JSR Corporation

JSR REPORT 2019

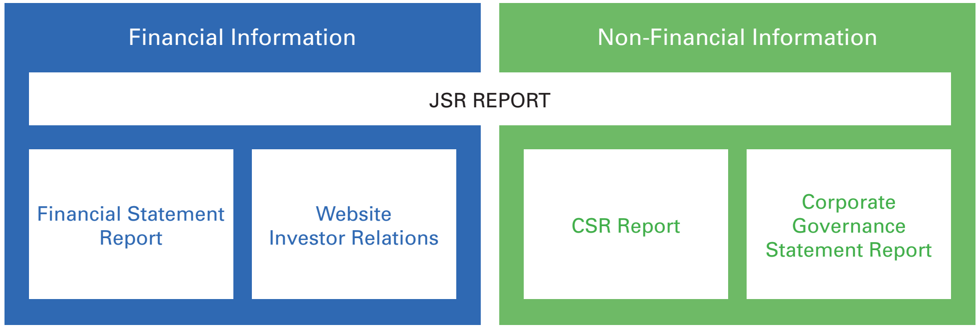
For the year ended March 31,2019

Editorial Policy

We are a company that delivers "sustainable growth" toward the future. Our corporate mission, "Materials Innovation," states that "We create value through materials to enrich society, people, and the environment." Based on this mission, we are building good relationships with various stakeholders in our quest to become a trusted and indispensable corporate citizen.

This report contains financial information such as management strategies and non-financial information including matters relating to the environment and society, with reference to the disclosure framework of the International Integrated Reporting Council (IIRC) and the Ministry of Economy, Trade and Industry's Guidance for Collaborative Value Creation.
(Target period: April 2018 - March 2019)

Environment Social Governance
Guidance for Collaborative Value Creation



More detailed information is available on our website.
http://www.jsr.co.jp/jsr_e/

Forward-Looking
Statements regarding the Company's future plans, strategies, projected performance and outlook are based on information available at the time of writing. Readers are cautioned that economic trends in JSR's target markets and other risks, and factors beyond the Company's control could cause actual results to differ materially from those projected by management.

In this report, Fiscal Year (FY) means the year ending March 31. For example, FY2018 means April 1, 2018 – March 31, 2019.

Contents

CORPORATE MISSION

MATERIALS INNOVATION

We create value through materials to enrich society, people and the environment

MANAGEMENT POLICIES

Our efforts to realize the corporate mission of JSR Group are guided by a management policy consisting of two core components. The first is a set of universal and unchanging “fundamental pillars of management” through which we work to achieve continuing growth. The second is our “responsibilities to stakeholders,” which are an expression of our responsibilities as a good corporate citizen.

Fundamental Pillars of Management

Continuous creation of businesses
As society evolves, so does the demand for specialized materials and advanced products. JSR continuously evolves to anticipate and responds to changing marketing needs and, in doing so, achieve dynamic growth.

Enhancement of corporate culture
As society evolves, so will our organization. JSR will build on its existing positive corporate culture to create an organization and management style with the vitality to keep evolving.

Increase in corporate value
JSR will position itself to increase our overall corporate value by creating businesses through materials with focuses on customer satisfaction and the fulfillment of employees.

Responsibility to Our Stakeholders

Responsibility to our customers / business partners
When interacting with our business partners and customers, the JSR Group will:
- Constantly evolve to meet the demand for new materials
- Always strive to increase customer satisfaction
- Act in good faith and maintain fair and equitable business relations
- Continue to be socially and environmentally conscious throughout the supply chain

