacturing of ingots for semiconductors, as well as the positive benefits of higher prices and operational improvements during the previous fiscal year. Revenue increased by 4% to 5.1 billion yen, leading to a rise in operating profit.

**FY2019 Outlook:**

Kureha expects to grow the PGA business in the North American market by expanding the product line-up with frac plugs that degrade at various temperatures. Revenue from this business is estimated to reach 6.4 billion yen, resulting in an increase in operating profit.

PGA frac plug used for shale oil and gas extraction

In the PVDF business, the intense demand is expected to continue, leading to further growth in revenue and operating income. The PPS business is forecast to recover fully from the effects of the hurricane in 2018, benefitting from solid demand from the automotive industry for weight-reducing metal substitutes. The carbon products business will see further demand for insulation materials, but sales of other types of carbon materials are forecast to decline, which will affect profits.

The Advanced Materials segment revenue is expected to increase by 10% to 50.5 billion yen, while operating profit will climb by 30% to 6.0 billion yen.

PVDF used as a binder for lithium-ion batteries

Carbon fiber insulation products

# Specialty Chemicals

## *Major Product Areas:*
### *Industrial chemicals, agrochemicals, pharmaceuticals*

Specialty Chemicals revenue grew by 4% to 27.3 billion yen while operating profit decreased by 4% to 3.3 billion yen.

### Agrochemicals: Lower Sales Volumes of Fungicide

In the agrochemicals business, inventory adjustments affected sales volumes of fungicides, leading to reduced revenue and operating profit.

### Pharmaceuticals: Revenue and Operating Profit Growth for *Kremezin* Tablets

In the pharmaceuticals business, sales volumes increased for the new tablet version of *Kremezin*, a therapeutic agent for chronic kidney disease, which was launched in FY2017, leading to a rise in operating profit that more than offset the negative effect of national drug price revisions.

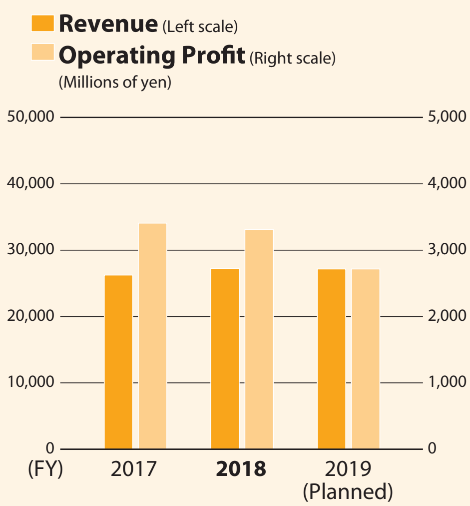
### Industrial chemicals: Revenue and Operating Profit Rise on Volume Growth

The industrial chemicals business saw increases in both revenue and operating profit following measures to improve the operating margin including price adjustments and cost reductions.

**FY2019 Outlook:**

Kureha expects to see continued strong sales of the new *Kremezin* tablets, which will mitigate the effects of national drug price revisions. In the agrochemicals business, inventory adjustments will continue to weigh on revenue and operating profit. In industrial chemicals, sales volumes for certain products are forecast to decline, which will affect revenue and operating profits. However, Kureha will continue its efforts to improve the operating margin.

The Specialty Chemicals segment revenue is forecast to decline slightly to 27.0 billion yen, while operating profit will fall by 18% to 2.7 billion yen.




### Key products

- Therapeutic agent for chronic renal failure
- Agricultural and horticulture fungicide
- Caustic soda
- Hydrochloric acid
- Sodium hypochlorite
- Monochlorobenzene
- para-Dichlorobenzene
- ortho-Dichlorobenzene

Agricultural and horticulture fungicide (*Metconazole*)

*KREMEZIN*® Tablets 500 mg

# Specialty Plastics

## *Major Product Areas:*
### *Household packaging products, food packaging materials, auto-packaging machinery*

Specialty Plastics segment revenue fell to 45.1 billion yen from 45.4 billion yen. Operating profit also decreased slightly to 6.7 billion yen.

### Home Products: Higher Costs Offset Sales Volume Growth

While the home products business saw higher sales volumes of Kureha's flagship *NEW Krewrap* plastic wrap and the *Kichinto-san* product series, operating profit growth was more than offset by rising costs related to raw materials and sales promotion.

### Fiber Products: Continued Growth Momentum for *Seaguar* Fishing Lines

Kureha continued to enjoy strong sales volumes of *Seaguar* fishing lines in North America, leading to an increase in operating profit for this business.

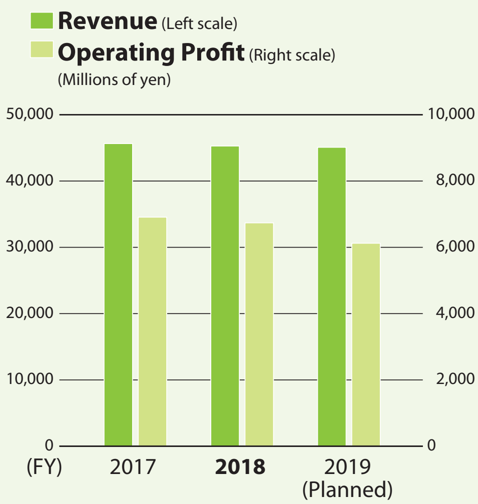
### Food Packaging Materials: Lower Earnings for Heat-Shrink Multilayer Film

Lower sales volumes of heat-shrink multilayer film in overseas markets, caused by intense competition, led to decreases in revenue and operating profit.

**FY2019 Outlook:**

Kureha expects to see continued sales growth for *NEW Krewrap* and the *Kichinto-san* series in the home products business, although higher costs, including for sales promotion, will negatively affect operating profit. Likewise, sales of *Seaguar* fishing lines are forecast to maintain their healthy momentum although higher depreciation expenses will weigh on operating profit. In food packaging materials, Kureha will continue its strategy of expanding sales of value-added film products in the Europe and Oceania regions. However, market competition is expected to remain fierce, causing revenue to remain flat and operating profits to decrease.

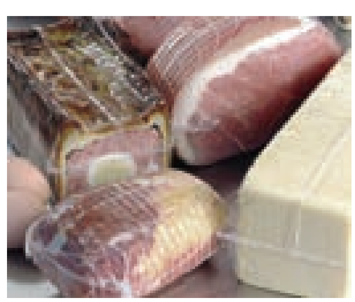
The Specialty Plastics segment revenue is forecast to remain nearly unchanged at 45.0 billion yen, while operating profit will decline by 9% to 6.1 billion yen.



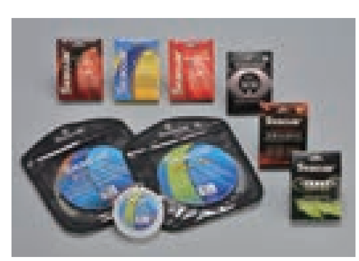

**Key products**

- Household wrap film
- Plastic containers
- PVDF fishing lines
- Polyvinylidene chloride (PVDC) film
- Multilayer shrinkable film
- Multilayer bottles
- Machinery for auto-seal food packaging

Home-use wrap film, *NEW Krewrap*

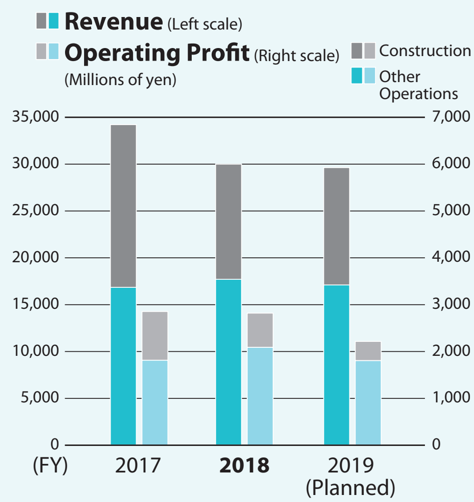


*Krehalon* food packaging film



*Seaguar* fluorocarbon fishing lines

# ▸ Construction and Other Operations




### Key products and services

- Civil engineering and construction
- Plant engineering and maintenance
- Industrial waste treatment and environmental engineering
- Environmental and physiochemical testing and analysis
- Transport and warehousing
- Medical hospital operation

## *Major Product Areas:*

### *Construction, environmental engineering, transport/ warehousing, and trading-related businesses*

### Construction: Earnings Affected by Lower Demand for Private Sector Projects

In FY2018, lower demand for private sector construction projects affected earnings, more than offsetting healthy sales volume growth for public projects in the engineering business. As a result, revenue for Kureha's Construction segment fell by 28% to 12.4 billion yen, while operating profit decreased to 0.7 billion yen.

### Other Operations: Waste Treatment Business Continues Its Growth Trajectory

In the environmental engineering business, Kureha's industrial waste treatment business continued on the growth trajectory seen since the previous year. In the logistics business, operating profit continued to rise despite lower revenue, primarily due to successful measures to boost operational efficiency and cut costs. In the hospital business, revenue returned to a growth track, leading to an increase in operating profit. As a result, revenue in Other Operations increased by 5% to 17.6 billion yen while operating profit climbed by 15% to 2.1 billion yen.

**FY2019 Outlook:**

Earnings in the Construction segment is expected to be affected by lower demand for post-quake reconstruction, while higher labor and raw material costs will weigh on operating profit. Segment revenue is forecast to remain largely unchanged at 12.5 billion yen while operating profit will decline by 40% to 0.4 billion yen.

In Other Operations, Kureha expects to see continued healthy growth in the logistics and hospital businesses, but intensifying competition in the industrial waste treatment business will affect revenue and operating profit. Segment revenue is expected to fall slightly to 17.0 billion yen while operating profit will decline by 14% to 1.8 billion yen.

Facility to detoxify low-concentration PCB wastes
[Kureha Ecology Management Co.]

Construction of water gate of Nakata River in Fukushima
[Kurehanishiki Construction Co.]

# ▶Research & Development

**Since its founding in 1944, Kureha has worked with creativity and passion to generate proprietary technologies that enrich people's lives and contribute to the advancement of industry. With core strengths in organic synthesis, polymer technology, carbon control, evaluation techniques, and process engineering, Kureha continues to reinforce its market position through product differentiation and innovation.**

**Our R&D efforts are twofold—creating new businesses and strengthening strategic growth businesses. To create new businesses, we are focusing our proprietary technologies on latent market needs, exploring business themes in the areas of environment, energy and quality of life (medicine and food). For existing businesses, we focus on enhancing competitiveness in both quality and cost, as well as strengthening secondary process technologies to further expand in the downstream businesses. For both existing and new businesses, Kureha will pursue open innovation and active collaboration with outside organizations. In everything that we do, Kureha will bring unique value creation to bear on the challenges faced by society and communities around the world.**

Research Center & Process Innovation Research Laboratories

Polymer Processing Research Laboratories

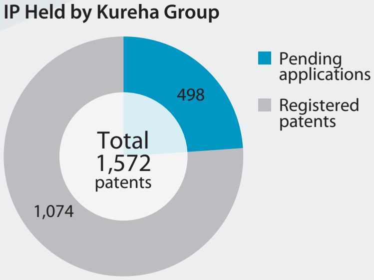
## Strategy for Intellectual Property

Kureha uses three intellectual property strategies to maintain its technological advantages and advance its business operations.

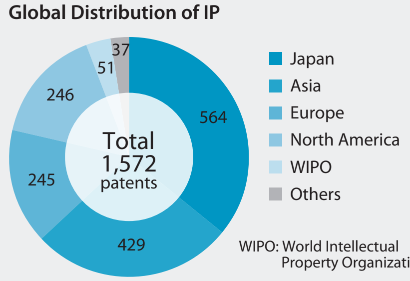
1. Assert intellectual property rights to R&D results to establish barriers to entry.
2. Utilize intellectual property rights to advance businesses.
3. Respect the intellectual property rights of others, and conduct appropriate intellectual property clearance.

The Kureha Group held 1,572 intellectual property rights as of May 2019, of which 1,074 are patent registrations. With the globalization of Kureha's business, we are also acquiring intellectual property rights in countries and territories outside Japan. Currently, 64.1% of the intellectual property rights held by the Kureha Group are outside Japan.

**IP Held by Kureha Group**

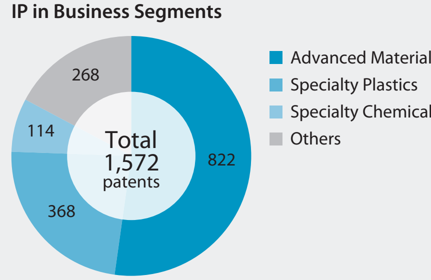



**Global Distribution of IP**




WIPO: World Intellectual Property Organization

**IP in Business Segments**



## FY2018 R&D Spending

Kureha's R&D spending amounted to ¥5,270 million in the fiscal year ended March 31, 2019 (FY2018). An overview of spending is as follows.

### Advanced Materials

For *Fortron KPS* (PPS), which is widely used in automobiles and electronic devices, Kureha has determined to enhance production at its Iwaki Factory, and is developing improved manufacturing processes and exploring ways to expand applications.

For *KF Polymer* (PVDF), Kureha's R&D and Manufacturing & Technology teams are working together to raise productivity and ensure stable production for an additional facility.

For *Kuredux* (PGA), we are actively developing applications while working to improve resin manufacturing technologies. Particularly in the area of shale oil and gas exploration, where PGA's easy-to-degrade attribute has proved useful, Kureha collaborates with its U.S. subsidiary, Kureha Energy Solutions LLC, to rapidly expand the sale of PGA frac plugs. We are continually working on materials development and improved engineering designs to reflect customer needs for degradable frac plugs.

Among battery materials, our development effort has centered on binder materials for the large lithium-ion batteries used in hybrid and electric vehicles. We are accelerating the development of advanced binder grades and improved solutions for customers, which will enable us to expand our market share.

FY2018 R&D spending in this segment amounted to ¥2,037 million.

### Specialty Chemicals

In the agrochemicals business, we are working to expand markets in Japan and overseas for *Metconazole* agricultural and horticultural fungicide and *Ipconazole* seed treatment fungicide. We are also improving productivity for these fungicide products.

In pharmaceuticals, we have developed and launched new easy-to-dissolve tablets of *Kremezin*, a therapeutic agent for chronic renal failure, as part of our supporting research to enhance the earnings of *Kremezin*.

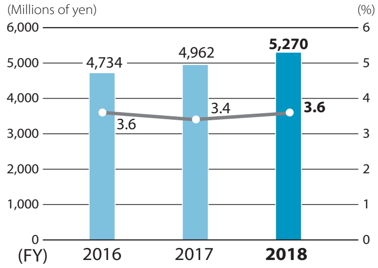
FY2018 R&D spending in this segment amounted to ¥1,903 million.

### Specialty Plastics

For food packaging film, Kureha is pursuing technology development to ensure stable supply and improve quality. In addition, to further expand global sales, we are actively providing technical support to customers in Japan and overseas.

FY2018 R&D spending in this segment amounted to ¥1,329 million.

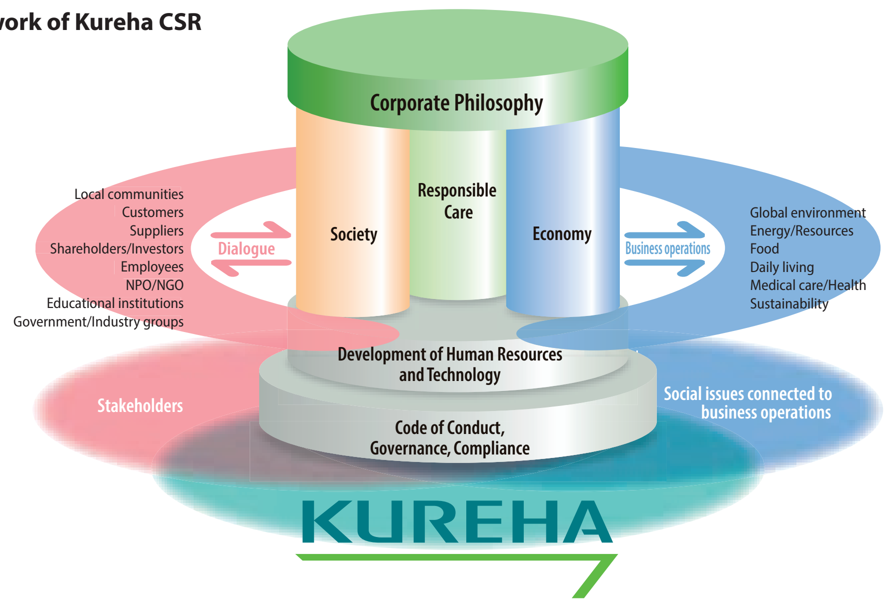
**R&D Expenditure/Ratio of R&D Expenditure to Revenue**




## Our CSR

Kureha is continually working to strengthen its competitiveness to enhance its enterprise value over the longer term. Our corporate philosophy and vision for the future is expressed in our ESG (Environmental, Social, and Governance) measures, which are aligned with the UN's Sustainable Development Goals. As a responsible corporate citizen, we seek to achieve harmony with the natural environment and contribute to the realization of a sustainable society, while reducing risk, providing motivation to employees and ensuring quality products and services. We firmly believe that generating environmental and social value alongside economic value leads to sound, sustainable growth as a company.

### The Framework of Kureha CSR




## Supporting Social Development

### Participation in Event to Nurture Venture Firms from Fukushima Prefecture

Fukushima Tech Planter is a program sponsored by Fukushima Prefecture and Leave a Nest Co., Ltd. to identify and support R&D-oriented venture firms. The final qualifying round was held on February 9, 2019, with Kureha participating in the judging panel.

Presentations from nine teams were considered. First prize went to Kureha Award recipient Professor Shuji Uchida of the National Institute of Technology, Fukushima College, for his presentation titled "Commercialization of Fruit Packaging with Aging Delay Function Using Plant-derived Materials."

Kureha will continue to support activities such as this and explore the potential for commercialization of products that benefit society.

## Reducing Environmental Burdens

### Group Company Certified as "Low $CO_2$ Kawasaki Brand '18"

In February 2019, the waste disposal operations of Kureha Group company Wastech Kanagawa, which incorporate a power generating facility that uses the exhaust heat from waste incineration, received certification from Kawasaki City as a "Low $CO_2$ Kawasaki Brand."

Wastech Kanagawa's incineration facility uses boilers to recover exhaust heat from the waste incineration process and generate electricity. The electricity produced is used in the plant to reduce the reliance on fossil fuels. The plant has reduced its utility power usage by around 94% compared with incineration facilities without such generators.

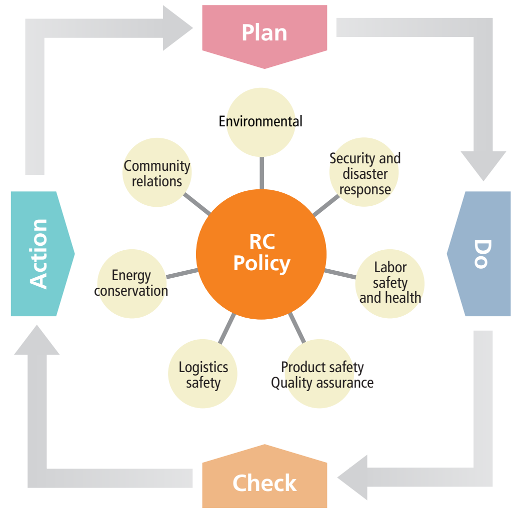
## Community Engagement

### Hospital Work Experience for Elementary School Students

In August 2018, Kureha Group's Kureha General Hospital held a "Kids Tour Experience" for elementary school students. Donning white coats, the children played the roles of doctors, nurses, clinical technicians, radiologists, and pharmacists. After an explanation of the various types of work in a hospital, they conducted mock medical examinations and other hospital tasks. Several parents of children aspiring to be doctors expressed appreciation and noted a boost in motivation. The Kureha Group will continue to conduct activities such as this to support community health care.

"Kids Tour Experience" for elementary school students

Kureha, an inaugural member of the Japan Responsible Care Council founded in 1995, continues to pursue Responsible Care initiatives to improve health, safety and environmental performance throughout its operations. We regard our commitment to Responsible Care as an integral part of our corporate responsibility.




## Responsible Care Implementation

Kureha is continually enhancing its responsible care initiatives under the direction of the Corporate Social Responsibility Committee and the Kureha Group Responsible Care Committee. We take proactive actions to protect the environment, improve labor safety and health and ensure product safety and quality, while being responsive and sensitive to community concerns. Our actions are in line with ISO14001, the international standards for environmental management, ISO9001 for product quality management as well as OHSAS18001 for labor safety and hygiene management, and are constantly improving through the Plan-Do-Check-Act cycle.

## Reducing the Burden on the Environment

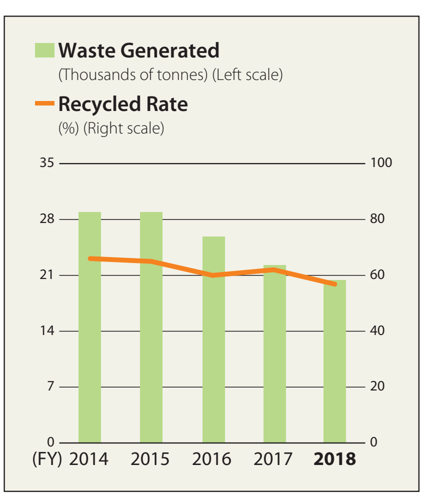
Since its establishment, Kureha has developed technologies and products with a view to reducing the burden on the environment. In our manufacturing facilities, we strive to minimize environmental impact by implementing strict measures to prevent air and water pollution, reduce chemical material and industrial wastes, and make effective use of energy.

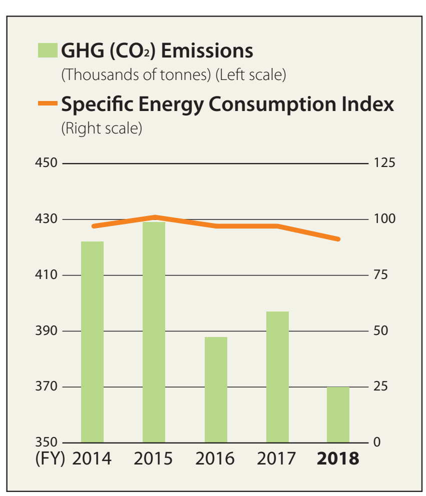
## Safety and Disaster Prevention

Safety and disaster prevention are among the most important responsibilities of a chemical manufacturing company. Kureha manages its facilities and operations in strict compliance with the relevant laws and regulations as well as voluntary safety standards set to best protect its employees and community. Comprehensive safety and emergency drills and training have been also conduced regularly at our manufacturing sites in order to enhance our preparedness for emergency situations, including a large-scale earthquake.

## Contributing to the Community

In addition to Kureha General Hospital serving as a community medical facility in the southern part of Iwaki City, Kureha contributes to the local community in a variety of different ways. These include opening company sports facilities for public use, volunteering for clean up activities, teaching science classes at elementary schools and holding community meetings to initiate dialogue with local neighborhood associations.




Disaster prevention and safety drill at the Iwaki Factory

# Corporate Governance

**Kureha's Corporate Philosophy, Corporate Mission, and Employee Code of Conduct together constitute our company's identity. All executives and employees share these ideals, and constantly strive to achieve ambitious goals. Corporate governance is a critical element in maintaining and acting in accordance with this identity, and we have outlined our basic policies and stance in Kureha's Corporate Governance Guidelines. Kureha follows these guidelines to ensure compliance and enhance internal control functions, provide for fair and transparent management, and ensure a high standard of corporate governance.**

### Corporate Philosophy

- We treasure people and the natural environment.
- We constantly evolve through innovation.
- We contribute to society by developing beneficial products.

### Corporate Mission

Kureha will continually strive in the pursuit of excellence.

### Employee Code of Conduct

We always act as global corporate citizens, recognizing our corporate social responsibilities.

In relation to our clients: We will act with sincerity and with customer satisfaction as our priority.

In relation to our work: We will consistently pursue progress and innovation.
We will consistently respond to change and act with a global perspective.

In relation to our colleagues: We will maintain mutual respect and exhibit teamwork.

## Decision-Making, Execution and Management Framework

1. Supervisory and executive responsibilities are clearly distinguished to strengthen corporate governance and accelerate managerial decision-making and execution.

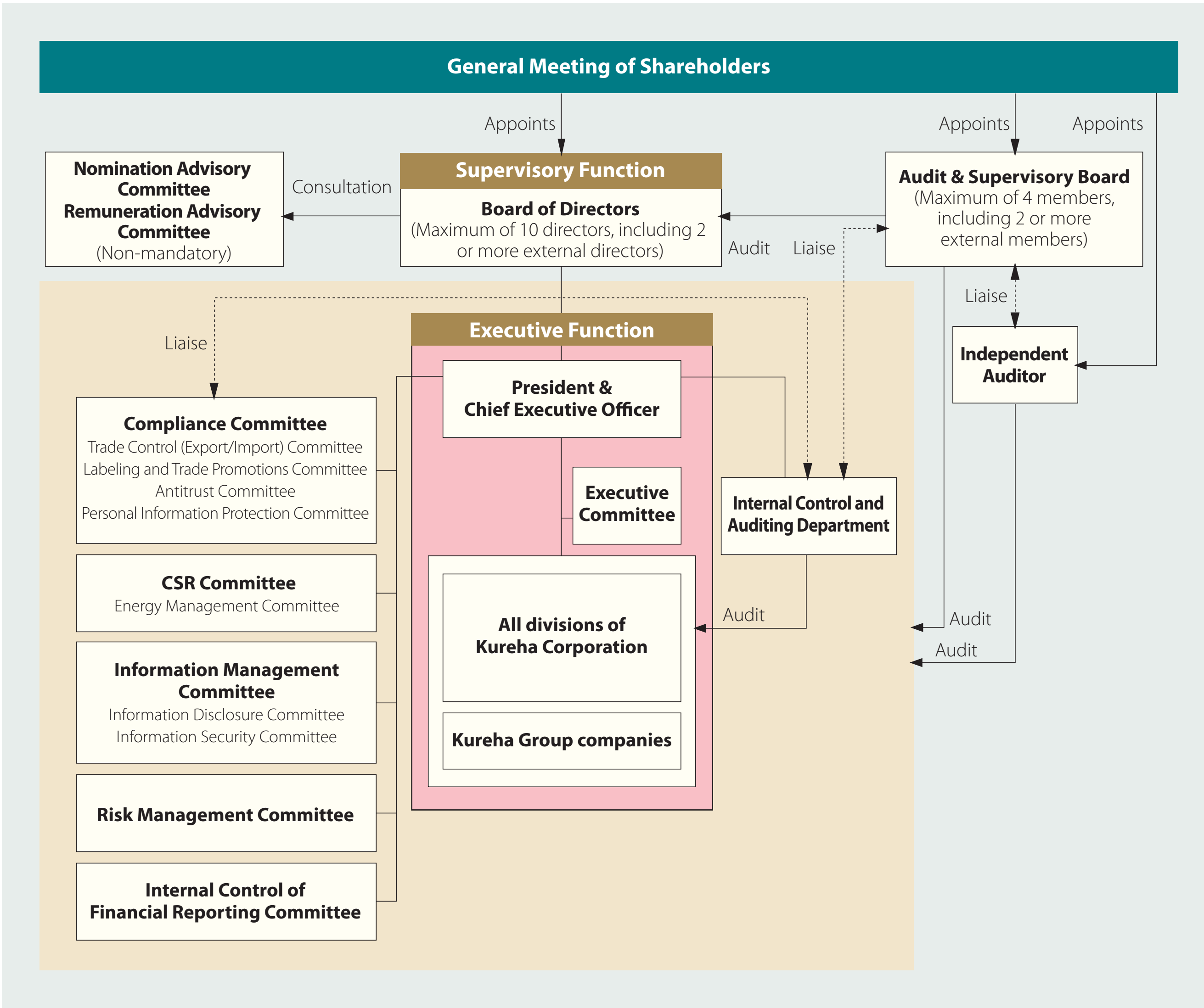
   The Board of Directors, which is limited in size to a maximum of 10 directors, of whom at least 2 should be outside directors, consists of 3 directors and 2 outside directors as of June 2017. The Board, presided over by the President & Representative Director, meets once a month in principle, to make decisions on important management issues and supervise execution.

   The Executive Committee, chaired by the President & CEO and comprised of executive officers meets twice a month in principle. The committee considers basic authoritative policies and mid- and long-term management strategy that cover all aspects of general management. The committee members pass resolutions on issues as authorized in official company regulations and take steps to ensure speedy implementation.

   To clarify responsibilities for fiscal year results, a one-year term is given to all directors and executive officers.
2. The consolidated Executive Committee, set up to unify the Kureha Group's internal policies and long-term management vision, is chaired by the President & CEO. It serves as a forum to exchange views on basic management policies and business strategies with representatives from each group company, with the aim of strengthening consolidated management. Meanwhile, the operations of group companies are supervised and managed in accordance with the Group Company Management Rules, in which the obligations of group companies are clearly specified, while giving autonomy, in terms of certain business and management issues required for reporting and consultation prior to making decisions within their companies.
3. A total of three Audit & Supervisory Board Members (including two independent outside Audit & Supervisory Board Members) forms the Audit & Supervisory Board. This body works within a framework that allows them to monitor the deliberation processes of board resolutions and reports, as well as have a representative Audit & Supervisory Board Member attend and monitor meetings of the Executive Committee and the Consolidated Executive Committee. In addition, Audit & Supervisory Board Members are able to access documentation including all documents requiring senior approval, results of internal audits, and documentation on the status of customer inquiries.

   Audit & Supervisory Board Members interact with accounting and internal control functions, for example to

## Diagram of Internal Control Systems (As of June 25, 2019)




exchange opinions on audit planning and progress. They also regularly exchange opinions with the President & Representative Director and outside directors on management matters including corporate governance, business conditions and issues that the Company should address.

In addition, the Internal Control and Auditing Department acts independently of other departments and under direct management and supervision of the President & CEO. Based on an annual internal audit plan approved by the Board of Directors, this department assesses the suitability and effectiveness of internal management control systems including compliance and risk management. It then proposes necessary or desired changes and improvements, so as to enhance both management efficiency and public trust in Kureha.

4. A Nomination Advisory Committee and a Remuneration Advisory Committee have been established as voluntary advisory bodies for the Board of Directors. Each committee comprises at least three directors, with outside directors in majority.

The Nomination Advisory Committee deliberates on matters concerning the appointment and dismissal of the President and Chief Executive Officer, Representative Directors, and Directors, as well as candidates to succeed the President and Chief Executive Officer and relevant succession plans, and reports its opinions and recommendations to the Board of Directors. The Remuneration Advisory Committee deliberates on matters related to the system and policies regarding remuneration for Directors, and reports its opinions and recommendations to the Board of Directors.

The establishment of these committees enhances transparency to the Board of Director’s decision-making regarding these matters, and increases accountability to stakeholders.

## Internal Control System

To further strengthen its internal control system, Kureha has established a set of basic policies, committees and internal rules to ensure that it observes laws and regulations and conducts its business operations in an appropriate and fair manner.

Under this system, Kureha publishes Internal Control Reports under the responsibility of the President & CEO.

In addition, Kureha has also established a set of Basic Rules for Internal Control of Financial Reports to ensure the reliability of the financial reports and to guarantee implementation of management's assessment and certified public accountant's auditing of the effectiveness of internal control of financial reports, as stipulated in the Financial Instruments and Exchange Law.

## Independent Directors and Audit & Supervisory Board Members

Presently, Kureha's Board of Directors and Audit & Supervisory Board each include two independent members selected from outside the Company. They fulfill their respective roles and duties in providing independent and fair supervision over the Company's management and business execution, while serving the interest of its stakeholders. Their independence standards also meet the requirements prescribed by the Tokyo Stock Exchange as well as the 'Criteria for Determining the Independence of Outside Executives' established by the Company.

### Outside Directors

**1. Osamu Tosaka**

Dr. Osamu Tosaka possesses advanced views and a wealth of experience in corporate management from a technological and research viewpoint due to his history of responsibility in international business and managing research and production divisions at a global food manufacturing company.

Dr. Tosaka was appointed Kureha Outside Director in June 2016.

**2. Tadao Ogoshi**

Mr. Tadao Ogoshi possesses advanced views and a wealth of global experiences in the management of financial institutions and business companies.

Mr. Ogoshi has been Kureha Outside Director since June 2017. Currently, he also serves as Outside Director and Audit and Supervisory Committee Member of Joban Kosan Co., Ltd.

### Outside Audit & Supervisory Board Members

**1. Masaru Kiriyama**

Mr. Masaru Kiriyama has extensive knowledge and expertise in risk management and compliance as well as financing and accounting through his previous work at Meiji Yasuda Life Insurance Company.

Mr. Kiriyama was appointed Kureha Outside Audit & Supervisory Board Member in June 2019.

**2. Yukako Oshimi**

Ms. Oshimi is a lawyer and partner at SHIBATA, SUZUKI & NAKADA, a Tokyo-based independent law firm. She is specialized in corporate laws and compliance, serving currently as Outside Member of Risk Management and Compliance Committee at ORIX Asset Management Corporation and Outside Auditor at FUJI SOFT INCORPORATED.

Ms. Oshimi was appointed Kureha Outside Audit & Supervisory Board Member in June 2019.

## Executive Remuneration

Executive remuneration reflects corporate performance. It is determined with consideration to enhancing medium- to long-term enterprise value, and in accordance with the compensation structure and levels appropriate to the roles and responsibilities required of each executive.

Total remuneration paid to directors and Audit & Supervisory Board Members in fiscal 2018 (ended March 31, 2019) was as follows.

| | |
|---|---|
| **Board directors** (for total of 5 directors) | **¥235.7 mil** (of which ¥30.6 mil was paid to 2 outside directors) |
| **Audit & Supervisory Board Members** (for total of 3 members) | **¥48.0 mil** (of which ¥27.3 mil was paid to 2 outside Audit & Supervisory Board Members) |

Note: The remuneration for board directors includes stock acquisition rights at a total value equivalent to 11.1 million yen, issued as reward-type stock options to 3 directors, not including outside directors.

## Compliance Program Framework

Kureha has in place a compliance program framework, based on the Kureha Group Ethical Charter and its Compliance Rules.

Kureha's compliance objective is to ensure that all executives and employees act in a manner that is consistent with legal compliance and that also meets the standards of our society. This framework is constantly being improved and reinforced so as to cultivate a compliance-focused corporate culture.

The Compliance Committee, led by the President & Chief Executive Officer (CEO), keeps employees informed of compliance issues through training programs and other activities based on the Compliance Handbook and the Compliance Standards. In addition, direct access to internal and external (legal) advisers for inquiries and reporting on compliance issues is maintained so that legal violations, confirmed or suspected, can be detected and deterred at an early stage.

## Disclosure and Transparency

Impartial and continuous information disclosure ensures management transparency and builds trust with stakeholders. Kureha provides timely and appropriate disclosure in accordance with all applicable laws and regulations, as well as the Timely Disclosure Rules prescribed by the Tokyo Stock Exchange. Kureha also proactively releases information deemed to be valuable to shareholders.

Kureha's General Meeting of Shareholders is held annually in June. To ensure that shareholders have sufficient time to review the proposals, the proxy statement for the shareholders' meeting is posted on the Company's website at the end of May, and mailed in early June. Shareholders are able to exercise their voting rights by post or via the Internet.

During the shareholders' meeting, Kureha uses video to clearly explain its business content and results, and makes every effort to respond directly and fully to shareholders' questions.

Kureha also holds regular briefings for institutional investors and analysts regarding its medium-term business strategies and results, and regularly provides individual hearings for investors in Japan and overseas.

## Risk Management System

In response to various types of risk accompanying business activities, Kureha has established a risk management structure consisting of a Risk Management Committee, a CSR Committee and an Information Management Committee. Each committee is tasked with recognizing related risks, and proposes concrete measures to the President & Representative Director aimed at reducing and avoiding risk and manages implementation.

In addition, to respond to unforeseen circumstances, a Business Continuity Plan is in place for the establishment of an emergency response task force, with the objective of prioritizing the safety of personnel, minimizing economic damage, and ensuring the continuation of corporate activities.

In terms of information management, Kureha works rigorously to ensure appropriate security and disclosure based on its regulations for information control, security and disclosure, with individual committees set up to oversee each of these areas.

To address environmental and safety risks, management procedures for the environment, quality, and labor safety have been established that comply with ISO 14001, ISO 9001, and OHSAS 18001 standards. In addition, Kureha is also continuing with ongoing efforts to improve environmental conservation, quality assurance, and occupational health and safety.

## Compliance with the Corporate Governance Code

The Corporate Governance Code is a compilation of various regulations aimed at ensuring substantive corporate governance at listed companies. It was formulated in March 2015 in response to revisions made to the Japanese government's growth strategy, the Japan Revitalization Strategy, in 2014.

Kureha considers thorough corporate governance to be of vital importance for strengthening the management base to achieve medium- to long-term corporate growth. In November 2015, the Company formulated its own Corporate Governance Guidelines to comply with the government code.

# Management Team

## Board of Directors

**Yutaka Kobayashi**
President &
Chief Executive Officer

**Michihiro Sato**
Senior Vice President
General Manager of Manufacturing &
Technology Division
General Manager of R&D Division

**Yoshio Noda**
Senior Vice President
General Manager of
Finance & Accounting Division
General Manager of
Administration Division

**Osamu Tosaka**
Outside Director

**Tadao Ogoshi**
Outside Director

## Audit & Supervisory Board

**Toru Yoshida**

**Masaru Kiriyama**

**Yukako Oshimi**

## Executive Officers

**Naomitsu Nishihata**
Senior Vice President

**Katsuhiro Natake**
Vice President, General Manager of
Advanced Products Division

**Koji Suyama**
Senior Vice President, General Manager
of Home Products & Packaging
Materials Division

**Satoshi Yonezawa**
Vice President, General Manager of
Chemicals Division

**Hiroyuki Tanaka**
Vice President, General Manager of
Iwaki Factory

**Masahiro Namikawa**
Vice President, General Manager of
Corporate Planning & Strategy Division

# Consolidated Financial Summary

Kureha Corporation and Consolidated Subsidiaries
Years ended March 31, 2019 (FY2018) and 2018 (FY2017)

| | Millions of yen | |
|---|---|---|
| | **FY2018** | FY2017 |
| **For the year:** | | |
| Revenue: | **¥ 148,265** | ¥ 147,329 |
| Domestic | **103,862** | 107,145 |
| Overseas | **44,402** | 40,182 |
| Revenue by segment: | | |
| Advanced Materials | **45,749** | 41,640 |
| Specialty Chemicals | **27,309** | 26,176 |
| Specialty Plastics | **45,148** | 45,397 |
| Construction | **12,415** | 17,354 |
| Other Operations | **17,643** | 16,760 |
| Operating profit | **17,172** | 12,973 |
| Advanced Materials | **4,607** | 1,669 |
| Specialty Chemicals | **3,301** | 3,421 |
| Specialty Plastics | **6,738** | 6,907 |
| Construction | **668** | 1,037 |
| Other Operations | **2,087** | 1,812 |
| Elimination or corporate | **(230)** | (1,876) |
| Profit attributable to owners of parent | **13,933** | 9,697 |
| Capital expenditure | **13,174** | 9,768 |
| Depreciation and amortization | **10,310** | 9,898 |
| Research and development expenses | **5,270** | 4,962 |
| Advanced Materials | **2,037** | 1,940 |
| Specialty Chemicals | **1,903** | 1,792 |
| Specialty Plastics | **1,329** | 1,229 |
| Construction | **—** | — |
| Other Operations | **—** | — |
| Cash flows from operating activities | **23,377** | 20,178 |
| Cash flows from investing activities | **(8,363)** | (9,698) |
| Cash flows from financing activities | **(15,478)** | (10,415) |
| **Year-end:** | | |
| Total assets | **¥ 247,352** | ¥ 242,281 |
| Total equity attributable to owners of parent | **160,551** | 150,193 |
| Interest-bearing debt | **39,018** | 48,089 |
| | Yen | |
| **Amounts per share:** | | |
| Basic profit per share | **¥ 679.55** | ¥ 507.48 |
| Owners' equity per share | **7,922.58** | 7,271.67 |
| Cash dividends per share | **165.00** | 125.00 |
| | Percent | |
| **Ratios:** | | |
| Operating profit to revenue | **11.6%** | 8.8% |
| Profit attributable to owners of parent to revenue | **9.4** | 6.6 |
| Return on equity | **9.0** | 7.1 |
| Return on assets | **7.1** | 5.3 |
| Owner's equity ratio | **64.9** | 62.0 |

Notes: 1. Return on equity = Profit attributable to owners of parent/Shareholders' equity × 100
2. Return on assets = Profit before tax/Total assets × 100
3. Owner's equity ratio = Owner's equity/Total liabilities and equity

# Management Discussion and Analysis

## Business environment

During the fiscal year ended March 31, 2019 (FY2018), the Japanese economy continued on a moderate recovery trend due to improvements in corporate earnings and the employment environment. Meanwhile, the world economy has faced uncertainty owing to geopolitical risks and trade friction.

## Analysis of business results

Revenue of the Kureha Group ("the Group") in the subject fiscal year increased by ¥936 million from the previous fiscal year to ¥148,265 million. Gross profit increased by ¥3,553 million to ¥43,582 million, and gross profit margin improved from 27.2% to 29.4%. Selling, general and administrative expenses increased by ¥858 million to ¥28,051 million. Share of profit of entities accounted for using equity method decreased by ¥261 million to ¥1,969 million, and other expenses (net of other income) amounted to a loss of ¥328 million, a decrease of ¥1,764 million in the loss from the previous fiscal year. As a result, operating profit increased by ¥4,199 million to ¥17,172 million, and the ratio of operating profit to revenue improved from 8.8% to 11.6%.

Finance income amounted to ¥262 million against a loss of ¥290 million in the previous fiscal year. As a result, profit before tax increased by ¥4,751 million to ¥17,435 million.

Income tax expense was ¥3,435 million, and profit for the year increased by ¥4,185 million to ¥13,999 million. The Group posted profit attributable to non-controlling interests of ¥65 million, and profit attributable to owners of parent increased by ¥4,236 million to ¥13,933 million.

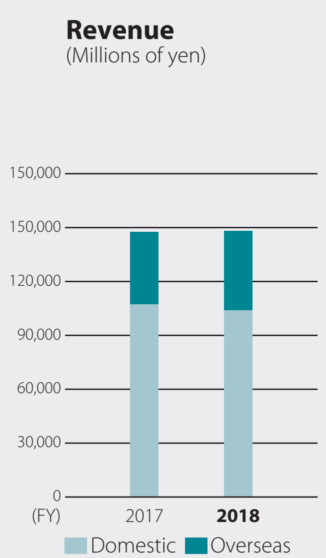
## Cash flow analysis

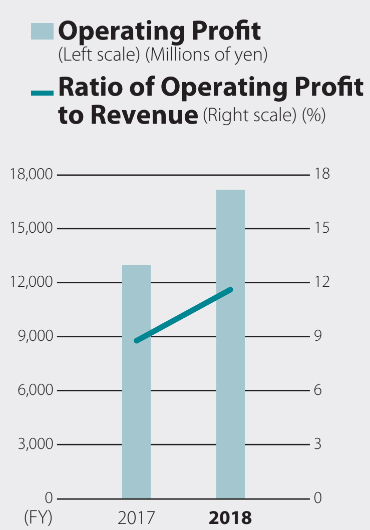
The balance of cash and cash equivalents at the end of the subject fiscal year (March 31, 2019) amounted to ¥5,989 million, a decrease of ¥486 million from the end of the previous fiscal year (March 31, 2018). An outline of individual cash flows and the main factors affecting each is as follows:

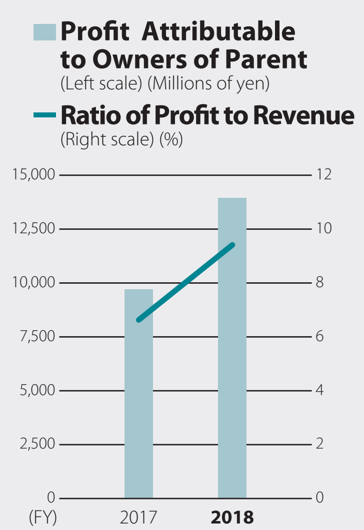
<u>Cash flows from operating activities</u>
Net cash provided by operating activities amounted to ¥23,377 million, an increase of ¥3,198 million from the previous fiscal year. This was mainly due to an increase in profit before tax and other factors.

<u>Cash flows from investing activities</u>
Net cash used in investing activities amounted to ¥8,363 million, a decrease of ¥1,335 million from the previous fiscal year. This was mainly because there were proceeds from down payment related to sales of property, plant and equipment and an increase in proceeds from sales of investment securities, and other factors, despite an increase in payments for purchases of property, plant and equipment, and intangible assets.

<u>Cash flows from financing activities</u>
Net cash used in financing activities amounted to ¥15,478 million, an increase of ¥5,063 million from the previous fiscal year. This was mainly due to a decrease in proceeds from issuance of bonds, an increase in acquisition of treasury stock, and other factors.



## Financial policy

The Kureha Group procures required capital through borrowing from financial institutions, and the issuance of corporate bonds and commercial paper. In addition, a cash management system has been introduced, in order to ensure that the Group is effectively utilizing funds and reducing finance costs. In addition to cash and cash equivalents, the Group also ensures the liquidity of funds by entering into commitment line agreements with financial institutions.

The Group's basic policy is to maximize cash flows from operating activities by securing earnings in line with its business plan and by enhancing asset efficiency, and to allocate cash with priority given to capital expenditure for new businesses and expansion of existing businesses, investments and loans, research and development, and dividend payments to investors. In line with this policy, the Group procures required capital with priority given to securing long-term funding, and in consideration of the balance between long- and short-term borrowings.

In regard to important planned outflows of capital and the sources of those funds, the Group intends to conduct capital expenditure centered on the Advanced Materials Division, and intends for capital required to be procured from cash-at-hand, corporate bonds, and borrowings.