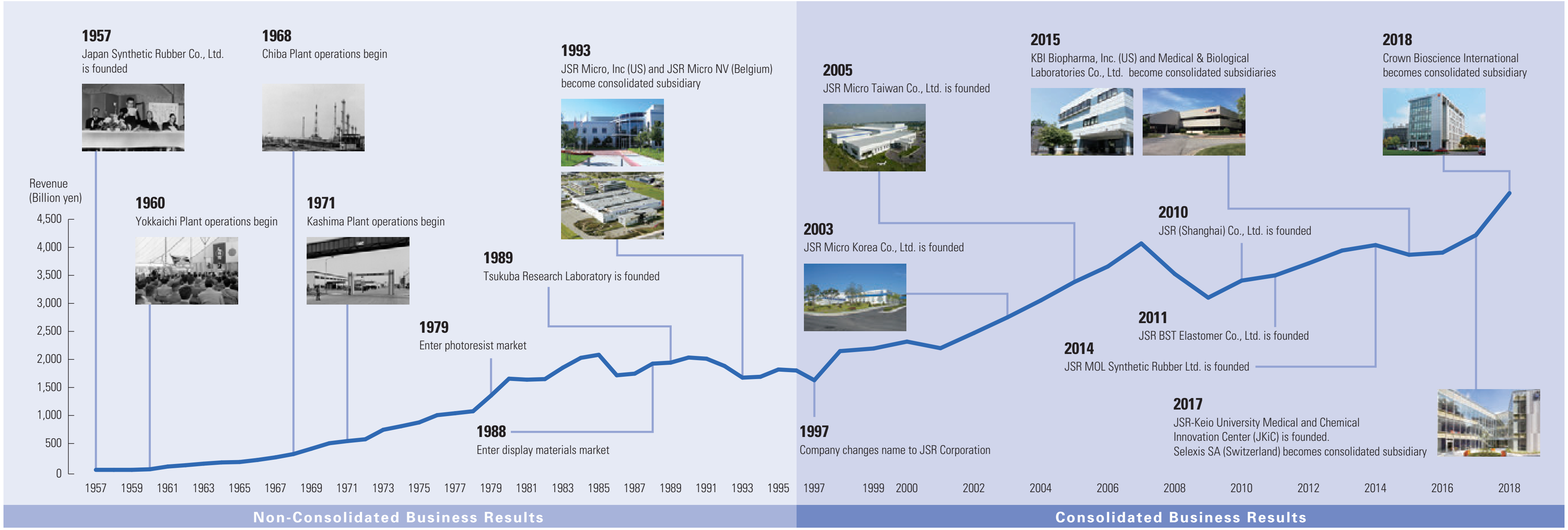
Responsibility to our employees
All employees should expect:
- To be evaluated and rewarded based on fair standards
- Continuous opportunities to grow by challenging themselves
- Acceptance of the diversity of fellow colleagues and to be provided a place where all employees can work together as a team

Responsibility to society
All members of the JSR Group will honor our responsibility to both the local and global communities through:
- Responsible and respectful business practices (Responsible Care) that consider the environment and safety
- Support of environmental conservation by providing eco-friendly products
- Reduction of our environmental impact throughout the entire product lifecycle
- Active contribution to conserving biodiversity throughout its business activities and the entire product lifecycle

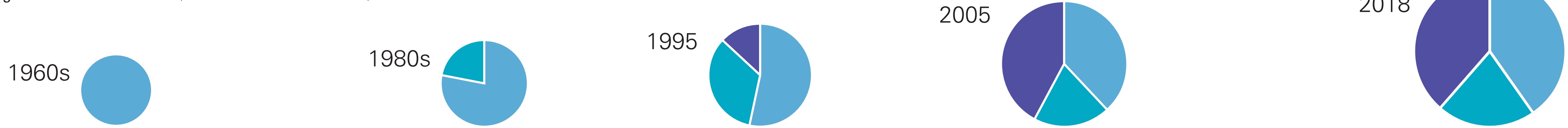
Responsibility to shareholders
Group will maintain its responsibility to its shareholders by:
- Aiming to increase corporate value by creating business opportunities through materials
- Constantly enhancing its management efficiencies
- Inspiring trust by being highly transparent and conducting sound corporate management practices

TRACK RECORD OF CREATING VALUE

JSR Corporation (formerly Japan Synthetic Rubber Co., Ltd.) was established in December 1957 under the Special Measures Law for the Synthetic Rubber Manufacturing Industry with the aim of pioneering synthetic rubber production in Japan. Since transitioning into a private corporation in 1969, JSR has expanded its petrochemical business from synthetic rubber to include emulsions, plastics and other materials, and has augmented business operations for the semiconductor, flat panel display and optical materials fields by leveraging proprietary polymer technologies. The promotion of the Fine Chemicals Business based on IT materials has served as a gateway to innovative changes to the company's business structure and we changed our company name to JSR Corporation on our 40th anniversary on December 10, 1997. Recently, the Life Sciences Business was established as the third business pillar and is expanding its scale through measures such as mergers and acquisitions (M&A). A new company was established in the Plastics Business through a merger, too. Also, the previous Fine Chemicals Business was changed to Digital Solutions Business to seek new business opportunities. We will achieve sustainable growth by steadily overcoming issues in each business field and increasing our profits.



Changes in Business Portfolio (Size of circles show size of revenue)



■ Elastomers/Emulsion, Elastomers ■ Plastics/Fine Chemicals, Plastics ■ Fine Chemicals and other products *From FY ended March 2018, IFRS (International Accounting Standard) has been applied.