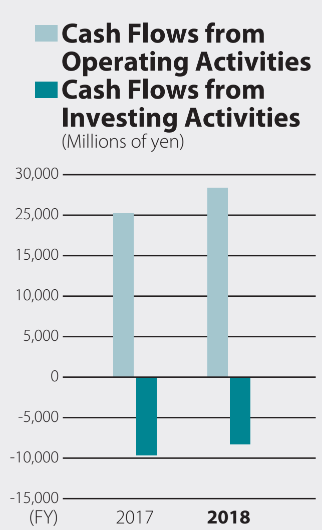
## Balance sheet analysis

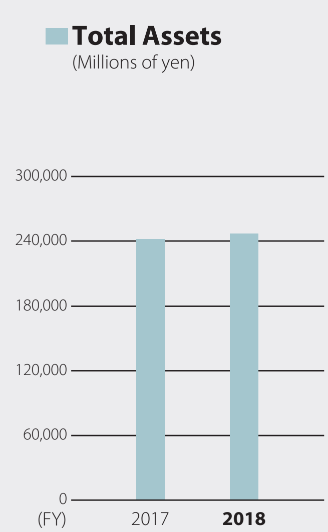
As of March 31, 2019, the Kureha Group's total assets amounted to ¥247,352 million, an increase of ¥5,070 million from the end of the previous fiscal year (March 31, 2018). Current assets totaled ¥78,777 million, an increase of ¥1,814 million from the end of the previous fiscal year, due to an increase in inventories and other factors. Non-current assets amounted to ¥168,574 million, an increase of ¥3,255 million from the end of the previous fiscal year, since property, plant and equipment amounted to ¥117,553 million, an increase of ¥3,316 million, mainly due to capital expenditures at the Iwaki Factory and other locations.

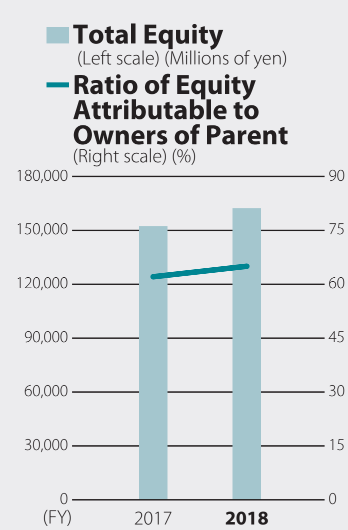
Total liabilities at the end of the subject fiscal year amounted to ¥85,184 million, a decrease of ¥5,056 million from the end of the previous fiscal year. This was mainly because of a decline in interest-bearing debt, by ¥9,071 million from the end of the previous fiscal year to ¥39,018 million.

Total equity at the end of the subject fiscal year amounted to ¥162,167 million, an increase of ¥10,126 million from the end of the previous fiscal year. This was due to the posting of profit attributable to owners of parent of ¥13,933 million, despite the payment of dividends in an amount of ¥2,891 million and purchase of treasury shares in an amount of ¥3,004 million.

As a result of the above, the ratio of owners' equity to gross assets improved by 2.9 percentage points from the previous fiscal year to 64.9%. Rate of return on equity (ROE) improved by 1.9 percentage points to 9.0%. Return on assets (ROA) improved by 1.8 percentage points to 7.1%.



## Overview of capital expenditure

Total capital expenditure of the Kureha Group during the fiscal year ended March 31, 2019 amounted to ¥13,174 million.

*Capital expenditure by business segment*

The Advanced Materials segment invested ¥7,067 million, mainly in manufacturing-related facilities for PPS resin (Kureha Corporation), manufacturing-related facilities for PVDF resin (Kureha Corporation), and an extrusion processing plant for plastic stock shapes and films (Kureha Extron Co., Ltd.).

The Specialty Chemicals segment invested ¥510 million, primarily in manufacturing-related facilities for industrial chemicals (Kureha Corporation).

The Specialty Plastics segment invested ¥1,541 million, primarily in manufacturing-related facilities for PVDC resin (Kureha Corporation).

The Construction segment invested ¥62 million in facilities.

The Other Operations segment invested ¥1,675 million, mainly in industrial waste processing facilities (Kureha Ecology Management Co., Ltd.).

In addition, as a joint initiative, the Advanced Materials, Specialty Chemicals, and Specialty Plastics segments invested ¥2,317 million in such areas as research and development facilities (Kureha Corporation) and common factory facilities (Kureha Corporation).

Capital required for these investments was procured from cash-at-hand, corporate bonds, and borrowings.

## Business and other risks

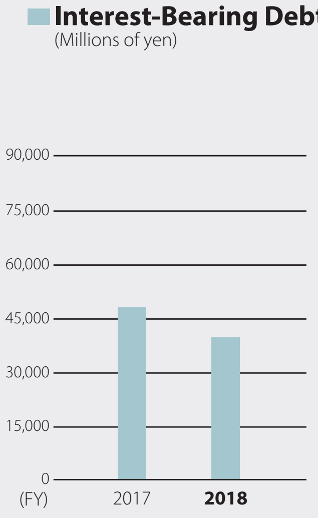
The Kureha Group's business operations are diverse, comprising the Advanced Materials segment focused on processed PGA resin products, PVDF resin, and PPS resin; the Specialty Chemicals segment focused on pharmaceuticals, agrochemicals and industrial chemicals; the Specialty Plastics segment focused on household products and food packaging; the Construction segment focused on construction and engineering; and the Other Operations segment including environmental businesses and logistics. Also geographically, the Group conducts business globally.

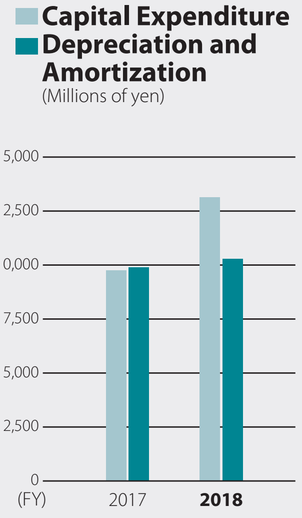
The main factors that could affect the operating results, stock price, financial position and other aspects of the Kureha Group are as follows.

Forward-looking statements in this text are based on evaluations made as of the end of the subject fiscal year (March 31, 2019).

(1) Changes in the business environment in Japan and overseas; changes in the market price of products

The Group's business is exposed to external factors such as changes in markets or customers, and intensification of competition with rival companies. Accordingly, changes such as a decrease in demand for the Group's principle products, customers shifting production overseas, and an increase in production capacity by competing firms, could have a negative effect on the Group's operating results and financial position.

(2) Changes in fuel and raw material prices
Raw materials such as naphtha and coal used by the Group, as well as fuel, are susceptible to changes in market conditions. As a result, changes such as an increase in the price of these raw materials, or the inability to shift the additional cost to product prices in a timely and appropriate manner, could have a negative effect on the Group's operating results and financial position.

(3) Product liability
The Group's core business is chemical manufacturing. The Group is acutely aware of the risks connected with its products and the manufacturing process, and is careful to continually exercise Responsible Care (autonomous management for environmental conservation, disaster safety and other measures). However, should a significant, unforeseen quality issue arise, there could be a negative effect on the Group's operating results and financial position.

(4) The Specialty Chemicals Division's pharmaceutical business
One of the Group's main businesses is the manufacture and sale of pharmaceuticals. Accordingly, revisions to drug prices under Japan's medical insurance system, as well as the rise of the usage of generic drugs, could have a negative effect on the Group's operating results.

(5) Country risks for overseas businesses
The Group conducts business globally. Accordingly, changes such as deterioration in the political or economic situation in each region, the enactment or abolishment of laws and regulations, international tax practice risks such as transfer price taxation, and deterioration in public safety, as well as unforeseen circumstances such as terrorism, armed conflict or natural disaster, could have a negative effect on the Group's operating results and financial position.

(6) Currency fluctuations
The items in the Group's financial statements not denominated in yen are susceptible to fluctuations in exchange rates when converted into yen. The Group concludes exchange contracts and takes other steps to minimize the effects of fluctuations in exchange rates. However, fluctuations in exchange rates beyond those predicted could have a negative effect on the Group's operating results and financial position.

(7) Investment securities
The Group holds investment securities (approximately 10% of total assets on a consolidated basis) for the purpose of long-term holdings as of the end of the subject fiscal year. Significant changes in market prices, or in the financial position of the issuing companies, could have a negative effect on the Group's operating results and financial position.

(8) Occurrence of natural disasters or accidents
Manufacturing of the Group's principal products is concentrated in the Iwaki Factory (Iwaki, Fukushima Prefecture), and as such the Group makes continual efforts focused on this facility for environmental conservation and to ensure safety. However, damage to production facilities as a result of natural disasters such as major earthquakes or typhoons, or due to fires and other accidents, could have a negative effect on the Group's operating results and financial position.

(9) Litigation
The Group has established the "Kureha Group Ethical Charter," "Compliance Rules" and "Compliance Standards," and strives to ensure that the Group strictly complies with all laws, regulations and societal norms. However, there is a risk that the Group's domestic or overseas businesses could be the target of lawsuits, administrative measures or other action. A major lawsuit or other action filed against Kureha could have a negative effect on the Group's operating results and financial position.

(10) Emergence of new technologies
The Group is committed to research and development in all its business fields, aiming to "develop differentiated products in the specialty chemicals field, and become a high value-added company that continually contributes to society." Particularly in the Advanced Materials segment, the Group considers it essential to develop and bring to market new products in a timely manner, given the remarkable pace of technological innovation. However, in cases where it is not possible to continuously develop and supply new products to meet customer needs, or in cases where other companies come up with revolutionary new technologies, there is a risk of obsolescence of some Kureha products and technologies due to rapid technological advance, or of product prices falling more steeply than anticipated due to intensified price competition triggered by new entrants in Japan and overseas. In such case, they could have a negative effect on the Group's operating results and financial position.

# Consolidated Statements of Financial Position

Kureha Corporation and Consolidated Subsidiaries
As of March 31, 2019 (FY2018) and 2018 (FY2017)

| | Millions of yen | |
|---|---|---|
| | **FY2018** | FY2017 |
| **ASSETS** | | |
| **Current assets:** | | |
| Cash and cash equivalents (Notes 7, 22) | **¥ 5,989** | ¥ 6,475 |
| Trade and other receivables (Notes 8, 22, 23) | **30,721** | 32,663 |
| Other financial assets (Note 22) | **28** | 89 |
| Inventories (Note 9) | **38,328** | 36,018 |
| Other current assets (Note 23) | **3,709** | 1,715 |
| Total current assets | **78,777** | 76,963 |
| **Non-current assets:** | | |
| Property, plant and equipment, net (Notes 10, 12, 15) | **117,553** | 114,236 |
| Intangible assets, net (Note 11) | **1,094** | 1,336 |
| Investments accounted for using equity method (Note 13) | **13,152** | 12,091 |
| Other financial assets (Notes 15, 22) | **28,589** | 30,458 |
| Deferred tax assets (Note 14) | **1,249** | 1,191 |
| Other non-current assets (Note 18) | **6,935** | 6,003 |
| Total non-current assets | **168,574** | 165,318 |
| **Total assets** | **¥247,352** | ¥242,281 |

| | Millions of yen | |
|---|---|---|
| | **FY2018** | FY2017 |
| **LIABILITIES AND EQUITY** | | |
| **Current liabilities:** | | |
| Trade and other payables (Notes 15, 16, 22) | **¥ 24,011** | ¥ 21,530 |
| Bonds and loans payable (Notes 15, 22) | **23,038** | 25,759 |
| Other financial liabilities (Notes 15, 22) | **523** | 533 |
| Accrued income taxes | **2,897** | 2,234 |
| Provisions (Note 17) | **6,176** | 5,947 |
| Other current liabilities (Note 23) | **7,348** | 6,591 |
| Total current liabilities | **63,995** | 62,595 |
| **Non-current liabilities:** | | |
| Bonds and loans payable (Notes 15, 22) | **15,514** | 21,657 |
| Other financial liabilities (Notes 15, 22) | **1,009** | 1,201 |
| Deferred tax liabilities (Note 14) | **2,546** | 2,657 |
| Provisions (Note 17) | **671** | 663 |
| Net defined benefit liability (Note 18) | **329** | 380 |
| Other non-current liabilities | **1,116** | 1,084 |
| Total non-current liabilities | **21,188** | 27,644 |
| **Total liabilities** | **85,184** | 90,240 |
| | | |
| **Equity:** | | |
| **Shareholders' equity:** | | |
| Capital stock, no par value (Note 20) | **18,169** | 18,169 |
| Capital surplus (Note 20) | **15,044** | 15,267 |
| Less: Treasury stock, at cost (Note 20) | **(3,689)** | (685) |
| Retained earnings (Note 20) | **122,363** | 108,715 |
| Other components of equity (Note 20) | **8,664** | 8,725 |
| **Total equity attributable to owners of parent** | **160,551** | 150,193 |
| **Non-controlling interests** | **1,616** | 1,847 |
| **Total equity** | **162,167** | 152,041 |
| **Total liabilities and equity** | **¥247,352** | ¥242,281 |

# Consolidated Statements of Profit or Loss

Kureha Corporation and its Consolidated Subsidiaries
For the fiscal years ended March 31, 2019 (FY2018) and 2018 (FY2017)

| | Millions of yen | |
|---|---|---|
| | **FY2018** | FY2017 |
| **Revenue (Notes 6, 23)** | **¥148,265** | ¥147,329 |
| **Cost of sales (Notes 9, 10, 11, 18)** | **104,683** | 107,300 |
| **Gross profit** | **43,582** | 40,028 |
| **Selling, general and administrative expenses (Notes 10, 11, 18, 19)** | **28,051** | 27,193 |
| **Share of profit of entities accounted for using equity method (Notes 6, 13)** | **1,969** | 2,230 |
| **Other income (Note 24)** | **615** | 510 |
| **Other expenses (Notes 10, 12, 25)** | **944** | 2,602 |
| **Operating profit (Note 6)** | **17,172** | 12,973 |
| **Finance income (Note 26)** | **651** | 603 |
| **Finance costs (Note 26)** | **389** | 893 |
| **Profit before tax** | **17,435** | 12,683 |
| **Income tax expense (Note 14)** | **3,435** | 2,869 |
| **Profit for the year** | **13,999** | 9,813 |
| | | |
| **Profit attributable to:** | | |
| Owners of parent | **13,933** | 9,697 |
| Non-controlling interests | **65** | 116 |
| Total | **¥ 13,999** | ¥ 9,813 |
| | | |
| **Profit per share (in Yen):** | | |
| Basic (Note 27) | **¥ 679.55** | ¥ 507.48 |
| Diluted (Note 27) | **679.07** | 469.18 |

# Consolidated Statements of Comprehensive Income

Kureha Corporation and its Consolidated Subsidiaries
For the fiscal years ended March 31, 2019 (FY2018) and 2018 (FY2017)

| | Millions of yen | |
|---|---|---|
| | **FY2018** | FY2017 |
| **Profit for the year** | **¥13,999** | ¥ 9,813 |
| **Other comprehensive income (loss):** | | |
| **Items that will not be reclassified to profit or loss:** | | |
| Financial assets measured at fair value through other comprehensive income (Notes 22, 28) | **1,504** | 3,936 |
| Remeasurements of defined benefit plans (Note 28) | **304** | 189 |
| Total | **1,809** | 4,126 |
| **Items that may be reclassified subsequently to profit or loss:** | | |
| Exchange differences on translating foreign operations (Note 28) | **692** | (778) |
| Total | **692** | (778) |
| Total other comprehensive income (loss) | **2,501** | 3,348 |
| **Comprehensive income (loss)** | **¥16,500** | ¥13,161 |
| | | |
| **Comprehensive income (loss) attributable to:** | | |
| Owners of parent | **¥16,465** | ¥13,020 |
| Non-controlling interests | **34** | 141 |
| **Comprehensive income (loss)** | **¥16,500** | ¥13,161 |

# Consolidated Statements of Changes in Equity

Kureha Corporation and its Consolidated Subsidiaries

FY2017 (From April 1, 2017 To March 31, 2018)

Millions of yen

| | Total equity attributable to owners of parent | | | | | |
|---|---|---|---|---|---|---|
| | | | | | Other components of equity | |
| | Capital, no par value | Capital surplus | Treasury stock, at cost | Retained earnings | Stock acquisition rights | Exchange differences on translating foreign operations |
| **BALANCE-APRIL 1, 2017** | ¥12,460 | ¥ 9,430 | ¥(4,456) | ¥101,731 | ¥319 | ¥(3,582) |
| Profit for the period | | | | 9,697 | | |
| Other comprehensive income | | | | | | (767) |
| Comprehensive income | — | — | — | 9,697 | — | (767) |
| Acquisition of treasury stock (Note 20) | | | (6) | | | |
| Disposal of treasury stock (Note 20) | | | 0 | 0 | | |
| Share-based payment transaction (Note 19) | | (0) | 29 | (4) | (12) | |
| Dividends (Note 21) | | | | (2,033) | | |
| Conversion of convertible bonds (Note 20) | 5,709 | 5,826 | 3,748 | (116) | (254) | |
| Equity transactions with non-controlling interests | | 10 | | | | (20) |
| Reclassification from other components of equity to retained earnings | | | | (557) | | |
| Total transactions with owners | 5,709 | 5,837 | 3,771 | (2,712) | (266) | (20) |
| **BALANCE-MARCH 31, 2018** | ¥18,169 | ¥15,267 | ¥ (685) | ¥108,715 | ¥ 52 | ¥(4,370) |

| | Total equity attributable to owners of parent | | | | | |
|---|---|---|---|---|---|---|
| | Other components of equity | | | | | |
| | Financial assets measured at fair value through other comprehensive income | Remeasurements of defined benefit plans | Total | Total | Non-controlling interests | Total equity |
| **BALANCE-APRIL 1, 2017** | ¥ 8,395 | ¥ — | ¥5,132 | ¥124,297 | ¥1,674 | ¥125,972 |
| Profit for the period | | | — | 9,697 | 116 | 9,813 |
| Other comprehensive income | 3,922 | 167 | 3,323 | 3,323 | 24 | 3,348 |
| Comprehensive income | 3,922 | 167 | 3,323 | 13,020 | 141 | 13,161 |
| Acquisition of treasury stock (Note 20) | | | — | (6) | | (6) |
| Disposal of treasury stock (Note 20) | | | — | 0 | | 0 |
| Share-based payment transaction (Note 19) | | | (12) | 12 | | 12 |
| Dividends (Note 21) | | | — | (2,033) | (41) | (2,075) |
| Conversion of convertible bonds (Note 20) | | | (254) | 14,913 | | 14,913 |
| Equity transactions with non-controlling interests | | | (20) | (10) | 73 | 62 |
| Reclassification from other components of equity to retained earnings | 725 | (167) | 557 | — | | — |
| Total transactions with owners | 725 | (167) | 270 | 12,875 | 31 | 12,906 |
| **BALANCE-MARCH 31, 2018** | ¥13,043 | ¥ — | ¥8,725 | ¥150,193 | ¥1,847 | ¥152,041 |

FY2018 (From April 1, 2018 To March 31, 2019)

Millions of yen

| | Total equity attributable to owners of parent | | | | | |
|---|---|---|---|---|---|---|
| | | | | | Other components of equity | |
| | Capital, no par value | Capital surplus | Treasury stock, at cost | Retained earnings | Stock acquisition rights | Exchange differences on translating foreign operations |
| **BALANCE-APRIL 1, 2018** | ¥18,169 | ¥15,267 | ¥ (685) | ¥108,715 | ¥52 | ¥(4,370) |
| Profit for the period | | | | 13,933 | | |
| Other comprehensive income | | | | | | 684 |
| Comprehensive income | — | — | — | 13,933 | — | 684 |
| Acquisition of treasury stock (Note 20) | | | (3,004) | | | |
| Share-based payment transaction (Note 19) | | | | | 11 | |
| Dividends (Note 21) | | | | (2,891) | | |
| Equity transactions with non-controlling interests | | (222) | | | | |
| Reclassification from other components of equity to retained earnings | | | | 2,605 | | |
| Total transactions with owners | — | (222) | (3,004) | (286) | 11 | — |
| **BALANCE-MARCH 31, 2019** | ¥18,169 | ¥15,044 | ¥(3,689) | ¥122,363 | ¥63 | ¥(3,686) |

| | Total equity attributable to owners of parent | | | | | |
|---|---|---|---|---|---|---|
| | Other components of equity | | | | | |
| | Financial assets measured at fair value through other comprehensive income | Remeasurements of defined benefit plans | Total | Total | Non-controlling interests | Total equity |
| **BALANCE-APRIL 1, 2018** | ¥13,043 | ¥ — | ¥ 8,725 | ¥150,193 | ¥1,847 | ¥152,041 |
| Profit for the period | | | — | 13,933 | 65 | 13,999 |
| Other comprehensive income | 1,545 | 302 | 2,532 | 2,532 | (30) | 2,501 |
| Comprehensive income | 1,545 | 302 | 2,532 | 16,465 | 34 | 16,500 |
| Acquisition of treasury stock (Note 20) | | | — | (3,004) | | (3,004) |
| Share-based payment transaction (Note 19) | | | 11 | 11 | | 11 |
| Dividends (Note 21) | | | — | (2,891) | (105) | (2,996) |
| Equity transactions with non-controlling interests | | | — | (222) | (160) | (383) |
| Reclassification from other components of equity to retained earnings | (2,302) | (302) | (2,605) | — | | — |
| Total transactions with owners | (2,302) | (302) | (2,594) | (6,107) | (265) | (6,373) |
| **BALANCE-MARCH 31, 2019** | ¥12,286 | ¥ — | ¥ 8,664 | ¥160,551 | ¥1,616 | ¥162,167 |

# Consolidated Statements of Cash Flows

Kureha Corporation and its Consolidated Subsidiaries
For the fiscal years ended March 31, 2019 (FY2018) and 2018 (FY2017)

| | Millions of yen | |
|---|---|---|
| | FY2018 | FY2017 |
| **Cash flows from operating activities:** | | |
| Profit before tax | ¥ 17,435 | ¥ 12,683 |
| Depreciation and amortization | 10,310 | 9,898 |
| Impairment loss (Note 12) | — | 746 |
| Finance income | (647) | (593) |
| Finance costs | 359 | 468 |
| Share of (profit) loss of entities accounted for using equity method | (1,969) | (2,230) |
| (Profit) loss on disposal and sale of property, plant and equipment, and intangible assets | 758 | 1,298 |
| (Increase) decrease in trade and other receivables | 961 | (3,415) |
| (Increase) decrease in inventories | (2,407) | 634 |
| Increase (decrease) in trade and other payables | 2,625 | 783 |
| Increase (decrease) in provision | 241 | 473 |
| Increase (decrease) in net defined benefit asset and liability | (547) | (847) |
| Other, net | (1,257) | 838 |
| Subtotal | 25,862 | 20,737 |
| Interest and dividends received | 1,656 | 1,759 |
| Interest paid | (375) | (414) |
| Income taxes paid | (3,766) | (1,903) |
| Cash flows from operating activities | 23,377 | 20,178 |
| **Cash flows from investing activities:** | | |
| Proceeds from sales of property, plant and equipment, and intangible assets | 59 | 65 |
| Proceeds from down-payment related to sales of property, plant and equipment | 1,175 | — |
| Payments for purchases of property, plant and equipment, and intangible assets | (13,438) | (9,857) |
| Proceeds from sales of investment securities | 4,102 | 247 |
| Purchase of investment securities | (25) | (180) |
| Proceeds from sales of assets held for sale | — | 793 |
| Proceeds from government grants | 247 | 230 |
| Other, net | (485) | (996) |
| Cash flows from investing activities | (8,363) | (9,698) |
| **Cash flows from financing activities:** | | |
| Dividends paid (Note 21) | (2,891) | (2,033) |
| Dividends paid to non-controlling interests | (105) | (41) |
| Net increase (decrease) in commercial paper and short-term loans payable (Note 29) | (3,730) | (4,325) |
| Proceeds from non-current loans payable (Note 29) | — | 1,130 |
| Repayments of non-current loans payable (Note 29) | (5,051) | (6,780) |
| Proceeds from issue of bonds (Note 29) | 4,971 | 6,963 |
| Repayments of bonds (Note 29) | (5,000) | (5,000) |
| Proceeds from contributions of non-controlling interests | — | 66 |
| Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation | (383) | (3) |
| Acquisition of treasury stock (Note 20) | (3,004) | (6) |
| Other, net | (283) | (383) |
| Cash flows from financing activities | (15,478) | (10,415) |
| **Effect of exchange rate changes on cash and cash equivalents** | (22) | 189 |
| **Net increase (decrease) in cash and cash equivalents** | (486) | 253 |
| **Cash and cash equivalents at beginning of year** | 6,475 | 6,222 |
| **Cash and cash equivalents at end of year (Note 7)** | ¥ 5,989 | ¥ 6,475 |

## 1. Reporting entity

Kureha Corporation (the "Company") is a company registered in Japan and listed on the Tokyo Stock Exchange. The locations of the Company's registered headquarters and main offices are available on the Company's website at https://www.kureha.co.jp/en/. The consolidated financial statements of the Company for FY2018 (from April 1, 2018 to March 31, 2019) comprise the Company and its subsidiaries (collectively the "Group"), and the Group's interests in its affiliates. The Group operates its businesses primarily in the manufacturing and sale of advanced materials, specialty chemicals, and specialty plastics, and engages in business activities including construction and repair of facilities, logistics and environmental protection, and other services.

## 2. Basis of preparation of the consolidated financial statements

### (1) Matters concerning compliance with IFRS

The Group's consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards ("IFRS").

The Group has adopted the provision of Article 93 of *Ordinance on Terminology, Forms, and Preparation Methods of Consolidated Financial Statements* because the Group satisfies the requirements for a "Designated IFRS Specified Company" as set forth in Article 1-2 of said Ordinance.

### (2) Basis of measurement

The Group's consolidated financial statements have been prepared on a historical cost basis except for some of the financial assets, financial liabilities, employee benefits and other items, which have been measured at fair value, as stated in "3. Significant accounting policies."

### (3) Functional currency and presentation currency

The consolidated financial statements are presented in Japanese yen, which is the Company's functional currency. In principle, all financial information presented in Japanese yen has been rounded down to the nearest million.

### (4) Approval of the consolidated financial statements

The consolidated financial statements have been approved at the Board of Directors meeting held on June 25, 2019.

## 3. Significant accounting policies

The accounting policies set out below have been applied consistently to all the periods presented in the consolidated financial statements, unless otherwise specified.

### (1) Basis of consolidation

1) Subsidiaries

A subsidiary is an entity which is controlled by the Group. The Group controls an entity when it is exposed, or has rights, to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

The financial statements of a subsidiary are included in the scope of consolidation from the date the Group obtains control of the subsidiary until the date it loses such control of the subsidiary.

When the accounting policies adopted by a subsidiary differ from those adopted by the Group, the financial statements of a subsidiary are adjusted as necessary.

When the closing date of the financial statements of a subsidiary differs from that of the Group's consolidated financial statements, the Group uses the financial statements based on a provisional settlement of accounts.

Intra-group balances and transactions, and any unrealized gains and losses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements.

Comprehensive income of the subsidiaries is allocated to owners of the parent and non-controlling interests, even when the non-controlling interests will result in a negative balance.

2) Affiliates

An affiliate is an entity over which the Group has significant influence in the financial and operating policy decisions, but that is not controlled or jointly controlled by the Group. If the Group holds between 20 percent and 50 percent of the voting rights of another entity, it is presumed that the Group has significant influence over the other entity. An investment in an affiliate is accounted for using the equity method.

When the closing date of the affiliate's financial statements differs from that of the Group's consolidated financial statements, the Group uses the financial statements based on a provisional settlement of accounts.

3) Joint ventures

A joint venture is an entity with a contractual agreement whereby two or more parties including the Group undertake an economic activity that is subject to joint control, which is the contractually agreed sharing of control over an economic activity, and exists only when the strategic financial and operating decisions relating to the activity require the unanimous consent of the parties sharing control.

The joint ventures held by the Group are accounted for using the equity method.

**(2) Business combinations**

Business combinations are accounted for using the acquisition method. The consideration transferred by the Company as an acquirer is measured as the aggregate of the acquisition-date fair value of the assets given, liabilities assumed and equity instruments issued by the Company in exchange for control of the acquiree. If (a) the aggregate of the consideration transferred by the Company, the amount of any non-controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree in a business combination achieved in stages (step acquisitions) exceeds (b) the fair value of identifiable assets and liabilities, the excess is recognized as goodwill in the consolidated statements of financial position. If, in the contrary, the amount of (a) above falls below the amount of (b), the difference is recognized immediately as profit or loss in the consolidated statements of profit or loss.

Acquisition-related costs, which are the costs the Group incurs to effect a business combination, are expensed as incurred.

As additional acquisitions of non-controlling interests in the Group's subsidiaries are accounted for as equity transactions, no goodwill is recognized as a result of such transactions.

**(3) Foreign currency translation**

1) Foreign currency transactions

The items included in the financial statements of each entity of the Group are measured in its functional currency. Foreign currency transactions are converted into the functional currency of each entity using the spot exchange rate at the transaction date. Monetary assets and liabilities denominated in foreign currencies are converted into the functional currency using the exchange rate at the end of the reporting period. Foreign exchange gains and losses resulting from the currency conversion and settlement are recognized in profit or loss, except where gains and losses arising from financial assets measured at fair value through other comprehensive income and cash flow hedges are recognized in other comprehensive income.

2) Financial statements of foreign operations

Assets and liabilities of foreign operations (including goodwill and fair value adjustments arising from the acquisition of foreign operations) are translated into Japanese yen using the exchange rate at the end of the reporting period, and revenue and expense items are translated into Japanese yen using the average exchange rates during the period. Exchange differences arising from the translation of financial statements of the foreign operations are recognized in other comprehensive income. In the event of a loss of control or significant influence (or joint control) due to the disposal of foreign operations, the relevant cumulative amount of translation differences associated with the foreign operations is reclassified into profit or loss as part of gain or loss on disposal.

**(4) Cash and cash equivalents**

Cash and cash equivalents are comprised of cash on hand; demand deposits; and short-term, highly liquid investments with a maturity of three months or less from the date of acquisition that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

**(5) Inventories**

Inventories are measured at the lower of cost and net realizable value. The cost of inventories includes costs of purchase, costs of conversion and all the other costs incurred in bringing the inventories to their present location and condition, and the cost is determined using the periodic average method if items of inventories are interchangeable or the specific identification method if they are not interchangeable. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale. Any difference arising from the measurement is recognized in profit or loss.

**(6) Property, plant and equipment**

The Group uses the cost model to measure items of property, plant and equipment. They are stated at cost less any accumulated depreciation and any accumulated impairment losses.

The cost of an item of property, plant and equipment includes directly attributable costs of acquisition, costs of dismantling, removing or restoring the item, and borrowing costs eligible for capitalization.

Except for non-depreciable assets such as land, an item of property, plant and equipment is depreciated using the straight-line method over the estimated useful life. The estimated useful lives of the major classes of assets are presented as follows:

| | |
|---|---|
| Buildings and structures: | 10 to 50 years |
| Machinery and equipment: | 7 to 20 years |
| Vehicles, tools, furniture and fixtures: | 4 to 10 years |

The estimated useful life, depreciation method and residual value of an asset are reviewed at the end of each reporting period. Any changes are accounted for prospectively as a change in accounting estimate.

**(7) Intangible assets**

1) Goodwill

The measurement of goodwill upon initial recognition is described in "3. Significant accounting policies, (2) Business combinations." Goodwill is stated at cost less any accumulated impairment losses.

Goodwill is not amortized, but instead tested for impairment annually or whenever there are indications that goodwill may be impaired. An impairment loss for goodwill is recognized in the consolidated statements of profit or loss and is not subsequently reversed.

2) Other intangible assets

The Group uses the cost model to measure a separately acquired intangible asset other than goodwill. With respect to an internally generated intangible asset, expenditure on such an asset is recognized as expenses in the period in which they are incurred except for development expenditures that qualify for capitalization.

Intangible assets with definite useful lives are stated at cost less any accumulated depreciation and any accumulated impairment losses, depreciated using the straight-line method over the estimated useful life, and tested for impairment whenever there are indications that the assets may be impaired. The estimated useful lives of the major classes of assets are presented as follows:

| | |
|---|---|
| Trademarks: | 10 years |
| Software: | 5 years |

The estimated useful life, amortization method and residual value of an asset are reviewed at the end of each reporting period. Any changes are accounted for prospectively as a change in accounting estimate.

Intangible assets with indefinite useful lives and those not yet available for use are not amortized, but instead tested for impairment individually or at a cash-generating unit level annually or whenever there are indications that they may be impaired.

**(8) Lease**

The Group determines whether the agreement contains a lease based on the substance of the arrangement at the commencement date of the lease transaction.

If a lease transfers to the Group, substantially all risks and rewards incidental to ownership of an asset, such a lease is classified as a finance lease, or otherwise it is classified as an operating lease.

A leased asset under a finance lease transaction is initially recognized at the lower of the fair value of the leased asset determined at inception of the lease and the present value of the minimum lease payments, and subsequently depreciated based on the applicable accounting policies using the straight-line method over shorter of the estimated useful life and the lease term. Lease payments are apportioned between the finance charge and the reduction of the outstanding liability. The finance charge is allocated to each period over the lease term so as to produce a constant periodic rate of interest on the remaining balance of the liability.

Lease payments under an operating lease are recognized as an expense on a straight-line basis over the lease term. Contingent rents are charged as expenses in the periods in which they are incurred.

**(9) Impairment of non-financial assets**

The Group assesses at the end of each reporting period whether there is any indication that its non-financial assets other than inventories and deferred tax assets may be impaired. If any such indication exists, it estimates the recoverable amount of the asset. Goodwill and an intangible asset with indefinite useful life or an intangible asset not yet available for use are tested for impairment annually regardless of whether there is an indication of impairment.

The recoverable amount of an asset or a cash-generating unit is the higher of its value in use and fair value less costs of disposal. In determining the value in use, estimated future cash flows are discounted using a pre-tax discount rate that reflects the time value of money and the risks specific to the asset.

Assets that are not individually tested for impairment are integrated with the smallest cash-generating unit that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets. The Group's corporate assets do not generate independent cash inflows. If there is an indication that the corporate assets may be impaired, the recoverable amount is determined for the cash-generating unit to which the corporate assets belong.

Goodwill acquired in a business combination is allocated to each of the cash-generating units that is expected to benefit from the synergies of the combination to ensure that goodwill is tested for impairment reflecting the smallest unit to which the goodwill relates.

Impairment losses are recognized as profit or loss when the carrying amount of an asset or a cash-generating unit exceeds its estimated recoverable amount.

The Group assesses at the end of each reporting period whether there is any indication that an impairment loss recognized in prior periods for an asset other than goodwill may have decreased or may no longer exist. An impairment loss is reversed if there is a change in the estimates used to determine the asset's recoverable amount.

**(10) Financial Instruments**

1) Non-derivative financial assets

(i) Initial recognition and measurement

The Group initially recognizes sale and purchase of securities on the account day and initially recognizes other financial assets when the Group becomes party to the contractual provisions of the financial assets.

At initial recognition, the financial assets are classified as financial assets measured at fair value through profit or loss, financial assets measured at fair value through other comprehensive income, or financial assets measured at amortized cost.

Financial assets are classified as financial assets measured at amortized cost if both of the following conditions are met. Otherwise financial assets are classified as financial assets measured at fair value.

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

Of financial assets measured at fair value, certain equity instruments such as stocks that are held with the purpose of facilitating business relations with investees are initially designated as financial assets measured at fair value through other comprehensive income. Other financial assets are designated as financial assets measured at fair value through profit or loss.

All financial assets are measured at fair value plus transaction costs directly attributable to acquisition of the financial assets unless the financial assets are classified as financial assets measured at fair value through profit or loss.

(ii) Subsequent measurement

Measurement of financial assets after initial recognition is performed as follows according to the classification:

(a) Financial assets measured at amortized cost

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

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

These financial assets are measured at fair value after initial recognition, and subsequent changes in fair value are included in other comprehensive income. If the Group disposes of an investment, or if the fair value of the investment declines significantly, for example, the cumulative gains or losses recognized in other comprehensive income are reclassified from other components of equity to retained earnings.

Dividends from the financial assets measured at fair value through other comprehensive income are recognized as finance income in profit or loss.

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

Financial assets designated to be measured at fair value through profit or loss, or financial assets other than (a) and (b) above are measured at fair value, and subsequent changes in their fair value are recognized in profit or loss.

(iii) Derecognition of financial assets

The Group derecognizes financial assets when the rights to receive benefits expire or when the Group transfers financial assets or substantially all the risks and rewards of ownership of the financial assets.

(iv) Impairment of financial assets

With respect to financial assets measured at amortized cost, the Group recognizes allowance for doubtful accounts based on the expected credit loss model for such financial assets. At each reporting date, the Group assesses whether the credit risks on the financial assets have increased significantly since initial recognition. If the credit risk on a financial asset has increased significantly since the initial recognition, the allowance for doubtful accounts is measured at an amount equal to the lifetime expected credit losses. If the risk on a financial asset has not increased significantly since the initial recognition, the allowance for doubtful accounts for the financial asset is measured at an amount equal to the 12-month expected credit losses. However, the allowance for doubtful accounts on trade and other receivables is always measured at an amount equal to the lifetime expected credit losses.

The Group estimates expected credit losses of a financial asset in a way that reflects:

- an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes;
- the time value of money; and
- reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

The amounts of these measurements are recognized in profit or loss.

2) Non-derivative financial liabilities

(i) Initial recognition and measurement

The Group initially recognizes a financial liability when the Group becomes party to the contractual provisions of the financial liability.

At the initial recognition, the Group classifies financial liabilities as financial liabilities measured at fair value through profit or loss or financial liabilities measured at amortized cost.

All financial liabilities are measured in the full amount after deducting transaction costs directly attributable to the financial liabilities from the fair value unless the financial liabilities are classified as financial liabilities measured at fair value through profit or loss.

(ii) Subsequent measurement

Financial liabilities measured at fair value through profit or loss are measured at fair value, and subsequent changes in the fair value are recognized in profit or loss.

After initial recognition, financial liabilities measured at amortized cost are measured at amortized cost using the effective interest method. Amortization using the effective interest method and gains and losses upon derecognition are recognized in profit or loss in its consolidated statements of profit or loss for the period.

(iii) Derecognition of financial liabilities

The Group derecognizes financial liabilities when they are discharged, cancelled or expired.

3) Derivatives and hedge accounting

The Group uses derivatives such as forward exchange contracts and interest rate swaps to hedge foreign currency risk and interest rate risk.

Derivatives are initially measured at fair value at the date when the derivative contract is entered into and are subsequently measured at fair value. Changes in the fair value of derivatives are immediately recognized in profit or loss except for those that qualify for hedge accounting.

The Group formally designates and documents the hedging relationship and the risk management objective and strategy for undertaking the hedge. The documentation includes the hedging instrument, the hedged item, the nature of the risk being hedged and the methods of assessing whether the hedging relationship meets the hedge effectiveness requirements. In addition, the Group assesses whether the hedging relationship meets the hedge effectiveness requirements, both at the inception and on an ongoing basis.

Hedging relationship that meet the criteria for hedge accounting are accounted as follows.

Changes in fair value of a derivative designated as fair value hedges are recognized in profit or loss. The carrying amount of hedged items is measured at fair value and the changes in the fair value of hedged items attributable to the hedged risk are recognized as profit or loss with adjustments to the carrying amount of the hedged items.

With regard to cash flow hedge, the effective portions of the gain or loss on the hedging instrument are recognized in other comprehensive income as the line item titled “Cash flow hedges.” Subsequently, such amounts associated with forward exchange contracts are reclassified as reclassification adjustment from equity to profit or loss in the same period in which the hedged item affects profit or loss. With regard to interest rate swaps, the changes in gains and losses on the hedging instrument are recognized as other comprehensive income.

Hedge accounting is discontinued prospectively when, and only when, the hedging relationship ceases to meet the qualifying criteria. This includes instances when the hedging instrument expires or is sold, terminated or exercised.

**(11) Employee benefits**

1) Post-retirement benefits

The Group has defined benefit plan and defined contribution plan as post-employment benefit plan.

The net defined benefit liability (asset) associated with the defined benefit plans is calculated by deducting the fair value of the plan assets from the present value of defined benefit obligations. The present value of defined benefit obligations and related current service costs and prior service costs are measured annually by independent actuaries based on the projected unit credit method. The discount rate is calculated by reference to market yields at the end of the fiscal year on highly rated corporate bonds denominated in the same currency as those used for future benefit payment, corresponding to the discount period determined based on the period until annual future payment dates.

Remeasurements of all of the net benefit liability (asset) arising from the defined benefit plans are recognized at once in other comprehensive income in the period in which they are incurred and immediately reclassified from other components of equity to retained earnings.

Current service costs are recognized as profit or loss for the period in which they are incurred.

Prior service costs are immediately recognized as profit or loss for the period in which they are incurred.

Contributions to defined contribution plans are recognized as an expense when they are paid.

2) Short-term employee benefits
Short-term employee benefit obligations are measured on an undiscounted basis, and are recognized at once when the related services are rendered. When there is a legal or constructive obligation to make payments of bonuses and paid leave expenses, and the obligation can be estimated reliably, the estimated amount to be paid under the relevant plans is accounted for as a liability.

**(12) Share-based payments**
The Group has a stock option plan accounted for as an equity-settled share-based payment plan. Stock options are estimated using its fair value at the grant date and recognized as expenses over the vesting periods with corresponding increases to equity and taking into account the estimated number of options to be vested. The fair value of options granted is measured using the Black-Scholes model based on the terms and conditions of the options.

**(13) Provisions**
The Group recognizes a provision when the Group has a present obligation (legal or constructive) as a result of a past event; it is probable that the Group will be required to settle the obligation through an outflow of resources embodying economic benefits, and a reliable estimate can be made of the amount of the obligation.

The amount of provision is measured at the present value of the expenditures expected to be required to settle the obligation. In calculating the present value, the pre-tax discount rate that reflects the current market assessment of the time value of money and the risks that are specific to the obligation is applied. Unwinding of the discount associated with the passage of time is recognized as finance costs.

**(14) Levies**
For levies that are an outflow of resources embodying economic benefits required by a government to the Group in accordance with laws and regulations, the estimated payment is recognized as a liability when the obligation event that triggers the payment of levies prescribed by laws and regulations occurs.

**(15) Revenue**
The Group has adopted IFRS 15 "Revenue from Contracts with Customers" since FY2018. In adopting this standard, the Group employs the method of recognizing the cumulative effect of changes in accounting policies on the date of start of application, which is utilized as a transitional measure.

The Group recognizes revenue based on the five-step approach described below.

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

With regard to the timing when the performance obligation is satisfied, the Group recognizes revenue after determining whether control over goods or services is transferred to a customer over a certain period of time or at a single point in time.

The Group operates its businesses primarily in the manufacturing and sale of advanced materials, specialty chemicals, and specialty plastics and with regard to sales of these products, the Group determines that a customer obtains control over a product and the performance obligation is satisfied when the product is delivered to the customer. Accordingly, the Group principally recognizes revenue at the time of delivery of its product to the customer.

With regard to provision of services, the Group determines that the performance obligation is satisfied while control over a service is transferred to a customer over a certain period of time and therefore, recognizes revenue principally in accordance with the progress of the service.

Revenue is measured at the amount of consideration promised in a contract with a customer less discounts, rebates, returns, taxes collected for a third party, etc. In addition, in the event that another party is involved in providing goods or services to a customer, the Group, if it is deemed as a principal, recognizes revenue on the gross amount basis (amount of consideration to which it expects to be entitled) and, if it is deemed as an agent, recognizes revenue on the net amount basis (amount of fee or commission to which it expects to be entitled).

(Change in accounting policies)
The Group has adopted the standards described below since FY2018.

| Standard | Title | Details of new or amended standard |
|---|---|---|
| IFRS 15 | Revenue from Contracts with Customers | Amendments to accounting treatment and disclosure method for revenue recognition |

In adopting this standard, the Group employs the method of recognizing the cumulative effect of changes in accounting policies on the date of start of application, which is utilized as a transitional measure.

In accordance with adoption of this standard, 1,789 million yen of contract assets, which were previously included in trade and other receivables, is included in other current assets and 896 million yen of refund liabilities is included in other current liabilities in the consolidated statements of financial position for FY2018. This adoption does not have material effect on the consolidated statements of profit or loss.

**(16) Government grants**

Government grants are recognized at fair value when there is reasonable assurance that the Group will comply with the conditions attaching to them and the grants will be received.

Government grants related to expense items are recognized as revenue on a systematic basis over the period in which the Group recognizes the related expenses for which the grants are intended to compensate. Government grants related to assets are directly deducted in arriving at the carrying value of the assets. Government grants are recognized in profit or loss over the useful lives of the depreciable assets as a reduction in depreciation.

**(17) Finance income and finance costs**

Finance income consists mainly of interest income and dividend income. Interest income is recognized when accrued by using the effective interest method. Dividend income is recognized when the Group's right to receive the dividends is established.

Finance costs consist mainly of interest expenses. Interest expenses are recognized when incurred by using the effective interest method.

**(18) Income taxes**

Income tax expenses consist of current tax expense and deferred tax expense. Income taxes are recognized in profit or loss, except when they arise from business combinations, and from items that are recognized directly in equity or in other comprehensive income.

Current tax expense is measured by the expected taxes payable to or receivable from tax authorities. The tax rates and tax laws that are used to calculate the tax amount are those enacted or substantively enacted by the end of the fiscal year in jurisdictions in which the Group operates business and earns taxable income.

Deferred tax expense is calculated based on temporary differences between the carrying amounts of assets and liabilities for financial accounting purposes and the tax bases of such assets and liabilities. Deferred tax assets are recognized for deductible temporary differences, the carryforwards of unused tax credits and the carryforwards of unused tax losses to the extent that it is probable that future taxable income will be available against which such deferred tax assets can be recovered. Deferred tax liabilities are recognized, in principle, for taxable temporary differences.