INITIAL PHASE (1957-1973)	EXPLORATORY DIVERSIFICATION PHASE (1974-1990)	ACCELERATED DIVERSIFICATION PHASE (1991-2001)	BUSINESS ENHANCEMENT PHASE (2002-2010)	ACTIVATION TOWARD GROWTH (2011–)

CORPORATE VALUE CREATION PROCESS

The JSR Approach – Macro Trends

- Global Warming
- Population Growth/ Natural Resources
- Emerging Markets
- Digital Revolution

Our Strategies for Value Creation

Polymer technology

Precision manufacturing technology

M&A
Open innovation
Biochemistry

INNOVATION

MATERIALS

Create Sustainable Value through Materials

LIFE SCIENCES BUSINESS
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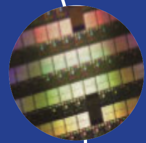

DIGITAL SOLUTIONS BUSINESS
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Semiconductor Materials Business
Display Materials Business
Edge Computing Business

ELASTOMERS BUSINESS
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PLASTICS BUSINESS
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Results (OUTPUT)

LIFE SCIENCES BUSINESS
Revenue ¥**43.9** billion
Support for the process of drug discovery and providing in-vitro diagnostic and research reagents

DIGITAL SOLUTIONS BUSINESS
Revenue ¥**142.2** billion
Providing cutting-edge semiconductor materials and display materials

ELASTOMERS BUSINESS
Revenue ¥**200.7** billion
Providing solutions for automobile parts such as tires

PLASTICS BUSINESS
Revenue ¥**105.4** billion
Providing high-performance ABS for automobile parts

Providing Value to the Society (OUTCOME)

Contribution to advanced technology innovation

Contributing to a society of health and longevity
- Shortening the drug discovery period
- From treatment to prevention
- Promoting personalized medicine

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Contributing to quality of life and well-being
- Achieving a smart (AI, IoT) society
- Achieving high-speed communications
- The spread of 4K and 8K TV
- Achieving comfortable mobility

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Contribute to Global Environmental Conservation
- Efficient use of energy
- Achieving a recycling -oriented sciety

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Financial KPI (JSR20i9)
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- Net sales ¥**460** billion
- Operating profit ¥**42** billion
- ROE More than **8**%
- Total return ratio More than **50**%

Non-Financial KPI

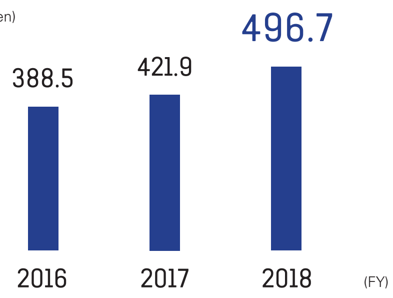
- Reduce Greenhouse Gas Emissions by 15% in FY2030 compared to 2013
- Maintain Achieving Zero-Emission Target
- Zero Facility Accidents and Workplace Accidents
- 4.5% of women in managerial positions by the end of FY2019

FY2018 FINANCIAL & NON-FINANCIAL HIGHLIGHTS

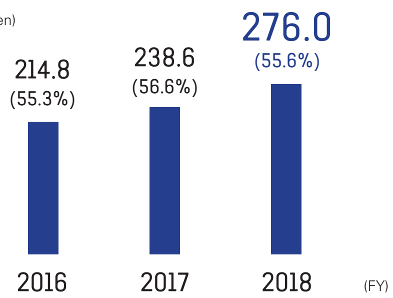
Financial Information

Financial Capital

Revenue



Overseas Revenue (% against total revenue)



Operating Profit

43 Billion yen
(8.7%)

Profit, Attributable to Owners of Parent

31.1 Billion yen
(6.3%)

Dividend Payout Ratio

42.7 %

Capital Expenditure

36 Billion yen

ROE

7.8 %

Non-Financial Information

Human Capital and Intellectual Capital

Number of Employees (Group consolidated basis)

8,748
(As of March 31, 2019)

<Percentage of Women in Managerial Positions>	<Employment Rate of Individuals with Disabilities>
4.1 %	2.43 %
(JSR Corporation)	(JSR Corporation)

R&D Expenses

24.9 Billion yen

* Whole JSR Group, including contract research expense of goods purchased.

Number of Patents Held

7,051

Number of Industrial Accident

- JSR Corporation 0 (0)
- Manufacturing Partners of JSR or Group 1 (0)
- Group Companies in Japan 2 (3)
- Manufacturing Partners of Group Companies in Japan 0 (2)

*Number of non-working accident in brackets.

Social and Relationship Capital

Global Network

Domestic	Overseas
28 locations	41 locations

*Including JSR head quarter, main production and R&D sites and 21 group companies.

Natural Capital

Greenhouse Gas (CO_2) Emissions

1,078 kt-CO_2

*JSR Corporation, group companies in Japan and other countries in total, Scope 1 + Scope2.

Basic Unit of Energy Consumption

0.36 kL/ton

*Only for JSR Corporation. 0.18 for group companies in Japan and 0.56 for group companies in other countries.

PROGRESS OF MID-TERM BUSINESS PLAN

We launched a new three-year mid-term business plan, JSR20i9. We firmly established our SSBR, semiconductor materials and life sciences businesses as our three pillars to drive earnings and promote profit expansion. We also focused on improving productivity and competitiveness through digitalization and innovation.

We Will Achieve Sustainable Growth to Fulfill Our Responsibility to All Our Stakeholders

The trends toward global diversification and the formation of the multipolar world are expected to accelerate. We see these environmental changes as opportunities to expand our corporate value through initiatives based on our corporate mission.