Deferred tax assets and liabilities are not recognized for the following temporary differences:

- Temporary differences arising from initial recognition of goodwill,
- Temporary differences arising from initial recognition of assets and liabilities from transactions that are not business combinations and affect neither accounting profit nor taxable income (tax loss),
- Deductible temporary differences on investments in subsidiaries and affiliates, when it is probable that such temporary differences will not reverse in the foreseeable future, or when it is unlikely that taxable income will be earned against which the temporary difference can be utilized,
- Taxable temporary differences on investments in subsidiaries and affiliates, when the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the assets are realized or the liabilities are settled, based on the tax rates and tax laws enacted or substantively enacted by the end of the fiscal year.

Deferred tax assets and liabilities are offset if the Group has a legally enforceable right to set off current tax assets against current tax liabilities and income taxes are levied by the same taxation authority on the same taxable entity.

**(19) Treasury stock**

Treasury stock is recognized at cost and deducted from equity. No gains or losses are recognized on the repurchase, sale or retirement of shares of the Company's treasury stock. Any difference between the carrying amount and consideration received on the sale of shares of the treasury stock is recognized directly as capital surplus.

**(20) Profit per share**

Basic profit per share are calculated by dividing profit attributable to owners of parent by the weighted average number of ordinary shares outstanding during the period, adjusted for treasury stocks held. Diluted profit per share is calculated by adjusting for the effects of all dilutive potential ordinary shares.

(Change in presentation methods)
(Consolidated Statements of Cash Flows)
"Acquisition of treasury stock," which was included in "other, net" under "cash flows from financing activities" in FY2017, is presented separately from FY2018 as its importance has increased. For reflecting this change in presentation method, the consolidated financial statements for FY2017 have been reclassified.

As a result, (390) million yen, which was included in "other, net" under "cash flows from financing activities" in the consolidated statements of cash flows for FY2017 has been reclassified to "acquisition of treasury stock" of (6) million yen and "other, net" of (383) million yen.

## 4. Significant accounting estimates and associated judgments

In preparing the Group's consolidated financial statements in compliance with IFRSs, the management is required to make judgments, estimates and assumptions that affect the adoption of accounting policies and the reportable amount of assets, liabilities and revenue and expenses. Actual results may differ from such estimates.

The estimates and their underlying assumptions are reviewed on an ongoing basis. The effect of a change in accounting estimates is recognized in the accounting period in which such estimates are changed and also in the future accounting periods.

Estimates and assumptions that may have material impact on the preparation of the Group's consolidated financial statements are as follows:

- Useful lives of property, plant and equipment (Item (6) of 3. Significant accounting policies and 10. Property, plant and equipment),
- Impairment of property, plant and equipment; goodwill and intangible assets (Item (9) of 3. Significant accounting policies and 12. Impairment of non-financial assets),
- Valuation of inventories (Item (5) of 3. Significant accounting policies and 9. Inventories),
- Recoverability of deferred tax assets (Item (18) of 3. Significant accounting policies and 14. Income taxes),
- Valuation of defined benefit obligations (Item (11) of 3. Significant accounting policies and 18. Employee benefits),
- Recognition of provisions (Item (13) of 3. Significant accounting policies and 17. Provisions) and
- Assumption on valuation of financial instruments (Item (10) of 3. Significant accounting policies and 22. Financial instruments).

Judgments made by the management in the course of applying the accounting policies are as follows:

- Determination of scope of consolidation (Item (1) of 3. Significant accounting policies) and
- Classification of financial instruments (Item (10) of 3. Significant accounting policies and 22. Financial instruments).

(Change in accounting estimates)
(Change in useful lives of property, plant and equipment)
The Company has reduced the useful life of a fixed asset which will become unavailable due to relocation of the headquarters annex building so that depreciation will be complete by the scheduled relocation date.

Pursuant to this change, operating profit and profit before tax for FY2018 were respectively lowered by 239 million yen compared to the previous method.

## 5. Standards and interpretations issued but not yet adopted

Of the new standards or interpretations that were established or amended by the date of approval of the consolidated financial statements, the following are the titles and other related information of the major new IFRSs. The Group has not yet adopted these standards in FY2018.

| Standard | Title | Effective date | Fiscal year in which the Group will apply the standard | Summary of new or amended standard |
|---|---|---|---|---|
| IFRS 16 | *Leases* | January 1, 2019 | Fiscal year ending March 31, 2020 | Amendments to accounting treatment for lease contracts |

IFRS 16 "Leases" requires that a right-of-use asset representing the right to use the underlying asset and a lease liability representing the obligation to make lease payments are recognized for all leases in principle. However, entities may elect not to adopt this standard in the case of short-term leases or low-value leases. After a right-of-use asset or a lease liability is recognized, depreciation of the right-of-use asset and interest expenses on the lease liability are recorded. With regard to application of this standard, we plan to adopt the method of recognition of the cumulative effect on the date of start of application, which is utilized as a transitional measure. The effect on the consolidated financial statements of the Group is under assessment.

## 6. Segment information

### (1) Overview of reportable segments

The Group's reportable segments are components for which separate financial information is available and whose operating results are regularly reviewed by the Board of Directors to decide on the allocation of operating resources and assess their performance.

The Group has separate divisions by product, and each division formulates a comprehensive strategy for business activities in domestic and overseas markets.

Accordingly, the Group consists of segments by product and service on the basis of the business divisions, and has the five reportable segments of "Advanced Materials," "Specialty Chemicals," "Specialty Plastics," "Construction," and "Other Operations."

Major products and services for each segment are as follows:

| Segment | Products and services |
|---|---|
| Advanced Materials | polyphenylene sulfide (PPS), polyvinylidene fluoride (PVDF), processed polyglycolic acid (PGA) products, carbon fiber, bead-shaped activated carbon, anode materials for lithium ion batteries |
| Specialty Chemicals | agricultural and horticultural fungicides, therapeutic agent for chronic renal failure, caustic soda, hydrochloric acid, sodium hypochlorite, monochlorobenzene, para-dichlorobenzene, ortho-dichlorobenzene |
| Specialty Plastics | household plastic wrap, garbage bags for kitchen sink, plastic food containers, cooking paper, PVDF fishing lines, polyvinylidene chloride (PVDC) film, multilayer heat-shrinkable film, multilayer bottle, auto-pack machinery (for food packaging) |
| Construction | civil engineering and construction contracting business, construction and management service |
| Other Operations | industrial waste management and environmental processing facilities, physiochemical and biochemical testing, analysis and measurement services, transport and warehousing, medical services |

### (2) Information on reportable segments

The accounting policies for the reportable segments are the same as those of the Group stated in "3. Significant accounting policies." Intersegment revenue is principally based on the market price.

As described in "4. Significant accounting estimates and associated judgments (Change in accounting estimates)," the useful life of a fixed asset which will become unavailable due to relocation of the headquarters annex building changed from FY2018. Pursuant to this change, operating profits for "Advanced Materials," "Specialty Chemicals" and "Specialty Plastics" were lowered by 87 million yen, 63 million yen, and 88 million yen, respectively, for FY2018, compared to the previous method.

The Group's segment information is as follows:

| | Millions of yen | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | FY2017 (From April 1, 2017 To March 31, 2018) | | | | | | | |
| | Reportable segments | | | | | | | |
| | Advanced Materials | Specialty Chemicals | Specialty Plastics | Construction | Other Operations | Total | Adjustment (Note) | Consolidated |
| **Revenue** | | | | | | | | |
| Revenue from external customers | ¥41,640 | ¥26,176 | ¥45,397 | ¥17,354 | ¥16,760 | ¥147,329 | ¥ — | ¥147,329 |
| Intersegment revenue | 707 | 327 | 334 | 4,580 | 5,745 | 11,695 | (11,695) | — |
| Total | 42,348 | 26,504 | 45,731 | 21,935 | 22,505 | 159,025 | (11,695) | 147,329 |
| Operating profit | 1,669 | 3,421 | 6,907 | 1,037 | 1,812 | 14,850 | (1,876) | 12,973 |
| Finance income | | | | | | | | 603 |
| Finance costs | | | | | | | | (893) |
| Profit before tax | | | | | | | | 12,683 |
| Other items | | | | | | | | |
| Segment assets | 82,943 | 22,601 | 40,066 | 8,198 | 18,519 | 172,329 | 69,951 | 242,281 |
| Depreciation and amortization | 3,278 | 932 | 2,311 | 100 | 1,203 | 7,826 | 2,071 | 9,898 |
| Impairment loss | — | — | — | — | — | — | 746 | 746 |
| Share of profit of entities accounted for using equity method | 1,963 | — | 267 | — | — | 2,230 | — | 2,230 |
| Increases in property, plant and equipment, and intangible assets | ¥ 3,308 | ¥ 661 | ¥ 2,585 | ¥ 90 | ¥ 777 | ¥ 7,421 | ¥ 2,346 | ¥ 9,768 |

Note: Adjustment to operating profit consists mainly of 216 million yen of profit resulting from elimination of intersegment transactions, 510 million yen of other income and 2,602 million yen of other expenses not allocated to any reportable segment.
Adjustment to segment assets includes corporate assets not allocated to reportable segments, which mainly consist of cash and deposits, investment securities and shared facilities of the Company.
Adjustment to impairment losses includes impairment losses for fixed assets of 194 million yen associated with the Advanced Materials segment and 552 million yen for fixed assets of the Specialty Plastics segment.

| | Millions of yen | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | | | | | | | |
| | Reportable segments | | | | | | | |
| | Advanced Materials | Specialty Chemicals | Specialty Plastics | Construction | Other Operations | Total | Adjustment (Note) | Consolidated |
| **Revenue** | | | | | | | | |
| Revenue from external customers | **¥45,749** | **¥27,309** | **¥45,148** | **¥12,415** | **¥17,643** | **¥148,265** | **¥ —** | **¥148,265** |
| Intersegment revenue | **782** | **227** | **230** | **6,093** | **5,923** | **13,258** | **(13,258)** | **—** |
| Total | **46,531** | **27,537** | **45,379** | **18,509** | **23,566** | **161,523** | **(13,258)** | **148,265** |
| Operating profit | **4,607** | **3,301** | **6,738** | **668** | **2,087** | **17,403** | **(230)** | **17,172** |
| Finance income | | | | | | | | **651** |
| Finance costs | | | | | | | | **(389)** |
| Profit before tax | | | | | | | | **17,435** |
| Other items | | | | | | | | |
| Segment assets | **89,575** | **21,187** | **39,911** | **7,734** | **18,913** | **177,322** | **70,029** | **247,352** |
| Depreciation and amortization | **3,381** | **1,155** | **2,310** | **102** | **1,279** | **8,228** | **2,081** | **10,310** |
| Impairment loss | **—** | **—** | **—** | **—** | **—** | **—** | **—** | **—** |
| Share of profit of entities accounted for using equity method | **1,690** | **—** | **238** | **—** | **40** | **1,969** | **—** | **1,969** |
| Increases in property, plant and equipment, and intangible assets | **¥ 7,067** | **¥ 510** | **¥ 1,541** | **¥ 62** | **¥ 1,675** | **¥ 10,856** | **¥ 2,317** | **¥ 13,174** |

Note: Adjustment to operating profit consists mainly of 97 million yen of profit resulting from elimination of intersegment transactions, 615 million yen of other income and 944 million yen of other expenses not allocated to any reportable segment.
Adjustment to segment assets includes corporate assets not allocated to reportable segments, which mainly consist of cash and deposits, investment securities and shared facilities of the Company.

**(3) Information on products and services**

This information is omitted because the same information is disclosed in "(1) Overview of reportable segments" and "(2) Information on reportable segments."

**(4) Information by geographical area**

Revenue from external customers

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Japan | **¥103,862** | ¥107,145 |
| Asia | **18,061** | 14,014 |
| Europe | **13,533** | 13,717 |
| Other | **12,808** | 12,451 |
| Total | **¥148,265** | ¥147,329 |

Note: Revenues are classified based on the location of customers.

Non-current assets (property, plant and equipment and intangible assets)

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Japan | **¥ 94,319** | ¥ 89,749 |
| U.S. | **13,936** | 14,432 |
| Other | **10,390** | 11,390 |
| Total | **¥118,647** | ¥115,573 |

Note: Non-current assets are classified based on the location of the assets.

**(5) Information on major customers**

This information is omitted because no customer accounted for 10% or more of revenue from external customers in the consolidated statements of profit or loss.

## 7. Cash and cash equivalents

Cash and cash equivalents comprise cash and deposits. The balances of "cash and cash equivalents" in the statements of financial position as of the end of FY2017 and FY2018 equal the balances of "cash and cash equivalents" presented in the corresponding consolidated statements of cash flows.

## 8. Trade and other receivables

The breakdown of trade and other receivables is as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Trade notes and accounts receivable | **¥29,610** | ¥31,907 |
| Other | **1,276** | 915 |
| Allowance for doubtful accounts | **(165)** | (159) |
| Total | **¥30,721** | ¥32,663 |

## 9. Inventories

The breakdown of inventories is as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Merchandise and finished goods | **¥32,070** | ¥30,278 |
| Work in process | **1,411** | 1,022 |
| Raw materials and supplies | **4,846** | 4,717 |
| Total | **¥38,328** | ¥36,018 |

Note: The amounts of inventory write-down recognized as expense for FY2017 and FY2018 are 1,827 million yen and 619 million yen, respectively. These amounts are included in "Cost of sales" in the consolidated statements of profit or loss.

## 10. Property, plant and equipment

### (1) Changes in carrying amount, cost, and accumulated depreciation and accumulated impairment losses

Carrying amount

| | Millions of yen | | | | | |
|---|---|---|---|---|---|---|
| | Buildings and structures | Machinery, equipment and vehicles | Land | Construction in progress | Other | Total |
| Balance as of April 1, 2017 | ¥40,070 | ¥47,802 | ¥17,864 | ¥6,752 | ¥ 3,421 | ¥115,911 |
| Acquisitions | 4,009 | 3,875 | 31 | 774 | 750 | 9,441 |
| Disposals | (32) | (172) | (45) | — | (16) | (267) |
| Depreciation | (2,856) | (5,524) | — | — | (1,133) | (9,514) |
| Impairment loss | (202) | (540) | — | — | (4) | (746) |
| Direct deduction due to government grants | (0) | (96) | — | — | (15) | (112) |
| Exchange rate differences | (47) | (442) | 12 | (9) | 10 | (475) |
| Other changes | 0 | 0 | — | — | (0) | 0 |
| Balance as of March 31, 2018 | ¥40,940 | ¥44,902 | ¥17,863 | ¥7,517 | ¥ 3,012 | ¥114,236 |
| Acquisitions | **4,184** | **8,049** | **18** | **(342)** | **1,123** | **13,032** |
| Disposals | **(49)** | **(150)** | **(0)** | **—** | **(8)** | **(207)** |
| Depreciation | **(3,111)** | **(5,739)** | **—** | **—** | **(1,090)** | **(9,940)** |
| Impairment loss | **—** | **—** | **—** | **—** | **—** | **—** |
| Direct deduction due to government grants | **—** | **—** | **—** | **—** | **—** | **—** |
| Exchange rate differences | **49** | **386** | **(6)** | **8** | **(5)** | **432** |
| Other changes | **—** | **(0)** | **—** | **—** | **0** | **—** |
| Balance as of March 31, 2019 | **¥42,013** | **¥47,449** | **¥17,875** | **¥7,183** | **¥ 3,031** | **¥117,553** |

Notes: 1. Depreciation is recorded in "Cost of sales" and "Selling, general and administrative expenses" in the consolidated statements of profit or loss.
2. Impairment loss is recorded in "Other expenses" in the consolidated statements of profit or loss. See the section entitled 12. Impairment of non-financial assets" for further details on impairment.
3. The line item "Acquisitions" above includes transfers from construction in progress to items of property, plant and equipment.

Cost

| | Millions of yen | | | | | |
|---|---|---|---|---|---|---|
| | Buildings and structures | Machinery, equipment and vehicles | Land | Construction in progress | Other | Total |
| Balance as of April 1, 2017 | ¥102,705 | ¥165,649 | ¥18,459 | ¥6,752 | ¥16,411 | ¥309,979 |
| Balance as of March 31, 2018 | ¥106,222 | ¥165,733 | ¥18,458 | ¥7,517 | ¥16,291 | ¥314,223 |
| Balance as of March 31, 2019 | ¥109,930 | ¥171,079 | ¥18,470 | ¥7,183 | ¥16,354 | ¥323,018 |

Accumulated depreciation and accumulated impairment losses

| | Millions of yen | | | | |
|---|---|---|---|---|---|
| | Buildings and structures | Machinery, equipment and vehicles | Land | Other | Total |
| Balance as of April 1, 2017 | ¥62,635 | ¥117,847 | ¥594 | ¥12,989 | ¥194,067 |
| Balance as of March 31, 2018 | ¥65,282 | ¥120,830 | ¥594 | ¥13,278 | ¥199,986 |
| Balance as of March 31, 2019 | ¥67,917 | ¥123,629 | ¥594 | ¥13,323 | ¥205,464 |

**(2) Government grants that were directly deducted from the cost of fixed assets (by applying reduction entry to fixed assets) are as follows:**

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Amount subject to reduction entry | **¥7,309** | ¥7,322 |

Note: The amount represents direct deduction of subsidy from the carrying amounts of building, machinery and equipment, etc. related to Fukushima Business Investment Subsidy for Revitalization of Industries.

## 11. Intangible assets

### (1) Changes in carrying amount, cost, and accumulated amortization and accumulated impairment losses

Carrying amount

| | Millions of yen | | |
|---|---|---|---|
| | Software | Other | Total |
| Balance as of April 1, 2017 | ¥ 692 | ¥703 | ¥1,395 |
| Acquisitions | 325 | 1 | 326 |
| Disposals | (1) | (0) | (1) |
| Amortization | (286) | (96) | (383) |
| Exchange rate differences | 0 | (1) | (1) |
| Other changes | (0) | — | (0) |
| Balance as of March 31, 2018 | ¥ 729 | ¥606 | ¥1,336 |
| Acquisitions | **126** | **15** | **142** |
| Disposals | **(15)** | **(0)** | **(15)** |
| Amortization | **(273)** | **(96)** | **(369)** |
| Exchange rate differences | **(0)** | **1** | **1** |
| Other changes | **—** | **—** | **—** |
| Balance as of March 31, 2019 | **¥ 567** | **¥526** | **¥1,094** |

Notes: 1. Amortization of intangible assets is recorded in “Cost of sales” and “Selling, general and administrative expenses” in the consolidated statements of profit or loss.

2. The line item “Acquisitions” above mainly represents the amounts of intangible assets purchased from external parties.

Cost

| | Millions of yen | | |
|---|---|---|---|
| | Software | Other | Total |
| Balance as of April 1, 2017 | ¥1,883 | ¥1,037 | ¥2,920 |
| Balance as of March 31, 2018 | ¥1,727 | ¥1,006 | ¥2,734 |
| Balance as of March 31, 2019 | ¥1,640 | ¥1,011 | ¥2,652 |

Accumulated amortization and accumulated impairment losses

| | Millions of yen | | |
|---|---|---|---|
| | Software | Other | Total |
| Balance as of April 1, 2017 | ¥1,191 | ¥333 | ¥1,525 |
| Balance as of March 31, 2018 | ¥ 997 | ¥400 | ¥1,397 |
| Balance as of March 31, 2019 | ¥1,072 | ¥485 | ¥1,557 |

**(2) Research and development expenses**

The total amounts of expenditures for research and development recognized as expense for FY2017 and FY2018 are 4,962 million yen and 5,270 million yen, respectively.

## 12. Impairment of non-financial assets

**(1) Impairment loss**

The Group recognizes impairment losses when either the carrying amount of an asset or a cash-generating unit exceeds its estimated recoverable amount.

The Group recognized impairment losses for property, plant and equipment for FY2017 in an amount of 746 million yen.

**(2) Main events and circumstances that led to recognition of impairment losses**

FY2017 (From April 1, 2017 To March 31, 2018)

| Segment | Purpose of use | Location | Type of assets | Amount (Millions of yen) |
|---|---|---|---|---|
| Advanced Materials | Manufacturing facility | Shanghai, PRC | Machinery and equipment | ¥194 |
| Specialty Plastics | Idle assets | Iwaki, Fukushima | Buildings | 122 |
| | | | Structures | 80 |
| | | | Machinery and equipment | 346 |
| | | | Tools, furniture and fixtures | 4 |
| | | | Total | 552 |
| | | Total | | 746 |

In principle, the Group has grouped the operating assets by segment and by company, and idle assets and assets for lease by individual properties.

Recoverable value is the higher of value in use and fair value less costs of disposal. Value in use is the present value of future cash flows calculated by using pre-tax weighted average cost of capital of a cash-generating unit. If future cash flows are not expected to be derived from a cash-generating unit, the value in use is taken as zero. Fair value less costs of disposal is evaluated either by the estimated disposal amount or the amount reasonably calculated based on assessed values of fixed assets for property tax, and it is taken as zero when sale cannot be expected.

1) Advanced Materials segment

For manufacturing facility, under the carbon products business in the Advanced Materials segment which was affected by the weak demand and increasingly fierce competition in China, the Group conducted a thorough review and assessment of business, including its projected earnings. Consequently, for the above mentioned manufacturing facility, the Group wrote down the carrying amount of fixed assets associated with the carbon products business to their recoverable value and recognized the reduction of 194 million yen as other expenses. In addition, the Group applies value in use for recoverable value, which is calculated as 768 million yen after discounting future cash flows of 13%.

2) Specialty Plastics segment

For idle assets, due to change in market conditions, they are no longer expected to be used in the future. Consequently, the Group wrote down the carrying amount of the above mentioned fixed assets to their recoverable value and recognized the reduction of 552 million yen as other expenses. In addition, the Group applies value in use for recoverable value, which is calculated as zero.

FY2018 (From April 1, 2018 To March 31, 2019)
Not applicable.

## 13. Investments accounted for using the equity method

**(1) The aggregate carrying amounts of the Group's interests in individually immaterial affiliates and joint ventures are as follows:**

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Joint ventures | **¥10,475** | ¥9,130 |
| Affiliates | **2,677** | 2,960 |

**(2) The aggregate amounts of profit for the year, other comprehensive income and comprehensive income of individually immaterial affiliates and joint venture that are adjusted to reflect the portion of ownership interests are as follows:**

Joint ventures

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 to March 31, 2019)** | FY2017 (From April 1, 2017 to March 31, 2018) |
| Profit for the year | **¥1,731** | ¥1,963 |
| Comprehensive income | **1,731** | 1,963 |

Affiliates

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 to March 31, 2019)** | FY2017 (From April 1, 2017 to March 31, 2018) |
| Profit for the year | **¥238** | ¥267 |
| Comprehensive income | **238** | 267 |

## 14. Income taxes

**(1) Breakdown of deferred tax assets and deferred tax liabilities**

The breakdown of deferred tax assets and deferred tax liabilities by major cause and the details of changes are as follows:

FY2017 (From April 1, 2017 To March 31, 2018)

| | Millions of yen | | | |
|---|---|---|---|---|
| | As of April 1, 2017 | Amount recognized in profit or loss | Amount recognized in other comprehensive income | As of March 31, 2018 |
| **Deferred tax assets** | | | | |
| Tax loss carryforwards | ¥ 5,781 | ¥(2,612) | ¥ — | ¥ 3,169 |
| Provisions | 1,793 | 91 | — | 1,885 |
| Unrealized gain on fixed assets | 1,737 | (5) | — | 1,732 |
| Loss on valuation of inventories | 804 | 529 | — | 1,334 |
| Impairment loss | 1,153 | 24 | — | 1,177 |
| Amount in excess of allowed depreciation limit | 607 | (32) | — | 574 |
| Other | 2,739 | (469) | (22) | 2,246 |
| Subtotal | 14,617 | (2,474) | (22) | 12,120 |
| **Deferred tax liabilities** | | | | |
| Financial assets measured at fair value through other comprehensive income | (4,187) | — | (1,656) | (5,843) |
| Accelerated depreciation and amortization of foreign operations | (6,601) | 3,137 | — | (3,464) |
| Deemed cost | (2,200) | — | — | (2,200) |
| Net defined benefit assets | (1,252) | (228) | (58) | (1,538) |
| Other | (519) | (20) | — | (539) |
| Subtotal | (14,760) | 2,889 | (1,714) | (13,585) |
| Net amount | ¥ (142) | ¥ 415 | ¥(1,737) | ¥ (1,465) |

Note: A difference between the amount recognized in profit or loss and total deferred tax expenses is mainly due to exchange rate fluctuations.

FY2018 (From April 1, 2018 To March 31, 2019)

| | Millions of yen | | | |
|---|---|---|---|---|
| | As of April 1, 2018 | Amount recognized in profit or loss | Amount recognized in other comprehensive income | As of March 31, 2019 |
| **Deferred tax assets** | | | | |
| Tax loss carryforwards | ¥ 3,169 | ¥(263) | ¥ — | **¥ 2,905** |
| Provisions | 1,885 | 91 | — | **1,976** |
| Unrealized gain on fixed assets | 1,732 | (21) | — | **1,711** |
| Loss on valuation of inventories | 1,334 | 230 | — | **1,565** |
| Impairment loss | 1,177 | (246) | — | **930** |
| Amount in excess of allowed depreciation limit | 574 | 69 | — | **643** |
| Other | 2,246 | 235 | 1 | **2,484** |
| Subtotal | 12,120 | 95 | 1 | **12,217** |
| **Deferred tax liabilities** | | | | |
| Financial assets measured at fair value through other comprehensive income | (5,843) | — | 337 | **(5,505)** |
| Accelerated depreciation and amortization of foreign operations | (3,464) | 10 | — | **(3,453)** |
| Deemed cost | (2,200) | — | — | **(2,200)** |
| Net defined benefit assets | (1,538) | (149) | (110) | **(1,797)** |
| Other | (539) | (17) | — | **(557)** |
| Subtotal | (13,585) | (156) | 227 | **(13,514)** |
| Net amount | ¥ (1,465) | ¥ (61) | ¥ 229 | **¥ (1,296)** |

Note: A difference between the amount recognized in profit or loss and total deferred tax expenses is mainly due to exchange rate fluctuations.

**(2) Deductible temporary differences, etc. for which deferred tax assets are not recognized**

Deductible temporary differences and tax loss carryforwards for which deferred tax assets were not recognized are as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Deductible temporary differences | **¥6,090** | ¥ 7,156 |
| Tax loss carryforwards | **2,005** | 3,731 |
| Total | **¥8,096** | ¥10,887 |

Note: The breakdown by expiry date of tax loss carryforwards for which deferred tax assets were not recognized is as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Due in one year or less | **¥ 451** | ¥ 448 |
| Due after one year through five years | **1,553** | 3,282 |
| Total | **¥2,005** | ¥3,731 |

**(3) Temporary differences arising from investments in subsidiaries for which deferred tax liabilities were not recognized**

Not applicable.

**(4) Income tax expense**

The breakdown of income tax expense is as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 to March 31, 2019)** | FY2017 (From April 1, 2017 to March 31, 2018) |
| Current tax expense | **¥3,393** | ¥3,278 |
| Deferred tax expense | **41** | (409) |
| Total | **¥3,435** | ¥2,869 |

**(5) Reconciliation of statutory effective tax rate and actual tax rate**

The reconciliation of the statutory effective tax rate and actual tax rate is as follows.

The actual tax rate represents the ratio of income tax expense to profit before tax.

| | **FY2018 (From April 1, 2018 to March 31, 2019)** | FY2017 (From April 1, 2017 to March 31, 2018) |
|---|---|---|
| **Statutory effective tax rate** | **30.46%** | 30.69% |
| Permanently non-deductible items such as entertainment expenses | **0.53%** | 0.83% |
| Permanently non-taxable items such as dividend income | **(0.22)%** | (0.68)% |
| Tax credit on research expense | **(6.91)%** | (6.03)% |
| Effect of unrecognized tax loss carryforwards or temporary differences | **(3.60)%** | 0.47% |
| Adjustment of ending balance of deferred tax assets due to changes in tax rates | **—** | (0.54)% |
| Other | **(0.55)%** | (2.12)% |
| Actual tax rate | **19.71%** | 22.62% |

Note: The Group is subject mainly to income tax, inhabitant tax and enterprise tax, based on which the statutory effective tax rate above is calculated. The Group's foreign operations are subject to income and other taxes at their respective locations.

## 15. Assets pledged as collateral and secured obligations

Assets pledged as collateral and obligations with pledged assets are as follows:

**(1) Assets pledged as collateral**

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Property, plant and equipment | **¥34,600** | ¥38,842 |
| Other financial assets | **340** | 322 |
| Total | **¥34,940** | ¥39,164 |

**(2) Obligations with pledged assets**

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Trade and other payables | **¥ 563** | ¥ 865 |
| Loans payable | **359** | 480 |
| Other financial liabilities | **260** | 278 |
| Total | **1,182** | 1,624 |
| Current liabilities | **632** | 1,007 |
| Non-current liabilities | **¥ 549** | ¥ 617 |

## 16. Trade and other payables

The breakdown of trade and other payables is as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Trade notes and accounts payable | **¥18,602** | ¥16,013 |
| Other | **5,408** | 5,517 |
| Total | **¥24,011** | ¥21,530 |

## 17. Provisions

The breakdown of provisions and the details of changes are as follows:

| | Millions of yen | | |
|---|---|---|---|
| | Provision for employee benefits (Note) | Other | Total |
| Balance as of April 1, 2017 | **¥ 5,564** | **¥ 563** | **¥ 6,128** |
| Increases during the period | **4,216** | **698** | **4,914** |
| Decreases during the period (provisions used) | **(4,049)** | **(391)** | **(4,440)** |
| Decreases during the period (provisions reversed) | **—** | **—** | **—** |
| Exchange rate differences | **8** | **—** | **8** |
| Balance as of March 31, 2018 | **5,740** | **870** | **6,610** |
| Increases during the period | **4,397** | **253** | **4,651** |
| Decreases during the period (provisions used) | **(4,154)** | **(255)** | **(4,409)** |
| Decreases during the period (provisions reversed) | **—** | **—** | **—** |
| Exchange rate differences | **(3)** | **—** | **(3)** |
| Balance as of March 31, 2019 | **¥ 5,979** | **¥ 868** | **¥ 6,848** |

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Current liabilities | **¥6,176** | ¥5,947 |
| Non-current liabilities | **671** | 663 |
| Total | **¥6,848** | ¥6,610 |

Note: Provision for employee benefits represent an estimated amount of expenditures for costs associated mainly with unused paid leaves and bonuses. The expected timing of any resulting outflows of economic benefits is mostly within one year from the end of each fiscal year.

## 18. Employee benefits

The Company and certain consolidated subsidiaries have adopted the funded and unfunded defined benefit plans and defined contribution plans to provide for retirement benefits to the employees.

### (1) Defined benefit plan

The defined benefit plans adopted by the Group mainly consists of defined benefit corporate pension plans and lump-sum retirement benefit plans.

The Group's defined benefit corporate pension plan is a contract-type corporate pension plan managed under a cash balance plan. Under the plan, each participant is given a hypothetical individual account to record their funded amount which will be the source of pension payment. Interest credit based on the market interest rate trends and contribution credit based primarily on a level of compensation are the two main items accumulated in the hypothetical individual account. Certain consolidated subsidiaries make lump-sum or pension payments based on the amount of salary and the lengths of service.

Under the contract-type corporate pension plan, plan assets management is entrusted to asset management institutions in accordance with the defined benefit corporate pension regulations agreed between labor and management. In addition, the Group abides by the rules provided under the Defined-Benefit Corporate Pension Law that requires recalculation of the amount of contribution at least every five years to maintain the plan's funded status into the future.

Under the lump-sum retirement benefit plan, lump-sum payment is made based on the amount of salary and the lengths of service.

**(2) Amounts related to defined benefit plans reported in the consolidated financial statements**

1) Amounts recognized in the consolidated statements of financial position

The amounts recognized in the consolidated statements of financial position are as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Present value of defined benefit obligations under funded plans (with plan assets) | **¥ 21,586** | ¥ 22,138 |
| Fair value of plan assets | **(27,345)** | (26,956) |
| Funded status | **(5,759)** | (4,818) |
| Present value of defined benefit obligations under unfunded plans (without plan assets) | **249** | 261 |
| Net amount of liability and asset recognized in the consolidated statements of financial position | **(5,509)** | (4,557) |
| Net defined benefit liability | **329** | 380 |
| Net defined benefit asset | **¥ 5,839** | ¥ 4,937 |

Note: Net defined benefit asset is recorded under “Other non-current assets” in the consolidated statement of financial position.

2) Amounts recognized in the consolidated statements of profit or loss

The amounts of defined benefit cost recognized in the consolidated statements of profit or loss are as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Service cost | **¥1,164** | ¥1,162 |
| Net interest | **(25)** | (23) |
| Total defined benefit cost | **¥1,139** | ¥1,138 |

Note: Defined benefit cost is recorded under “Cost of sales” and “Selling, general and administrative expenses” in the consolidated statements of profit or loss.

3) Changes in the present value of defined benefit obligations

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

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Present value of defined benefit obligations (beginning of the year) | **¥22,399** | ¥22,250 |
| Service cost | **1,164** | 1,162 |
| Interest cost | **117** | 136 |
| Benefits paid | **(1,681)** | (1,555) |
| Remeasurements | **(156)** | 388 |
| (i) Actuarial differences arising from changes in demographical assumptions | **—** | (66) |
| (ii) Actuarial differences arising from changes in financial assumptions | **228** | 150 |
| (iii) Other adjustments to actual results | **(384)** | 303 |
| Exchange rate differences | **(7)** | 17 |
| Present value of defined benefit obligations (end of the year) (Note) | **¥21,835** | ¥22,399 |

Note: The weighted average duration of defined benefit obligations for the FY2017 and FY2018 were 9.9 years and 9.8 years, respectively.

4) Fair value of plan assets

The Group's investment policy is designed to ensure the total return in a long term to fund for the stable payments of pension benefits and lump-sum payments into the future.

Accordingly, taking into account the maturity and financial position of the Group by giving consideration to expected rate of return from fundamental investment assets, standard deviation of the rate of return, and the correlation coefficient of these rates, the Group formulates a strategic asset mix ratio from a mid-to-long term standpoint, which is considered as an optimal portfolio on a long-term basis. The Group reviews the investment policy as necessary and provides comprehensive management over its assets and liabilities.

The Group manages risks appropriately through diversified asset management by investing in multiple asset classes and funds that have different risk and return characteristics, thereby balancing the risk exposure.

Changes in fair value of plan assets are as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Fair value of plan assets (beginning of the year) | **¥26,956** | ¥25,696 |
| Interest income | **143** | 160 |
| Return on plan assets | **235** | 658 |
| Contributions by the employer (Note) | **1,631** | 1,947 |
| Benefits paid | **(1,615)** | (1,516) |
| Exchange rate differences | **(5)** | 9 |
| Fair value of plan assets (end of the year) | **¥27,345** | ¥26,956 |

Note: Expected contribution for the year ending March 31, 2020 is 1,624 million yen.

5) The breakdown of the fair value of plan assets

The breakdown of the fair value of plan assets are as follows:

| | Millions of yen | | | |
|---|---|---|---|---|
| | **FY2018 (As of March 31, 2019)** | | FY2017 (As of March 31, 2018) | |
| | **Quoted market price in an active market** | | Quoted market price in an active market | |
| | **Available** | **Not available** | Available | Not available |
| Bonds | **¥ 9,680** | **¥ —** | ¥13,541 | ¥ — |
| Stocks | **8,205** | **—** | 7,627 | — |
| General accounts of life insurance companies | **—** | **6,794** | — | 4,414 |
| Other | **—** | **2,664** | — | 1,373 |
| Total | **¥17,886** | **¥9,459** | ¥21,168 | ¥5,787 |

6) Major assumptions used for actuarial calculations

Major assumptions used for actuarial calculations are as follows:

| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
|---|---|---|
| Discount rate (weighted average) | **0.4%** | 0.5% |

7) Sensitivity analysis

Effects on defined benefit obligations due to changes in actuarial assumptions are as follows:

Sensitivity analysis is performed by applying the same method used to calculate defined benefit obligations recognized in the consolidated statements of financial position, based on the change in assumption that can be reasonably estimated at the end of the reporting period. Under the analysis, all other variables are assumed to remain constant.

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| 0.1% increase in discount rate | **¥(207)** | ¥(215) |
| 0.1% decrease in discount rate | **207** | 215 |

**(3) Defined contribution plan**

Amounts of contribution to the defined contribution plan recognized as expenses for FY2017 and FY2018 were 2,005 million yen and 2,056 million yen, respectively. The amounts are recorded under "Cost of sales" and "Selling, general and administrative expenses" in the consolidated statements of profit or loss.

**(4) Employee benefit expenses**

Total employee benefit expenses excluding the above items for FY2017 and FY2018 were 29,476 million yen and 29,981 million yen, respectively. The amounts are recorded under "Cost of sales" and "Selling, general and administrative expenses" in the consolidated statements of profit or loss.

## 19. Share-based payments

**(1) Details of share-based payment plan**

The Company has a stock option plan that grants rights to its directors (excluding outside directors) to purchase the Company's shares. The plan is accounted for as an equity-settled share-based payment plan.

The Company's stock option plan outstanding in FY2017 and FY2018 are as follows:

| Date of resolution | June 25, 2009 | June 25, 2010 | June 24, 2011 | June 26, 2012 | June 25, 2013 |
|---|---|---|---|---|---|
| Number of shares granted (shares) | 5,550 | 5,530 | 5,660 | 7,650 | 5,670 |
| Grant date | July 22, 2009 | July 21, 2010 | July 20, 2011 | July 18, 2012 | July 17, 2013 |
| Fair value at grant date (yen) | 4,870 | 4,060 | 3,600 | 2,780 | 2,890 |
| Vesting condition (Note) | Continued service from June 25, 2009 to June 24, 2010 | Continued service from June 25, 2010 to June 24, 2011 | Continued service from June 24, 2011 to June 23, 2012 | Continued service from June 26, 2012 to June 25, 2013 | Continued service from June 25, 2013 to June 24, 2014 |
| Expiry date | July 21, 2039 | July 20, 2040 | July 19, 2041 | July 17, 2042 | July 16, 2043 |
| Shares outstanding as of the end of FY2017 | 530 | 580 | 660 | 1,300 | 1,810 |
| Shares outstanding as of the end of FY2018 | 530 | 580 | 660 | 1,300 | 1,810 |

| Date of resolution | June 25, 2014 | June 24, 2015 | June 24, 2016 | June 27, 2017 | June 26, 2018 | Total |
|---|---|---|---|---|---|---|
| Number of shares granted (shares) | 3,390 | 3,410 | 4,050 | 2,120 | 1,500 | 44,530 |
| Grant date | July 16, 2014 | July 22, 2015 | July 20, 2016 | July 19, 2017 | July 18, 2018 | — |
| Fair value at grant date (Yen) | 5,060 | 4,260 | 3,680 | 5,299 | 7,393 | — |
| Vesting condition (Note) | Continued service from June 25, 2014 to June 24, 2015 | Continued service from June 24, 2015 to June 23, 2016 | Continued service from June 24, 2016 to June 23, 2017 | Continued service from June 27, 2017 to June 26, 2018 | Continued service from June 26, 2018 to June 25, 2019 | — |
| Expiry date | July 15, 2044 | July 21, 2045 | July 19, 2046 | July 18, 2047 | July 17, 2048 | — |
| Shares outstanding as of the end of FY2017 | 1,140 | 2,570 | 3,050 | 2,120 | — | 13,760 |
| Shares outstanding as of the end of FY2018 | 1,140 | 2,570 | 3,050 | 2,120 | 1,500 | 15,260 |

Note: If a director retires during the vesting period, exercisable stock acquisition rights will decrease in accordance with the director's service period.

### (2) Number of outstanding stock options and weighted average exercise price

| | FY2018 (From April 1, 2018 To March 31, 2019) | | FY2017 (From April 1, 2017 To March 31, 2018) | |
|---|---|---|---|---|
| | Number of options (shares) | Weighted average exercise price (yen) | Number of options (shares) | Weighted average exercise price (yen) |
| Outstanding at the beginning of the year | **13,760** | **1** | 18,070 | 1 |
| Granted | **1,500** | **1** | 2,120 | 1 |
| Exercised | **—** | **—** | (6,430) | 1 |
| Outstanding at the end of the year | **15,260** | **1** | 13,760 | 1 |
| Exercisable at the end of the year | **—** | **—** | — | — |

Notes: 1. For stock options exercised during the period, the weighted average share price as of the exercise date was 5,500 yen for FY2017.
2. Weighted average fair value of stock options outstanding at the end of FY2017 and FY2018 were 4,021 yen and 4,352 yen, respectively. Weighted average contractual life remaining for FY2017 and FY2018 were 26.2 years and 25.6 years, respectively.

### (3) Expenses in relation to stock options are as follows:

| | Millions of yen | |
|---|---|---|
| | FY2018 (From April 1, 2018 To March 31, 2019) | FY2017 (From April 1, 2017 To March 31, 2018) |
| Selling, general and administrative expenses | **¥11** | ¥12 |

### (4) Fair value of stock options granted was calculated as follows:

| | FY2018 (As of March 31, 2019) | FY2017 (As of March 31, 2018) |
|---|---|---|
| Expected volatility (Note 1) | **24.8%** | 27.2% |
| Expected remaining life (Note 2) | **2.0 years** | 3.0 years |
| Expected dividend (Note 3) | **125 yen/share** | 110 yen/share |
| Risk-free rate (Note 4) | **(0.12)%** | (0.09)% |

Notes: 1. Expected volatility for FY2017 and FY2018 are calculated using the actual share price over a period of three years (from July 2014 to July 2017) and two years (from July 2016 to July 2018), respectively.
2. Expected retirement date used in the computation is estimated based on the average service period.
3. Expected dividend for FY2017 and FY2018 are calculated based on the actual annual dividend amounts for the year ended March 2017 and March 2018, respectively.
4. Risk-free rates are calculated by linear interpolation between spot rates of separated principal component of JGBs with a maturity corresponding to the expected remaining life.

## 20. Paid-in capital and other equity items

### (1) Numbers of authorized shares and issued (and fully paid) shares

Changes in the numbers of authorized shares and issued shares are as follows:

| | Shares | |
|---|---|---|
| | FY2018 (From April 1, 2018 To March 31, 2019) | FY2017 (From April 1, 2017 To March 31, 2018) |
| Number of authorized shares | | |
| Common stock | **60,000,000** | 60,000,000 |
| Number of issued shares | | |
| Balance as of the beginning of the year | **20,805,407** | 18,168,390 |
| Increases during the year (Note 2) | **—** | 2,637,017 |
| Balance as of the end of the year | **20,805,407** | 20,805,407 |

Notes: 1. All of the shares issued by the Company are shares of common stock with no par value and no limits to any rights of the shareholders.
2. Increases during the current fiscal year were due to the exercise of stock acquisition rights of convertible bond-type bonds with stock acquisition rights.

**(2) Treasury stock**
Changes in treasury stock are as follows:

| | Shares | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Balance as of the beginning of the year | **150,740** | 983,280 |
| Increases during the year (Note 1) | **389,585** | 1,068 |
| Decreases during the year (Note 2) | **—** | 833,608 |
| Balance as of the end of the year | **540,325** | 150,740 |

Notes: 1. Increases during FY2017 were due to 1,068 shares resulting from purchase of shares less than one trading unit and increases during FY2018 were due to 685 shares resulting from purchase of shares less than one trading unit and 388,900 shares resulting from acquisition based on a resolution of the Board of Directors' meeting held on November 7, 2018.
2. Decreases during FY2017 were due to 827,167 shares resulting from the exercise of stock acquisition rights of convertible bond-type bonds with stock acquisition rights, 6,430 shares resulting from the exercise of stock option, and 11 shares resulting from sale of shares less than one trading unit.

**(3) Capital surplus and retained earnings**
(a) Capital surplus
Under the Companies Act, 50% or more of the total amount paid in or contributed upon share issue must be recorded as share capital while the remaining amount must be recorded as legal capital surplus, which is a component of capital surplus. The amount of legal capital surplus may be transferred to share capital by a resolution of a general meeting of shareholders.

(b) Retained earnings
Under the Companies Act, 10% of the amount of surplus that decreased due to distribution of surplus must be accumulated as legal capital surplus or legal retained earnings until the aggregate amount of legal capital surplus and legal retained earnings equals 25% of the capital stock. The amount reserved in legal retained earnings may be appropriated to compensate accumulated deficit. It may also be reversed by a resolution of a shareholders' meeting.

**(4) Other components of equity**
(a) Stock acquisition rights
This amount represents the increase in equity arising from the reception or acquisition of goods or services pertaining to equity-settled share-based payment plan.

(b) Exchange differences on translating foreign operations
This amount represents exchange differences arising from translating the financial statements of foreign operations to Japanese yen, which is the presentation currency of the Group.

(c) Financial assets measured at fair value through other comprehensive income
The amount represents the difference between the cost and the year-end fair value of equity instruments measured at fair value through other comprehensive income.

## 21. Dividends
### (1) Amounts of dividends paid

FY2017 (From April 1, 2017 To March 31, 2018)

| Resolution | Class of shares | Total amount of dividends (Millions of yen) | Dividend per share (Yen) | Record date | Effective date |
|---|---|---|---|---|---|
| Board of Directors' meeting held on April 18, 2017 | Common stock | **¥ 945** | **¥55.00** | March 31, 2017 | June 2, 2017 |
| Board of Directors' meeting held on October 24, 2017 | Common stock | **1,088** | **55.00** | September 30, 2017 | December 4, 2017 |

FY2018 (From April 1, 2018 To March 31, 2019)

| Resolution | Class of shares | Total amount of dividends (Millions of yen) | Dividend per share (Yen) | Record date | Effective date |
|---|---|---|---|---|---|
| Board of Directors' meeting held on April 17, 2018 | Common stock | **¥1,445** | **¥70.00** | March 31, 2018 | June 4, 2018 |
| Board of Directors' meeting held on October 23, 2018 | Common stock | **1,445** | **70.00** | September 30, 2018 | December 4, 2018 |

**(2) Dividends whose record date is in the current fiscal year but whose effective date is in the following fiscal year**

FY2017 (From April 1, 2017 To March 31, 2018)

| Resolution | Class of shares | Source of dividends | Total amount of dividends (Millions of yen) | Dividend per share (Yen) | Record date | Effective date |
|---|---|---|---|---|---|---|
| Board of Directors' meeting held on April 17, 2018 | Common stock | Retained earnings | **¥1,445** | **¥70.00** | March 31, 2018 | June 4, 2018 |

FY2018 (From April 1, 2018 To March 31, 2019)

| Resolution | Class of shares | Source of dividends | Total amount of dividends (Millions of yen) | Dividend per share (Yen) | Record date | Effective date |
|---|---|---|---|---|---|---|
| Board of Directors' meeting held on April 23, 2019 | Common stock | Retained earnings | **¥1,925** | **¥95.00** | March 31, 2019 | June 4, 2019 |

## 22. Financial instruments

### (1) Capital management

In order to maintain proper capital adequacy ratio and to maximize shareholder's value, the Group determines an appropriate amount of dividends, acquires its own shares, grants stock acquisition rights and raises funds through debt capital and equity capital.