JSR20i3*

Phase I

Results of JSR20i3

- Clarification of the strategy toward growth
- Decision of resource investment

JSR20i6*

Phase II

Results of JSR20i6

- Progress of globalization
- Restructuring of the Strategic Business and focusing on the Life Sciences Business

JSR20i9*

Phase III

Strengthening Competitiveness for the Future

Mission of JSR20i9

- Solid earnings growth by SSBR, semiconductor materials and the Life Sciences Business

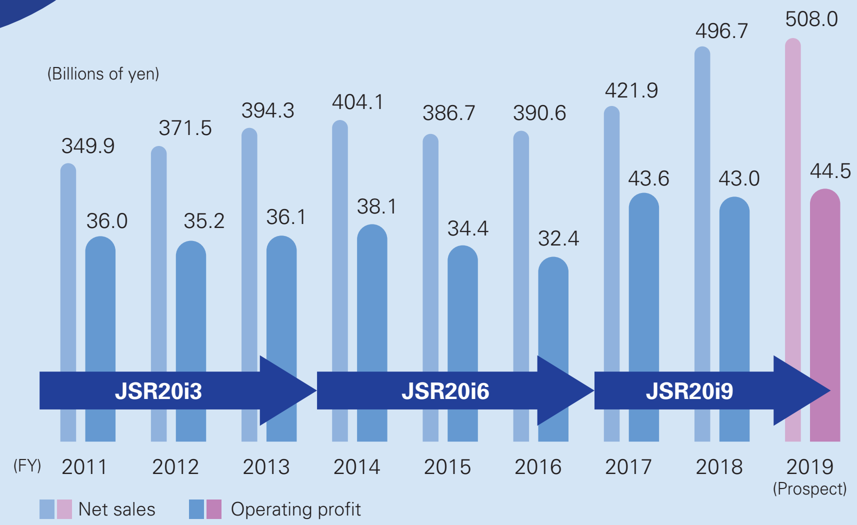
Financial KPI (JSR20i9)

Net Sales
460 Billion yen

ROE
More than 8%

Operating Profit
42 Billion yen

Total Return Ratio
More than 50%



* The "i" in "JSR20i3" (twenty-thirteen), "JSR20i6" (twenty-sixteen) and "JSR20i9"(twenty-nineteen) emphasizes the "Innovation" to realize Materials Innovation, which is the heart of our corporate mission.

Note: From FY ended March 2018, IFRS (International Accounting Standard) has been applied.

CEO MESSAGE

In June of this year the JSR group restructured our executive management. We established the position of global CEO and redefined the job of the president to focus on operations in Japan and to encompass the role of COO. Earlier in the year we established a North American headquarters to manage our global Life Sciences division as well as our US semiconductor operations. Several factors contributed to these changes. Today JSR's revenue is approximately 500 billion yen annually and around 60% of that comes from overseas sales. In addition, about one third of our more than 9,000 employees (as of March of 2019) and half of our tangible fixed assets are located outside of Japan, and the number of JSR Group companies has increased from 34 to 60 in the last decade with two-thirds residing overseas. Our foundation and roots are certainly Japanese, but our continued success requires a truly global infrastructure.

It was amid these circumstances that I became Representative Director and CEO. Although I am the first non-Japanese to take the top office of JSR Group management, I have a long history with JSR. I joined JSR more than 18 years ago and have been deeply involved in both the Semiconductor Materials Business and the Life Sciences Business.

We recognize that we face many potentially disruptive pressures. Several years ago, we identified Global Warming, Population Growth/Natural Resources, Emerging Markets and the Digital Revolution to be four macro trends that will affect, not only society, but how each of our business segments,

CEO MESSAGE

Elastomers, Plastics, Digital Solutions and Life Sciences, operate to create value through materials. More generally, JSR will continue to foster a culture centered on curiosity, openness, and adaptability. We believe that change is inevitable, and we embrace the challenges and the opportunities that an ever-evolving landscape present. JSR also understands that being a responsible corporate citizen is not simply a perception to manage but rather represents a core value essential to who we want to be as a company.

"Strengthening our competitiveness for the future" is the Phase III mission of the JSR20i9 mid-term business plan — the JSR Group's three-year plan running from fiscal year 2017 through fiscal year 2019. Under the plan, the JSR Group has pursued continuous innovation toward the Company's 2020 vision. As in the previous fiscal year, the Group achieved revenue targets set out in the mid-term business plan for fiscal year 2018, the second year of JSR20i9, and in fact met many of our 2019 financial targets ahead of schedule.