The followings are the key indicators employed by the Group in managing the Group's capital.

The Group is not subject to any significant externally imposed capital requirements (except for general requirements such as those required by the Companies Act and other laws and regulations).

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Interest-bearing debt | **¥ 39,018** | ¥ 48,089 |
| Less: Cash and cash equivalents | **(5,989)** | (6,475) |
| Net interest-bearing debt | **33,029** | 41,613 |
| Equity capital | **160,551** | 150,193 |
| Equity-to-asset ratio (Equity ratio) | **64.9%** | 62.0% |

Note: Equity capital presented above represents total equity attributable to owners of the parent.
Equity-to-asset ratio (Equity ratio) = Equity capital / Total liabilities and equity

### (2) Basic policies on financial instruments

The Group uses financial instruments, mainly bank loans and bonds for the purpose of raising its necessary fund based on its capital expenditure plan. Cash surpluses, if any, are invested only in short-term deposits, etc. Working capital for short-term ongoing operations is procured from short-term bank loans. Derivatives are used, not for speculative purposes, but to manage exposure to financial risks as described below.

**(3) Description of financial instruments and associated risk**
Receivables such as trade notes and trade accounts are exposed to customer credit risk. Although receivables in foreign currencies are exposed to the market risk of fluctuation in foreign currency exchange rates, the position, net of payables in foreign currencies, is hedged principally by using forward foreign currency contracts. Other financial assets such as investments securities are equity instruments of customers and suppliers of the Group, and are exposed to the risk of market price fluctuations. The Group also provides long-term loans to the employees.

Payment terms of payables, such as trade notes and trade accounts, are less than one year. Although payables in foreign currencies, partly accompanied by the import of materials, are exposed to the market risk of fluctuation in foreign currency exchange rates, the position, net of payables in foreign currencies, is hedged principally by using forward foreign currency contracts.

Loans payable, bonds payable and lease obligations related to finance lease are mainly used to procure necessary funds for capital expenditure, most of which carry fixed interest rates.

Derivatives mainly include forward foreign currency contracts which are used to manage exposure to risks from fluctuations in foreign currency exchange rates of trade receivables and payables denominated in foreign currencies.

**(4) Risk management structure related to financial instruments and quantitative information on risk**

a. Credit risk

1) Management of risk pertaining to counterparty default

Credit risk is the risk of economic loss arising from counterparty's failure to repay or service debt according to the contractual terms. The Group manages its credit risk from receivables on the basis of internal guidelines, which include setting up an individual credit limit and monitoring of payment terms and balances of major customers by each business administration department to identify the default risk of customers at an early stage. A credit limit is changed, if necessary, based on a periodic monitoring of customers' financial positions. The Group mitigates the risk of receivable collection due to deteriorating financial position by utilizing such facilities as credit insurance or factoring.

In using derivatives, the Group chooses highly creditworthy financial institutions to avoid counterparty risk.

The same method of risk control is applicable to consolidated subsidiaries.

2) Quantitative information on credit risk

i) Maximum exposure to credit risk

Maximum exposure to the credit risk is the sum of the carrying amounts of financial assets, net of impairment losses presented in the consolidated statements of financial position, and the balance of guarantee obligations.

ii) Credit risk exposure of the Group pertaining to trade and other receivables

The credit risk exposure of the Group pertaining to trade and other receivables are as follows:

FY2017 (As of March 31, 2018)

(Millions of yen)

| | | Financial assets for which the allowance for doubtful accounts is measured at an amount equal to lifetime expected credit loss | | | |
|---|---|---|---|---|---|
| Days in arrears | Financial assets for which the allowance for doubtful accounts is measured at an amount equal to 12-month expected credit loss | Financial assets for which credit risk increased significantly after initial recognition | Financial asset for which the allowance for doubtful accounts is always measured at an amount equal to a lifetime expected credit loss | Credit-impaired financial assets | Total |
| Current | ¥2,177 | ¥— | ¥31,186 | ¥30 | ¥33,393 |
| Within 30 days | 0 | — | 535 | — | 535 |
| Between 31 to 60 days | — | — | 56 | — | 56 |
| Between 61 to 90 days | — | — | 10 | — | 10 |
| Over 90 days | — | — | 117 | 62 | 180 |
| Total | ¥2,177 | ¥— | ¥31,907 | ¥93 | ¥34,177 |

FY2018 (As of March 31, 2019)

| (Millions of yen) | | | | | |
|---|---|---|---|---|---|
| | | Financial assets for which the allowance for doubtful accounts is measured at an amount equal to lifetime expected credit loss | | | |
| Days in arrears | Financial assets for which the allowance for doubtful accounts is measured at an amount equal to 12-month expected credit loss | Financial assets for which credit risk increased significantly after initial recognition | Financial asset for which the allowance for doubtful accounts is always measured at an amount equal to a lifetime expected credit loss | Credit-impaired financial assets | Total |
| Current | **¥2,462** | **¥—** | **¥28,970** | **¥ 30** | **¥31,463** |
| Within 30 days | **0** | **—** | **354** | **—** | **354** |
| Between 31 to 60 days | **—** | **—** | **95** | **—** | **95** |
| Between 61 to 90 days | **—** | **—** | **20** | **—** | **20** |
| Over 90 days | **—** | **—** | **169** | **77** | **246** |
| Total | **¥2,462** | **¥—** | **¥29,610** | **¥107** | **¥32,180** |

iii) Analysis of changes in allowance for doubtful accounts
The Group reviews the recoverability of trade receivables depending on the credit conditions of counterparties and records allowance for doubtful accounts accordingly. Changes in allowance for doubtful accounts are as follows:

FY2017 (From April 1, 2017 To March 31, 2018)

| (Millions of yen) | | | | | |
|---|---|---|---|---|---|
| | | Lifetime expected credit loss | | | |
| | 12-month expected credit loss | Financial assets for which credit risk increased significantly after initial recognition | Financial asset for which the allowance for doubtful accounts is always measured at an amount equal to a lifetime expected credit loss | Credit-impaired financial assets | Total |
| Beginning balance | ¥— | ¥— | ¥ 173 | ¥ 94 | ¥ 267 |
| Increases during the year (allowances made) | — | — | 159 | 0 | 159 |
| Decreases during the year (allowances used) | — | — | — | — | — |
| Decreases during the year (allowances reversed) | — | — | (183) | (16) | (200) |
| Exchange differences | — | — | 9 | (0) | 9 |
| Ending balance | ¥— | ¥— | ¥ 159 | ¥ 77 | ¥ 237 |

FY2018 (From April 1, 2018 To March 31, 2019)

| (Millions of yen) | | | | | |
|---|---|---|---|---|---|
| | | Lifetime expected credit loss | | | |
| | 12-month expected credit loss | Financial assets for which credit risk increased significantly after initial recognition | Financial asset for which the allowance for doubtful accounts is always measured at an amount equal to a lifetime expected credit loss | Credit-impaired financial assets | Total |
| Beginning balance | **¥—** | **¥—** | **¥ 159** | **¥ 77** | **¥ 237** |
| Increases during the year (allowances made) | **—** | **—** | **171** | **17** | **188** |
| Decreases during the year (allowances used) | **—** | **—** | **(5)** | **—** | **(5)** |
| Decreases during the year (allowances reversed) | **—** | **—** | **(153)** | **(13)** | **(167)** |
| Exchange differences | **—** | **—** | **(5)** | **0** | **(5)** |
| Ending balance | **¥—** | **¥—** | **¥ 165** | **¥ 81** | **¥ 247** |

b. Liquidity risk

1) Management of liquidity risk related to fund procurement

Trade payables and loans payables are exposed to liquidity risk. In the Group, each entity manages its liquidity risk by formulating a monthly cash flow plan and the Company manages it by using commercial paper and commitment line.

2) Quantitative information on liquidity risk

The breakdown of financial liabilities including derivative financial instruments by due date is as follows:

FY2017 (As of March 31, 2018)

| | (Millions of yen) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Carrying amount | Contractual cash flows | 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 |
| Trade and other payables | ¥21,530 | ¥21,530 | ¥21,530 | ¥ — | ¥ — | ¥ — | ¥ — | ¥ — |
| Bonds and loans payable | 47,416 | 47,467 | 25,760 | 11,157 | 2,226 | 1,055 | 7,053 | 212 |
| Other financial liabilities | 1,734 | 1,734 | 533 | 196 | 146 | 123 | 54 | 680 |
| Derivative liabilities | 66 | 66 | 66 | — | — | — | — | — |
| Total | ¥70,748 | ¥70,798 | ¥47,891 | ¥11,353 | ¥2,373 | ¥1,179 | ¥7,108 | ¥892 |

FY2018 (As of March 31, 2019)

| | (Millions of yen) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Carrying amount | Contractual cash flows | 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 |
| Trade and other payables | **¥24,011** | **¥24,011** | **¥24,011** | **¥ —** | **¥ —** | **¥ —** | **¥ —** | **¥ —** |
| Bonds and loans payable | **38,552** | **38,611** | **23,046** | **2,243** | **1,055** | **7,053** | **5,052** | **160** |
| Other financial liabilities | **1,519** | **1,519** | **510** | **149** | **111** | **59** | **42** | **646** |
| Derivative liabilities | **13** | **13** | **13** | **—** | **—** | **—** | **—** | **—** |
| Total | **¥64,096** | **¥64,155** | **¥47,580** | **¥2,392** | **¥1,167** | **¥7,113** | **¥5,094** | **¥807** |

c. Market risk

1) Market risk management

The Company and certain consolidated subsidiaries manage market risk resulting from fluctuations in foreign currency exchange rates of foreign currency trade receivables and payables, which are to be identified through management per month and per currency. Such foreign exchange risk is hedged principally by forward foreign currency contracts.
Investment securities are managed by monitoring market values and financial position of issuers on a regular basis.
Basic principles of derivative transactions are based on the internal guidelines which prescribe the authority and the limit for each transaction. The same principles are applicable to the consolidated subsidiaries.

2) Quantitative information on market risk

i) Sensitivity analysis of foreign currency risk

With regard to the foreign-currency-denominated loans payable and receivable held by the Group as of the end of the FY2017 and FY2018, the following sensitivity analysis shows an impact on profit before tax in the consolidated statements of profit or loss of the Group, when the yen depreciates by 1% against the U.S. dollar and Chinese yuan (sensitivity to foreign currency). The analysis is based on the assumption that all other variable factors are held constant.

| Item | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| U.S. dollar | **¥19** | ¥19 |
| Chinese yuan | **1** | 1 |

ii) Sensitivity analysis of interest rate risk

With regard to the financial instruments held by the Group as of the end of FY2017 and FY2018, the following sensitivity analysis shows an impact on profit before income taxes in the consolidated statements of profit or loss of the Group, when the interest rate increases by 1% (sensitivity to interest rate). The analysis is based on the assumption that all other variable factors are held constant.

| Item | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Effect on profit before tax | **¥(109)** | ¥(137) |

iii) Sensitivity analysis of share price fluctuation risk

With regard to the listed shares held by the Group as of the end of FY2017 and FY2018, the following sensitivity analysis shows an impact on other comprehensive income (before taking into account tax benefit) in the consolidated statements of comprehensive income of the Group, when the share price declines by 10% (sensitivity to share price). The analysis is based on the assumption that all other variable factors are held constant.

| Item | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Effect on other comprehensive income | **¥(2,581)** | ¥(2,773) |

### (5) Fair value of financial instruments

1) Carrying amounts and fair values of financial assets and financial liabilities

Carrying amounts and fair values of financial assets and financial liabilities by class held by the Group are as follow:

| | Millions of yen | | | |
|---|---|---|---|---|
| | **FY2018 (As of March 31, 2019)** | | FY2017 (As of March 31, 2018) | |
| | **Carrying amount** | **Fair value** | Carrying amount | Fair value |
| Financial assets | | | | |
| Financial assets measured at amortized cost | | | | |
| Other financial assets | **¥ 1,239** | **¥ 1,239** | ¥ 1,276 | ¥ 1,276 |
| Financial assets measured at fair value through other comprehensive income | | | | |
| Other financial assets | **27,378** | **27,378** | 29,271 | 29,271 |
| Total | **28,618** | **28,618** | 30,547 | 30,547 |
| Financial liabilities | | | | |
| Financial liabilities measured at amortized cost | | | | |
| Bonds and loans payable | **38,552** | **38,685** | 47,416 | 47,560 |
| Other financial liabilities | **1,519** | **1,519** | 1,734 | 1,734 |
| Financial liabilities measured at fair value through profit or loss | | | | |
| Derivative liabilities | **13** | **13** | 66 | 66 |
| Total | **¥40,085** | **¥40,218** | ¥49,217 | ¥49,361 |

2) Method of fair value measurement

Fair values of key financial assets and financial liabilities are determined as follows.

i) Cash and cash equivalents, trade and other receivables and trade and other payables

Classified as financial assets measured at amortized cost. The carrying amounts of these accounts approximate fair value because of their short maturities. Therefore, information on fair values is omitted.

ii) Other financial assets

The fair values of marketable shares are presented based on the price on the stock exchange. The fair values of unlisted shares are determined using reasonable valuation techniques.

The fair values of long-term loans receivable are measured at the present value of the future cash flows discounted by a rate of return, an appropriate rate such as government bond rate added to a credit spread, with respect to each credit risk segment of credit control.

The carrying amount of others approximates fair value because of its short maturities.

iii) Bonds and borrowings

The fair values of bonds are measured based on the market price.

The fair values of borrowings are measured by discounting the principal and interest by an assumed new borrowing rate.

iv) Other financial liabilities

The fair values of lease obligations are measured by discounting them at the prevailing interest rate to be applied for similar lease transactions.

The carrying amount of others approximates fair value because of its short maturities.

v) Derivative transactions

The fair values of forward exchange contracts are measured based on forward exchange rates.

3) Classification of the fair values of financial instruments measured at fair value by hierarchy level

The fair value measurements are categorized into the following three levels in a fair value hierarchy.

Level 1: Quoted prices (unadjusted) in active markets for identical assets and liabilities that the Group can access at the measurement date.

Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.

Level 3: Unobservable inputs for the asset or liability.

In the case of several inputs used to measure the fair value, the fair value measurement is categorized in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement. Transfers between the levels of fair value hierarchy are recognized assuming that such transfers occurred at the end of each reporting period.

i) Financial assets and liabilities recognized at fair value

FY2017 (As of March 31, 2018)

| | Millions of yen | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Total |
| Financial assets | | | | |
| Financial assets measured at fair value through other comprehensive income | | | | |
| Other financial assets | ¥27,730 | ¥— | ¥1,540 | ¥29,271 |
| Total | 27,730 | — | 1,540 | 29,271 |
| Financial liabilities | | | | |
| Financial liabilities measured at fair value through profit or loss | | | | |
| Derivative liabilities | — | 66 | — | 66 |
| Total | ¥ — | ¥66 | ¥ — | ¥ 66 |

Note: There were no transfers between different levels of the fair value hierarchy.

FY2018 (As of March 31, 2019)

| | Millions of yen | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Total |
| Financial assets | | | | |
| Financial assets measured at fair value through other comprehensive income | | | | |
| Other financial assets | ¥25,817 | ¥— | ¥1,561 | ¥27,378 |
| Total | 25,817 | — | 1,561 | 27,378 |
| Financial liabilities | | | | |
| Financial liabilities measured at fair value through profit or loss | | | | |
| Derivative liabilities | — | 13 | — | 13 |
| Total | ¥ — | ¥13 | ¥ — | ¥ 13 |

Note: There were no transfers between different levels of the fair value hierarchy.

ii) Information on fair value measurement categorized in Level 2 and Level 3

Financial assets and financial liabilities categorized in Level 2 arise from derivative transactions. The fair value of these assets and liabilities are measured based on the observable inputs such as the forward exchange rate or the interest rate.

Financial assets categorized in Level 3 are mainly unlisted equity instruments. The fair values of unlisted equity instruments are measured by applying valuation techniques such as market multiple method and net asset value method, in addition to using unobservable inputs including valuation multiples.

The fair values of financial assets categorized in Level 3 on a recurring or non-recurring basis are measured in accordance with the provisions of the Group's accounting policies. In measuring the fair value, the Group uses valuation techniques and inputs that reflect the nature, characteristics and risks of the relevant financial instruments most appropriately. The results of the measurement are reviewed by senior managers.

If each unobservable input used to measure financial instruments categorized in Level 3 is changed to a reasonable alternative assumption, no material changes in the amount of fair values would be assumed.

iii) Changes in financial instruments categorized in Level 3

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| | **Financial assets measured at fair value through other comprehensive income** | Financial assets measured at fair value through other comprehensive income |
| Beginning balance | **¥1,540** | ¥2,288 |
| Gains or losses for the period (Note 1) | **16** | 285 |
| Purchase | **5** | 161 |
| Sale and return | **(0)** | (775) |
| Transfer (Note 2) | **—** | (421) |
| Ending balance | **¥1,561** | ¥1,540 |

Notes: 1. The line item "Gains or losses for the period" above is presented in "Financial assets measured at fair value through other comprehensive income" in the consolidated statements of comprehensive income.
2. The line item "Transfer" above is transfer to investments accounted for using the equity method.

iv) Information on financial assets measured at fair value through other comprehensive income

The Group classifies long-term investments held mainly for the purpose of maintaining amicable relationships with its business partners as financial assets measured at fair value through other comprehensive income.

(a) Major items and fair values

The fair values of financial assets measured at fair value through other comprehensive income by item are as follows:

FY2017 (As of March 31, 2018)

| Item | Millions of yen<br>Fair value |
|---|---|
| Daiichi Sankyo Company, Limited | ¥10,578 |
| NOF Corporation | 2,865 |
| Tosoh Corporation | 2,727 |
| Taiyo Nippon Sanso Corporation | 1,493 |
| Kuraray Co., Ltd. | 1,190 |

FY2018 (As of March 31, 2019)

| Item | Millions of yen<br>Fair value |
|---|---|
| Daiichi Sankyo Company, Limited | ¥10,200 |
| NOF Corporation | 3,434 |
| Tosoh Corporation | 2,249 |
| Taiyo Nippon Sanso Corporation | 1,562 |
| Kuraray Co., Ltd. | 928 |

(b) Dividend income

The breakdown of dividend income on financial assets measured at fair value through other comprehensive income is as follows:

| Item | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Investments held at the end of the year | **¥546** | ¥570 |
| Investments derecognized during the year | **74** | 5 |
| Total | **¥621** | ¥576 |

(c) Derecognized financial assets measured at fair value through other comprehensive income

The fair values on the date of derecognition and cumulative gains and losses (before taxes) of the financial assets measured at fair value through other comprehensive income that were derecognized during the year are as follows:

| Item | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Fair value | **¥4,102** | ¥1,466 |
| Cumulative gains or losses | **3,320** | (585) |

Notes: 1. For the purpose mainly of reviewing the relationship with the customers, the Group disposes the financial assets measured at fair value through other comprehensive income and derecognizes such financial assets.

2. The Group reclassifies to retained earnings cumulative gains or losses arising from changes in the fair values of financial assets measured at fair values through other comprehensive income in either of the following cases: when an asset is derecognized; or when there is a significant decline in the fair value, etc. The amount of cumulative gains or losses (after taxes) in other comprehensive income reclassified to retained earnings for FY2017 and FY2018 were (725) million yen and 2,302 million yen, respectively.

v) Breakdown of fair values of financial instruments measured at amortized cost by hierarchy level

The breakdown of financial assets and liabilities measured at amortized cost by fair value hierarchy is as follows. The financial assets whose carrying amounts approximate their fair values are not included in the table below.

FY2017 (As of March 31, 2018)

| | Millions of yen | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Total |
| Financial assets | | | | |
| Other financial assets | ¥— | ¥ 1,276 | ¥— | ¥ 1,276 |
| Total | — | 1,276 | — | 1,276 |
| Financial liabilities | | | | |
| Bonds payable | — | 19,042 | — | 19,042 |
| Loans payable | — | 26,518 | — | 26,518 |
| Commercial papers | — | 2,000 | — | 2,000 |
| Total | ¥— | ¥47,560 | ¥— | ¥47,560 |

FY2018 (As of March 31, 2019)

| | Millions of yen | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Total |
| Financial assets | | | | |
| Other financial assets | **¥—** | **¥ 1,239** | **¥—** | **¥ 1,239** |
| Total | **—** | **1,239** | **—** | **1,239** |
| Financial liabilities | | | | |
| Bonds payable | **—** | **19,028** | **—** | **19,028** |
| Loans payable | **—** | **18,656** | **—** | **18,656** |
| Commercial papers | **—** | **1,000** | **—** | **1,000** |
| Total | **¥—** | **¥38,685** | **¥—** | **¥38,685** |

**(6) Derivatives**

Derivative transactions to which hedge accounting is not applied

FY2017 (As of March 31, 2018)

| | Type | Contract amount | Contract amount due after one year | Fair value | Unrealized gains or losses |
|---|---|---|---|---|---|
| | | Millions of yen | | | |
| Off-market transactions | Forward exchange contracts | | | | |
| | (Selling) | | | | |
| | Euro | ¥ 621 | ¥ — | ¥ 6 | ¥ 6 |
| | Chinese yuan | 124 | 24 | (8) | (8) |
| | U.S. dollar | 593 | — | 7 | 7 |
| | (Buying) | | | | |
| | Euro | 74 | — | (0) | (0) |
| | Japanese yen | 971 | 450 | (55) | (55) |
| | U.S. dollar | 1,381 | — | (17) | (17) |
| | British pound | 65 | — | 0 | 0 |
| | Total | ¥3,831 | ¥475 | ¥(66) | ¥(66) |

Notes: 1. The fair values of derivative transactions are calculated using forward exchange rates.
2. Unrealized gains or losses on foreign exchange contracts are presented as the fair values of the contracts.

FY2018 (As of March 31, 2019)

| | Type | Contract amount | Contract amount due after one year | Fair value | Unrealized gains or losses |
|---|---|---|---|---|---|
| | | Millions of yen | | | |
| Off-market transactions | Forward exchange contracts | | | | |
| | (Selling) | | | | |
| | Euro | **¥ 328** | **¥—** | **¥ 4** | **¥ 4** |
| | Chinese yuan | **160** | **—** | **(0)** | **(0)** |
| | U.S. dollar | **878** | **—** | **(3)** | **(3)** |
| | (Buying) | | | | |
| | Chinese yuan | **149** | **—** | **(1)** | **(1)** |
| | Japanese yen | **438** | **—** | **(32)** | **(32)** |
| | U.S. dollar | **1,976** | **—** | **22** | **22** |
| | British pound | **130** | **—** | **(1)** | **(1)** |
| | Total | **¥4,061** | **¥—** | **¥(13)** | **¥(13)** |

Notes: 1. The fair values of derivative transactions are calculated using forward exchange rates.
2. Unrealized gains or losses on foreign exchange contracts are presented as the fair values of the contracts.