The Elastomers Business segment is witnessing rising global demand for fuel-efficient tires and other types of high-performance tires. At JSR BST Elastomer Co., Ltd. — a joint venture in Thailand that supplies solution styrene-butadiene rubber (SSBR) for high-performance tires — the first-phase and second-phase facilities are operating satisfactorily and are approaching full output. To address further demand growth, the Group has established JSR MOL Synthetic Rubber Ltd. a joint venture in Hungary, where operations are scheduled to begin in fiscal year 2019.

In the Plastics Business segment, Techno-UMG's efforts at post-merger integration are progressing well, with particular focus on consolidating sales, development, and manufacturing operations and building a solid organizational framework. The merger's aim is to further enhance our competitiveness while also expanding revenues. We will do this by improving manufacturing efficiencies and cost competitiveness, diversifying the company's differentiated product lines, and growing sales of specialty products in overseas markets.

Our semiconductor materials business is maintaining its global competitiveness in cutting-edge lithography materials for 7 to 10 nm generation processes. At the same time, the JSR Group is broadening sales of semiconductor peripheral materials, such as packaging materials, and CMP materials (slurries, cleaning solutions).

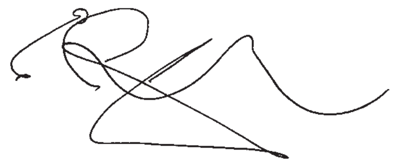
The display materials business is working hard to expand sales for materials used in wide-screen LC panels, especially our alignment films and insulating films in the China market, where we see strong growth potential.

The JSR Group in May 2018 made Crown Bioscience International — a provider of preclinical drug discovery and development services — a wholly-owned subsidiary under the Life Sciences Business segment, complementing KBI Biopharma, Inc., MEDICAL & BIOLOGICAL LABORATORIES CO., LTD. (MBL), and Selexis SA. The addition of Crown Bio completes a framework that provides end-to-end process support, from antibody drug discovery to commercial production. The Life Sciences Business companies will pursue synergies to drive greater business expansion.

In the area of next-generation research, the JSR Group opened the JSR-Keio University Medical and Chemical Innovation Center (JKiC) in October 2017 — a joint research facility with Keio University's School of Medicine and the Keio University Hospital. JKiC is spearheading the development of innovative materials and products that will underpin the advancement of new medical fields. The JSR Group also plans to open a new research building in the Tonomachi District of Kawasaki in 2021 to coordinate next-generation research. These research facilities will lay the groundwork for future expansion of the Life Sciences Business.

In closing I want to emphasize that I believe one of JSR Group's key differentiators is our multiculturalism and our exceptional commitment to enhance diversity. We have a broad set of talent from all over the globe and we have been making significant investments outside of Japan for decades. We are not simply a Japanese company competing overseas. We are committed to competing assertively and confidently in Japan and around the world as a truly global corporation. Together I am confident we will continue to strengthen JSR as a successful and respected player in the global market and that this great Japanese corporation will thrive as a truly globalized company supported by our deep talent pool and assets around the world. I will do everything I can to enhance our ability to support our mission and to allow us to shine even brighter.

Representative Director, CEO



Eric Johnson

MESSAGE FROM PRESIDENT AND COO

As the highest ranking person in charge of business execution I will implement fast management towards sustainable growth from 2020 onwards.

My name is Nobuo Kawahashi and I became Representative Director and President, and Chief Operating Officer (COO) from June 2019. Similarly, Eric Johnson, who became the new CEO from June 2019, and I form a two-man team that will contribute to improving the Group's sustainable corporate value.

When looking ahead to 2020, the Group promoted its mid-term business plan, dividing fiscal 2011 through fiscal 2019 into three separate plans. In the first JSR20i3 (FY2011-2013) plan we selected new businesses with the aim of achieving sustainable growth while continuing to strengthen the Company with the Petrochemical Business (Elastomers Business and Plastics Business) and the Fine Chemicals and Other Products Business (mainly Semiconductor Materials Business and Display Materials Business) as its base. Following on in the JSR20i6 (FY2014-2016) plan, we decided to make the Life Sciences Business the third business pillar of the Company. Now in the current JSR20i9 (FY2017-2019) plan, we have established Solution polymerization Styrene-butadiene Rubber (SSBR) for high-performance tiers of the Elastomers Business, Semiconductor Materials Business and the Life Sciences Business as the three earnings drivers. It can be said that the Group is facing a major turning point in terms of sustainable growth from 2020 onward.

Under these conditions, we will continue to create innovative materials that become the de-facto standard. At the same time, by merging with different industries to further expand our areas of business, we will listen to diverse opinions, anticipate future market needs with an open mind, and carry out a fast and flexible management style to be able to respond quickly to environmental changes.

Representative Director and President,
and Chief Operating Officer (COO)

Nobuo Kawahashi

MESSAGE FROM PRESIDENT AND COO

What is your outlook for the future business environment?

Pushing ahead business portfolio reforms focused on the keywords of personalization and localization.

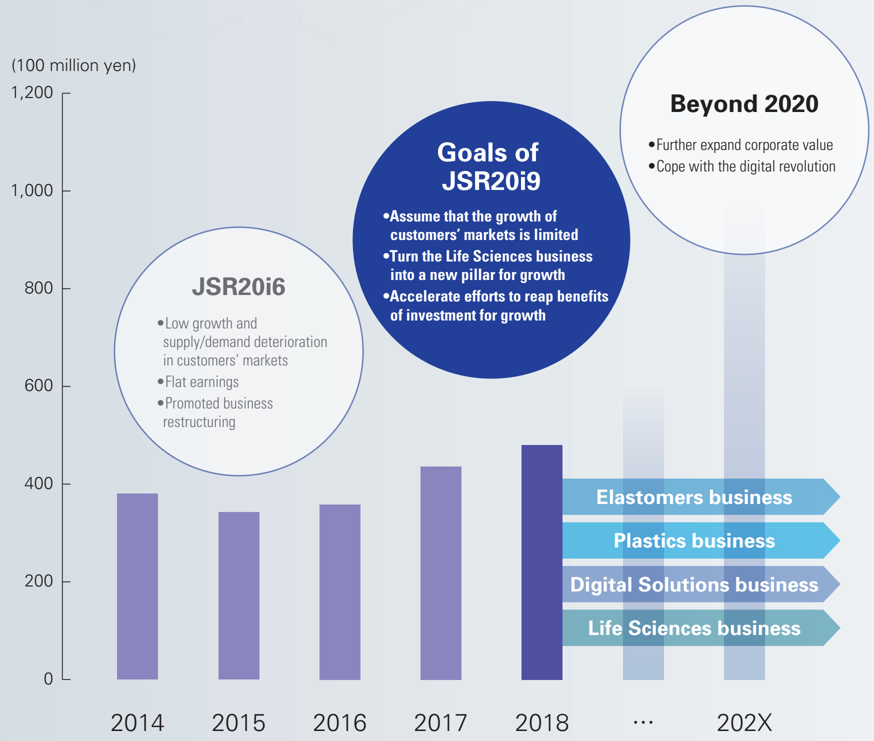
In recent years the wave of digitization has gained ever more momentum with advanced technologies such as artificial intelligence (AI), high-speed communication, and genome editing all having made remarkable progress. And from the mid 2020's I'm sure we'll see a more pronounced wave of personalization and localization coming to the forefront.

The personalization movement has already become commonplace in the healthcare industry with the onset of personalized medicine. This has also been achieved as a result of rapid evolutions in genetic analysis and diagnostic imaging technologies, all possible because of digitalization. As for localization, by digitizing manufacturing processes and know-how, the movement of digital manufacturing will enable production anytime and anywhere. On the other hand, ways to expand global standards in all regions will reach their limits meaning there will be an even greater demand for sophisticated responses to the unique needs of the region.

As part of our response to these changing times we have invested in Carbon, Inc. of the United States, which has advanced technology in the field of 3D printing. Innovations in software, hardware, and material science have enabled product designs never before possible, regardless of region or volume. Orthopedic implants that use 3D printing are rapidly becoming widespread in the medical field, and as such we have entered into a collaboration partnership with GE Healthcare Japan Corporation for the construction of a digital platform and launch of a new service in the field of orthopedic surgery.

In recent years the Group has actively been seeking out mergers and acquisitions, growing significantly as a result. I would like to go forward with our business portfolio reforms with focus on the keywords of personalization and localization in mind, aiming for more sustainable growth.

MESSAGE FROM PRESIDENT AND COO



How is the JSR20i9 mid-term business plan progressing?

Positioning SSBR , the Semiconductor Materials Business and the Life Sciences Business as the three earnings drivers and promoting business portfolio reforms

Revenues in fiscal 2018 increased significantly from the previous year due to a merger in the Plastics Business and Crown Bioscience International (CrownBio) becoming a consolidated subsidiary. However, despite realizing operating profits in the Life Sciences Business, increasingly poor buy/sell spreads in the Elastomers Business, due to the decline in automobile production in China and Europe, has led to tighter profit margins, resulting in a slight overall decline from last year. Although target figures for the JSR20i9 mid-term business plan have been reached as in the previous fiscal year, there are still challenges remaining for each business. We shall therefore leave the target figures unchanged and work to successfully accomplish our plan.

Looking at each segment, firstly one of our earnings drivers, the Thai joint venture which supplies solution styrene-butadiene rubber (SSBR) for high-performance tires, such as fuel-efficient tires, is approaching full strength. In fiscal 2018 we achieved over 10% growth in sales volume in the face of 5-6% market growth. We are planning to launch operations of our plant at joint venture in Hungary in fiscal 2019 with an eye to further accelerate growth.