## 23. Revenue

**(1) Disaggregation of revenue**

The Group has separate divisions by product, and each division formulates a comprehensive strategy for business activities in domestic and overseas markets.

Accordingly, the Group consists of segments by product and service on the basis of the business divisions, and has the five reportable segments of “Advanced Materials,” “Specialty Chemicals,” “Specialty Plastics,” “Construction,” and “Other Operations.” Main products and services of each reportable segment are described in “6. Segment information.”

With regard to sales of advanced materials, specialty chemicals, and specialty plastics, the Group determines that a customer obtains control over a product and the performance obligation is satisfied when the product is delivered to the customer. Accordingly, the Group principally recognizes revenue at the time of delivery of its product to the customer. In addition, revenue generated from sales of products is measured at the amount of consideration promised in a contract with a customer less discounts, rebates, etc. The consideration is paid generally within three months after the performance obligation is satisfied. It does not include significant financial components.

With regard to provision of construction and other services, the Group determines that the performance obligation is satisfied while control over a service is transferred to a customer over a certain period of time and therefore, recognizes revenue principally in accordance with the progress of the service. In addition, progress of construction is measured by the proportion of the contract costs incurred to the estimated total contract costs. The consideration is paid generally within three months after the performance obligation is satisfied. It does not include significant financial components.

Relationships between revenue by reportable segment and revenue disaggregated by type are as follows.

FY2018 (From April 1, 2018 To March 31, 2019)

| | Millions of yen | | | | | |
|---|---|---|---|---|---|---|
| | Advanced Materials | Specialty Chemicals | Specialty Plastics | Construction | Other Operations | Total |
| Sale of products | ¥45,747 | ¥26,590 | ¥45,148 | ¥ — | ¥ — | ¥117,486 |
| Construction | — | — | — | 12,415 | 2,353 | 14,769 |
| Provision of other services | 2 | 718 | — | — | 15,289 | 16,009 |
| Total | ¥45,749 | ¥27,309 | ¥45,148 | ¥12,415 | ¥17,643 | ¥148,265 |

**(2) Contract balance**

The Group records contract assets relating to consideration on construction work in progress, records contract liabilities relating to advances received from customers, and records refund liabilities by estimating rebates for which payment is expected in the future.

| | Millions of yen | |
|---|---|---|
| | **Beginning of FY2018 (As of April 1, 2018)** | FY2018 (As of March 31, 2019) |
| Trade receivables | **¥31,907** | ¥29,610 |
| Contract assets | **2,036** | 1,789 |
| Contract liabilities | **732** | 1,876 |
| Refund liabilities | **¥ 918** | ¥ 896 |

Note: With respect to revenue recognized during the FY2018, the amount included in contract liabilities was 732 million yen at the beginning of the year. In the consolidated statements of financial position, contract assets are included in "Other current assets," and contract liabilities and refund liabilities are included in "Other current liabilities."

## 24. Other income

The breakdown of "Other income" is as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Gain on government grants (Note) | **¥343** | ¥250 |
| Compensation income | **—** | 60 |
| Other | **272** | 198 |
| Total | **¥615** | ¥510 |

Note: Gain on government grants for FY2017 mainly consists of 230 million yen of proceeds from subsidy for Subsidy for Operating Expenses for Businesses that Promote Regional Reconstruction and Commercialization Development, etc., net of 112 million yen as a direct deduction from the cost of property, plant and equipment acquired using said subsidy. Gain on government grants for FY2018 mainly consists of 247 million yen of proceeds from subsidy for Subsidy for Operating Expenses for Businesses that Promote Regional Reconstruction and Commercialization Development, etc.

## 25. Other expenses

The breakdown of "Other expenses" is as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Loss on retirement and sale of property, plant and equipment, and intangible assets | **¥766** | ¥1,311 |
| Impairment loss | **—** | 746 |
| Provision for environmental measures | **—** | 375 |
| Other | **177** | 170 |
| Total | **¥944** | ¥2,602 |

## 26. Finance income and finance costs

The breakdown of finance income is as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Interest income | **¥ 26** | ¥ 17 |
| Dividend income | **621** | 576 |
| Other | **4** | 9 |
| Total | **¥651** | ¥603 |

The breakdown of finance costs is as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Interest expenses | **¥359** | ¥468 |
| Foreign exchange losses | **20** | 397 |
| Other | **9** | 27 |
| Total | **¥389** | ¥893 |

## 27. Profit per share

### (1) Basis for determining basic profit per share

| | Millions of yen, unless otherwise stated | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Profit attributable to ordinary equity holders of parent: | | |
| Profit attributable to owners of parent | **¥13,933** | ¥9,697 |
| Profit not attributable to ordinary equity holders of parent | **—** | — |
| Profit used for determining basic profit per share | **13,933** | 9,697 |
| Weighted average number of common stock during the period (shares) | **20,504,133** | 19,109,108 |
| Basic profit per share (yen) | **679.55** | 507.48 |

### (2) Basis for determining diluted profit per share

| | Millions of yen, unless otherwise stated | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Profit attributable to ordinary equity holders including dilutive effects: | | |
| Profit used for determining basic profit per share | **¥13,933** | ¥9,697 |
| Adjustments on profit | **—** | — |
| Profit used for determining diluted profit per share | **13,933** | 9,697 |
| Weighted average number of common stock during the period (shares): | **20,504,133** | 19,109,108 |
| Dilutive effects (shares) | **14,593** | 1,559,543 |
| Weighted average number of common stock including dilutive effects (shares) | **20,518,726** | 20,668,651 |
| Diluted profit per share (yen) | **679.07** | 469.18 |

## 28. Other comprehensive income

Reclassification adjustment and tax effect for other comprehensive income are as follows:

FY2017 (From April 1, 2017 To March 31, 2018)

| | Millions of yen | | | | |
|---|---|---|---|---|---|
| | Amount arising during the year | Reclassification adjustment | Amount before tax effect | Tax effect | Amount after tax effect |
| Items that will not be reclassified to profit or loss: | | | | | |
| Financial assets measured at fair value through other comprehensive income | ¥5,652 | ¥— | ¥5,652 | ¥(1,716) | ¥3,936 |
| Remeasurements of defined benefit plans | 269 | — | 269 | (80) | 189 |
| Total | 5,922 | — | 5,922 | (1,796) | 4,126 |
| Items that may be reclassified subsequently to profit or loss: | | | | | |
| Exchange differences on translating foreign operations | (778) | — | (778) | — | (778) |
| Total | (778) | — | (778) | — | (778) |
| Total | ¥5,144 | ¥— | ¥5,144 | ¥(1,796) | ¥3,348 |

FY2018 (From April 1, 2018 To March 31, 2019)

| | Millions of yen | | | | |
|---|---|---|---|---|---|
| | Amount arising during the year | Reclassification adjustment | Amount before tax effect | Tax effect | Amount after tax effect |
| Items that will not be reclassified to profit or loss: | | | | | |
| Financial assets measured at fair value through other comprehensive income | **¥2,185** | **¥—** | **¥2,185** | **¥(680)** | **¥1,504** |
| Remeasurements of defined benefit plans | **413** | **—** | **413** | **(109)** | **304** |
| Total | **2,598** | **—** | **2,598** | **(789)** | **1,809** |
| Items that may be reclassified subsequently to profit or loss: | | | | | |
| Exchange differences on translating foreign operations | **692** | **—** | **692** | **—** | **692** |
| Total | **692** | **—** | **692** | **—** | **692** |
| Total | **¥3,291** | **¥—** | **¥3,291** | **¥(789)** | **¥2,501** |

## 29. Cash flow information

The table below presents reconciliations regarding liabilities arising from financing activities.

FY2017 (From April 1, 2017 To March 31, 2018)

| | Millions of yen | | | | | |
|---|---|---|---|---|---|---|
| | | | Non-cash transactions | | | |
| | As of April 1, 2017 | Cash flow | Amortized cost measurement | Exchange rate changes | Conversion to stock | As of March 31, 2018 |
| Short-term loans payable and commercial paper | ¥19,974 | ¥(4,325) | ¥— | ¥55 | ¥ — | ¥15,704 |
| Long-term loans payable | 18,377 | (5,650) | — | 36 | — | 12,762 |
| Bonds | 16,965 | 1,963 | 19 | — | — | 18,949 |
| Bonds with stock acquisition rights | 14,933 | — | 29 | — | (14,962) | — |
| Total | ¥70,250 | ¥(8,012) | ¥49 | ¥91 | ¥(14,962) | ¥47,416 |

FY2018 (From April 1, 2018 To March 31, 2019)

| | Millions of yen | | | | | |
|---|---|---|---|---|---|---|
| | | | Non-cash transactions | | | |
| | As of April 1, 2018 | Cash flow | Amortized cost measurement | Exchange rate changes | Conversion to stock | **As of March 31, 2019** |
| Short-term loans payable and commercial paper | **¥15,704** | ¥(3,730) | **¥—** | **¥(57)** | **¥—** | **¥11,917** |
| Long-term loans payable | **12,762** | (5,051) | **—** | **(16)** | **—** | **7,694** |
| Bonds | **18,949** | (28) | **20** | **—** | **—** | **18,940** |
| Total | **¥47,416** | ¥(8,810) | **¥20** | **¥(73)** | **¥—** | **¥38,552** |

## 30. Related party transactions

**(1) Related party transactions**

There were no related party transactions to be reported (excluding those eliminated in the consolidated financial statements).

**(2) Executive compensation**

The compensation for the Group's management executives was as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (From April 1, 2018 To March 31, 2019)** | FY2017 (From April 1, 2017 To March 31, 2018) |
| Basic compensation | **¥210** | ¥226 |
| Bonus | **62** | 37 |
| Share-based compensation | **11** | 11 |
| Total | **¥283** | ¥275 |

## 31. Major subsidiaries

Major subsidiaries of the Group are disclosed in page 80 of our Business Report.

## 32. Loan commitments

The Company and certain consolidated subsidiaries have entered into overdraft agreements and loan commitment agreements with multiple financial institutions in order to efficiently procure working capital. The balances of undrawn credit facilities pursuant to these agreements are as follows:

| | Millions of yen | |
|---|---|---|
| | **FY2018 (As of March 31, 2019)** | FY2017 (As of March 31, 2018) |
| Aggregate amount of maximum overdraft limit and loan commitment | **¥6,069** | ¥6,710 |
| Less: Drawn down balance | **—** | — |
| Balance of undrawn credit facilities | **¥6,069** | ¥6,710 |

## 33. Additional information

(Transfer of a fixed asset)

The Company decided to transfer a fixed asset by resolution of the Board of Directors' meeting held on March 26, 2019 and concluded a sales contract on March 28, 2019.

An overview of the transfer, etc. is as follows.

**(1) Reason for the transfer**

The Company's headquarters annex building (located at 3-26-2 Hyakunin-cho, Shinjyuku-ku, Tokyo) currently houses the Company's Pharmaceuticals Department, Pharmaceuticals Safety & Quality Management Department, Safety Research Center, and Medical Materials Research Laboratories. With the aim of enhancing inter-organizational collaboration and operational efficiency, we are relocating the former two departments to our Tokyo headquarters (at 3-3-2 Nihonbashihama-cho, Chuo-ku, Tokyo) on April 1, 2020 and the latter two units to one of the Iwaki Research and Development facilities (at 16 Ochiai, Nishiki-cho, Iwaki, Fukushima) by October 2020.

Accordingly, we have decided to dispose the following fixed asset so as to utilize management resources effectively and strengthen the Company's financial position.

**(2) Details of the asset to be transferred**

| Description and location of asset | Gain on transfer of asset | Current status |
|---|---|---|
| Land: 6,702.44 $m^2$<br>3-26-2 Hyakunin-cho, Shinjyuku-ku, Tokyo | Approximately 9.2 billion yen | In use for Kureha's HQ annex building |

* The gain on transfer of asset indicated above is a rough estimate calculated by subtracting the asset's book value and transfer-related expenses from the transfer price. We will not disclose the exact transfer price and book value of the asset at the request of the party to whom the asset is transferred ("the transferee").

**(3) Information on the transferee**
The Company will withhold the identity of the transferee due to confidentiality obligations to the transferee. The Company and the transferee do not have capital, personnel or business ties, and the transferee is not a party related to the Company or its subsidiaries.

**(4) Transfer schedule**
Resolution passed by the Company's Board of Directors: March 26, 2019
Contract signing: March 28, 2019
Transfer of asset: November 30, 2019 (tentative)
Vacation of land: October 2020 (tentative and after the Company's relocation is completed)

**(5) Impact of the event on the consolidated profit and loss**
The Company expects to record an approximately 9.2 billion yen gain resulting from the sale of the aforementioned fixed asset as "Other income" during the fiscal year ending March 31, 2020 (FY2019). Meanwhile, there is no impact on the FY2018 consolidated financial results.

## 34. Subsequent events

**1. Acquisition of treasury stock**
The Company has resolved at the Board of Directors' meeting held on May 14, 2019 to acquire its treasury stock in accordance with Article 156 of the Companies Act, as applied pursuant to Article 165, Paragraph 3 of said Act.

1) Reason for acquisition of treasury stock
To enhance shareholder return measures and improve capital efficiency

2) Details of acquisition
Type of shares to be acquired: Common shares of the Company
Total number of shares to be acquired: Up to 750,000 shares
Total cost of acquisition: Up to 5,000 million yen
Acquisition period: May 15, 2019 to March 31, 2020

3) Details of acquisition conducted (until May 31, 2019 [contract date basis])
Type of shares acquired: Common shares of the Company
Total number of shares acquired: 100,000 shares
Total cost of acquisition: 678 million yen
Acquisition method: Open market purchase on the Tokyo Stock Exchange

**2. Business combination due to acquisition**
Kureha Ecology Management Co., Ltd. which is a consolidated subsidiary of the Company, has acquired shares of Himeyuri total work Co., Ltd. as described below on April 1, 2019, based on a share transfer contract concluded on March 1, 2019. In addition, the initial accounting for this business combination is currently incomplete.

1) Name and business of acquiree
Name: Himeyuri total work Co., Ltd.
Main business: final disposal of industrial waste (controlled landfill)

2) Reason for acquisition
The Group, through its business activities, is making earnest efforts to solve social issues in fields such as the global environment, energy and resources, food, life, and medical and health, and Kureha Ecology Management Co., Ltd. strives to conserve the global environment through the collection, transportation, and intermediate disposal of industrial wastes. By making into a subsidiary Himeyuri total work Co., Ltd., which operates final disposal sites and has a long business transaction history with the Group, we can provide an integrated service from collection and transportation to intermediate and final disposal of industrial wastes and the Group will have a structure which can further satisfy the needs of customers and local communities.

3) Acquisition date
April 1, 2019

4) Ratio of voting rights acquired
Ratio of voting rights owned immediately before the acquisition date: 19%
Ratio of voting rights acquired additionally on the acquisition date: 81%
Ratio of voting rights after acquisition: 100%

5) Fair value of consideration transferred on the acquisition date and its type
Cash: 470 million yen

6) Fair value of the assets and liabilities on the acquisition date and goodwill
Currently not determined as recognition and measurement of identifiable assets acquired and liabilities assumed are incomplete.

5) Consolidated supplementary schedules
[Details of bonds]

| (Millions of yen) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Issuer | Type | Issue date | Beginning balance FY2018 (as of Apr. 1, 2018) | Ending balance FY2018 (as of Mar. 31, 2019) | Interest rate (%) | Collateral | Maturity date |
| Kureha Corporation | The 4th unsecured bonds | October 20, 2011 | ¥ 4,998 (4,998) | ¥ — | 0.82 per annum | None | October 19, 2018 |
| Kureha Corporation | The 5th unsecured bonds | March 6, 2015 | 6,984 | 6,991 (6,991) | 0.30 per annum | None | March 6, 2020 |
| Kureha Corporation | The 6th unsecured bonds | September 1, 2017 | 6,967 | 6,974 | 0.14 per annum | None | September 1, 2022 |
| Kureha Corporation | The 7th unsecured bonds | October 18, 2018 | — | 4,974 | 0.14 per annum | None | October 18, 2023 |
| Total | — | — | 18,949 ¥ (4,998) | 18,940 ¥ (6,991) | — | — | — |

Notes: 1. The amounts shown in parenthesis in "Ending balance" column represent the current portion of bonds payable.
2. The aggregate annual amounts to be redeemed within five years after the end of FY2018 are as follows:

| (Millions of yen) | | | | |
|---|---|---|---|---|
| Within one year | Over one year and within two years | Over two years and within three years | Over three years and within four years | Over four years and within five years |
| ¥7,000 | ¥— | ¥— | ¥7,000 | ¥5,000 |

[Details of loans payable]

| | (Millions of yen) | | | |
|---|---|---|---|---|
| Classifications | Beginning balance FY2018 (as of Apr. 1, 2018) | Ending balance FY2018 (as of Mar. 31, 2019) | Average interest rate (%) | Maturity date |
| Short-term loans payable | ¥13,704 | ¥10,917 | 1.72 | — |
| Current portion of long-term loans payable | 5,055 | 4,129 | 0.58 | — |
| Current portion of lease obligations | 252 | 195 | 0.60 | — |
| Commercial papers (current portion) | 2,000 | 1,000 | (0.00) | — |
| Long-term loans payable (excluding the current portion) | 7,706 | 3,565 | 0.58 | April 2020 to February 2029 |
| Lease obligations (excluding the current portion) | 420 | 269 | 0.60 | April 2020 to March 2028 |
| Total | ¥29,140 | ¥20,077 | — | — |

Notes: 1. "Average interest rate" is presented as the weighted average interest rate against the loans outstanding at the end of the year.
2. The aggregate annual amounts of long-term loans payable and lease obligations to be repaid within five years after the end of FY2018 are as follows:

| | (Millions of yen) | | | |
|---|---|---|---|---|
| | Over one year and within two years | Over two years and within three years | Over three years and within four years | Over four years and within five years |
| Long-term loans payable | ¥2,243 | ¥1,055 | ¥53 | ¥52 |
| Lease obligations | 119 | 84 | 34 | 17 |

[Details of asset retirement obligations]
The disclosure is omitted because the amounts of asset retirement obligations as of the beginning and end of FY2018 were less than 1% of the total liabilities and equity as of the same dates.

(2) Other information

Quarterly information for FY2018

| (Cumulative period) | First quarter | Second quarter | Third quarter | FY2018 |
|---|---|---|---|---|
| | (Millions of yen, unless otherwise stated) | | | |
| Revenue | ¥34,555 | ¥72,466 | ¥110,811 | ¥148,265 |
| Profit before tax | 3,498 | 7,327 | 14,193 | 17,435 |
| Profit attributable to owners of parent | 2,499 | 5,321 | 11,112 | 13,933 |
| Basic profit per share (yen) | 121.01 | 257.63 | 539.87 | 679.55 |

(Yen)

| (Each quarter) | First quarter | Second quarter | Third quarter | Fourth quarter |
|---|---|---|---|---|
| Basic profit per share | ¥121.01 | ¥136.63 | ¥283.29 | ¥139.21 |

# Major Subsidiaries and Affiliates

| Country | Company Name | Major Business |
|---|---|---|
| Japan | Kureha Trading Co., Ltd. | Trading of chemical and plastic products |
| | Resinous Kasei Co., Ltd. | Manufacture/sale of advanced materials |
| | Kureha Extron Co., Ltd. | Manufacture/sale of plastic products |
| | Kureha Gohsen Co., Ltd. | Manufacture/sale of plastic fiber and products |
| | Kurehanishiki Construction Co., Ltd. | Construction |
| | Kureha Engineering Co., Ltd. | Plant engineering and maintenance |
| | Kureha Ecology Management Co., Ltd. | Waste treatment and management |
| | Kureha Special Laboratory Co., Ltd. | Environmental/physiochemical evaluation and analysis |
| | Kureha Unyu Co., Ltd. | Transportation and storage services |
| | Kureha Service Co., Ltd. | Real estate, travel and welfare services for Kureha Group |
| | Kureha Staff Service Co., Ltd. | Recruiting and staffing services |
| | Kureha-kai Medical Corporation | Hospital operations (Kureha General Hospital) |
| USA | Kureha America Inc. | Holding company and finance/sales of advanced products and fishing lines |
| | Kureha PGA LLC | Manufacture/sale of PGA resins |
| | Kureha Energy Solutions LLC | Sale of PGA downhole tools |
| | Fortron Industries LLC* | Manufacture/sale of PPS resins and compounds |
| Germany | Kureha GmbH | Sale of advanced products |
| Netherlands | Kureha Europe B.V. | Holding company and finance |
| | Krehalon B.V. | Manufacture/sale of food packaging products |
| Australia | Krehalon Australia Pty. Ltd. | Sale of food packaging products |
| China | Kureha (China) Investment Co., Ltd. | Holding company and finance |
| | Kureha (Shanghai) Carbon Fiber Materials Co., Ltd. | Manufacture/sale of carbon fiber products |
| | Kureha (Changshu) Fluoropolymers Co., Ltd. | Manufacture/sale of PVDF resins and compounds |
| | Nantong SKT New Material Co., Ltd.* | Manufacture/sale of PVDC resins and compounds |
| Vietnam | Kureha Vietnam Co., Ltd. | Manufacture/sale of food packaging films |

*Affiliates accounted for by equity method

# Investor Information

(As of March 31, 2019)

## Corporate Data

| | |
|---|---|
| Corporate Name | Kureha Corporation |
| Headquarters | 3-3-2, Nihonbashi-Hamacho, Chuo-ku, Tokyo 103-8552, Japan<br>Tel: 81-3-3249-4666<br>Fax: 81-3-3249-4744 |
| Establishment | June 21, 1944 |
| Paid-in Capital | ¥18,169 million |
| Number of Employees | 4,299 (Consolidated) |
| Independent Auditor | Ernst & Young ShinNihon LLC |

## Stock Information

| | |
|---|---|
| Number of Shares of Common Stock Issued | 20,805,407 shares |
| Number of Shareholders | 10,467 |
| Number of Shares Held by Foreign Shareholders | 5,479,747 (26.4% of total) |
| Stock Exchange Listings | Tokyo Stock Exchange |
| Transfer Agent | Mizuho Trust & Banking Co., Ltd. |

## Major Stockholders

| |
|---|
| Japan Trustee Services Bank, Ltd. (Trust account) |
| Meiji Yasuda Life Insurance Company |
| The Master Trust Bank of Japan Ltd. (Trust account) |
| Japan Trustee Services Bank, Ltd. (9 trust accounts) |
| Tokio Marine & Nichido Fire Insurance Co., Ltd. |
| Trust & Custody Services Bank, Ltd. (Securities investment trust account) |
| Mizuho Bank, Ltd. |
| Japan Trustee Services Bank, Ltd. (Trust account 5) |
| J.P. MORGAN BANK LUXEMBOURG S.A. 380578 |
| JP MORGAN CHASE BANK 385151 |

https://www.kureha.co.jp/

KUREHA CORPORATION

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