In the Plastics Business, we established Techno-UMG Co., Ltd. in April 2018 through a merger between one of our Group companies, Techno Polymer Co., Ltd., and UMG ABS, Ltd. Through moving product lines between plants we have been able to increase production efficiencies while reducing our investment to increase capabilities. In fiscal 2019, in addition to improving manufacturing efficiency and cost competitiveness, we are looking to increase our lineup of differentiated chemical products and aiming to expand sales of specialty products overseas utilizing the manufacturing, development and sales capabilities of both companies.

Next is the Digital Solutions Business where, in earnings driver Semiconductor Materials Business, we will maintain our competitiveness while strengthening relationships with major global customers in cutting-edge lithography materials, including those state-of-the-art 7-10 nm (nanometer) generation lithography processes. Furthermore, we will expand sales of extreme ultraviolet (EUV) lithography materials for the 7 nm generation and beyond and sales of semiconductor peripheral materials such as packaging materials, and CMP materials (slurries and functional cleaning solutions). In the Display

MESSAGE FROM PRESIDENT AND COO

As the Group provides innovative materials to various industries and fields around the world, I believe that even small results, one by one, can, over time through our business activities, make big differences in protecting the environment. More specifically, although it is natural to try to reduce greenhouse gas emissions in the supply chain and achieve zero waste from factories, we intend to steadily plug away at building on the development of eco-friendly products with, for example, solution styrene-butadiene rubber (SSBR) for high-performance tires, and materials for liquid crystal displays that contribute to reduced power consumption, to make a bigger contribution with greater overall impact.

What direction will your efforts on R&D and innovation take?

Actively promote open innovation through expansion beyond in-house development

In terms of the Group's research and development, in addition to the five research laboratories (Performance Polymer Research Laboratories, Display Solution Laboratories, Fine Electronic Materials Research Laboratories, Advanced Materials Research Laboratories, and Edge Computing Research Laboratories), which are all located at Yokkaichi Research Center, the Group is conducting research at Tsukuba Research Laboratory and JSR-Keio University Medical and Chemical Innovation Center (JKiC: in Shinanomachi Campus of Keio University). However, in-house development takes time and cannot keep up with the speed of change. Even though R&D has already begun at JKiC and the Center of Materials Innovation, which has been newly established at Yokkaichi Plant, we will actively utilize open innovation that incorporates technology from outside the Company.

Furthermore, in 2021, research laboratories for life sciences and business incubation will be established in Tonomachi, Kawasaki City, and here too, open innovation will be incorporated to seek out new areas of business.

MESSAGE FROM PRESIDENT AND COO

Business we will expand sales of organic EL materials with a focus on our competitive alignment films and insulating films in the Chinese market where we expect particularly strong growth, especially for large-sized liquid crystal panels.

Finally, in the Life Sciences Business, in addition to KBI Biopharma, Inc., Medical & Biological Laboratories Co., Ltd., and Selexis SA, which has the technology to quickly generate cell lines used to culture antibodies efficiently, we acquired CrownBio, a provider of pre-clinical drug discovery and development support services, as a consolidated subsidiary in fiscal 2018. In this way, we have established a system that enables support throughout the entire process, from discovery to the manufacture of antibody drugs. The Life Sciences Business achieved profitability in fiscal 2018 and is aiming for sales of 54 billion yen in fiscal 2019.

What are your views on corporate governance?

In order to make quick and accurate business decisions for each region and market, a director will be increased

The Company's corporate governance system has a Nomination Advisory Committee and a Remuneration Advisory Committee, both of which are chaired by an independent outside director with a majority of members as outside directors, and together have introduced a short- and medium-term performance-linked remuneration scheme. With regard to the outside directors, in addition to being completely independent, they are made up of a well-balanced number of directors with vast experience in management and business operations who can be expected to pro-actively raise issues with regards to improving growth strategies and governance, thereby sufficiently ensuring management transparency and integrity.

In order to continue sustainable growth by capitalizing on business opportunities in the future amid a global economy that continues to expand, while diversifying by region and market, it is necessary to have a management system that can facilitate quick business decisions and business execution in response to changes in regions and markets at a global level, as well as management from a broader perspective based on environmental changes. Because of this, a director has been increased, in addition to the newly appointed CEO and COO in fiscal 2019.

What is your approach to human resources?

Focus on diversity and developing human resources that focus on creating

I believe that the human mindset is incredibly important in times of constant change. Developing human resources that can withstand change is the most important issue in the new management system. It is necessary to have intelligent people, who can use their knowledge to create new things. We will develop practical training programs, as opposed to classroom-based learning, to foster human resources with an attitude toward creating something from nothing. We shall also develop human resources with the mindset to not be satisfied with the way things are, to not be afraid of change, but rather to see change as an opportunity.

The Group is actively working to promote diversity. Emphasis is placed on improving the workplace environment to take advantage of diversity, aiming for our diverse human resources to play an active role and improve productivity. To this end, "Work-style Innovation Activities" have been incorporated into our JSR20i9 mid-term business plan, promoting a review of work styles in conjunction with improving corporate competitiveness. As a result, the Company, has shown outstanding health and productivity management and has been recognized as a "Health and productivity -White 500-" company from the Ministry of Economy, Trade and Industry and Nippon Kenko Kaig i (the Japan Health Council) for three consecutive years. In the future, we will promote flexible work styles using the powers of ICT to suit the preferences of employees in different stages of their lives, with options such as remote offices or working from home. Finally, as global human resource acquisition becomes more important, we will also focus on improving the workplace environment with due consideration to cultural differences.

In what ways are you working on protecting the environment?

Recognizing and working on protecting the environment no matter how small the business activity

The Group is promoting initiatives to protect the environment by focusing on both Energy Management to reduce our impact on the environment, and Eco-Innovation to create new business opportunities for products with the environment in mind. We recognize that as a chemical company, environmental protection is one of the most important issues facing the Group.

CFO MESSAGE

Hideki Miyazaki
Director
Managing Officer

Review of Business Results in Fiscal 2018

In fiscal 2018, we reported consolidated sales revenue of 496,746 million yen (up 17.7% from the previous year), operating profit of 43,030 million yen (down 1.2%), profit attributable to owners of parent of 31,116 million yen (down 6.4%), and an ROE of 7.8%.

Among the major demand industries, markets were mixed with automobile and tire production sluggish due to the slowing Chinese economy while the semiconductor and display markets showed rising demand. In addition to these market trends however, sales revenues in each business increased as a result of increased sales of high-functional materials. Meanwhile, operating profit increased in the Plastics Business and Digital Solutions Business, and the Life Sciences Business returned to profitability. However, the impact of lower profits from the Elastomers Business was significant and overall decreased slightly.

Looking at each business, although sales revenue in the Elastomers Business surpassed that of the previous year mainly due to an increase in sales volume of solution polymerization SBR (SSBR) for high-performance tires such as fuel-efficient tires, operating profit fell below that of the previous year due to sluggish market conditions and an increase in fixed costs, in addition to the large profits from the previous strong fiscal year.

In the Plastics Business, sales revenue and operating profits significantly exceeded those of the previous year due to the merger of Techno Polymer Co., Ltd., a JSR Group company, and UMG ABS, LTD. (equally owned by Mitsubishi Chemical Corporation and Ube Industries, Ltd.).

In the Digital Solutions Business, revenue surpassed that of the previous year due to an increase in sales volume centered on leading edge photoresists in the Semiconductor Materials Business. Operating profit also increased overall in the Digital Solutions Business due to the increase in profits in the Semiconductor Materials Business.

With regard to the Life Sciences Business, positioned as JSR Group's third core business, revenue increased substantially compared with the previous fiscal year leading to operating profits in the black due to more contracts with KBI Biopharma, Inc. (KBI) and the consolidated subsidiary of Crown Bioscience International (Crown Bio).

Forecast for the Final Year of Mid-Term Plan

Global economic trends are uncertain, however, while the major demand industries of automobile production and tire production are expected to be down globally from the previous year, and the semiconductor market currently faces weak demand, a recovery is expected in the future due to faster communication speeds and

FY2018 Results (Billions of yen)

Consolidated	Revenue	496.7
	Operating Profit	43.0
	Profit Attributable to Owners of Parent	31.1
Elastomers Business	Revenue	200.7
	Operating Profit	7.4
Plastics Business	Revenue	105.4
	Operating Profit	9.2
Digital Solutions Business	Revenue	142.2
	Operating Profit	32.7
Life Sciences Business	Revenue	43.9
	Operating Profit	0.8
Other Businesses & Adjustment	Revenue	4.5
	Operating Profit	–7.0

CFO MESSAGE

increased data capacity, among other factors. In the display market, LCD panel production remains steady with production in China expecting to increase in the future.

Amid such an environment, the consolidated business forecast for the year ending March 2020 is as follows: revenue of 508 billion yen (increase of 2.3% from previous year), operating profit of 44.5 billion yen (3.4% increase), and profit attributable to owners of parent 31 billion yen (down 0.4%).

Looking at each business, sales in the Elastomers Business are expected to increase due to steady growth of SSBR sales for high-performance tires but the market continues to stagnate, and taking into account the fixed costs for the startup of the Hungarian plant, operating profits are expected to drop. In the Plastics Business, although revenue is on par with the previous year, operating profits are expected to increase due to improved profitability. Sales and operating profits are expected to increase in both the Digital Solutions Business and the Life Sciences Business on the back of steady markets.

Capital Costs and Business Portfolio

With regard to the cost of capital, we aim to steadily achieve an ROE of at least 8% and aim to reach the 10% level as soon as possible. However, in fiscal 2018 it was 7.8%, slightly lower than 8%. In fiscal 2019, we will strive to achieve at least 8% by acquiring our own shares or other such measures.

Reform is progressing within our business portfolio with the mergers in the Plastics Business and the expansion of the Life Sciences Business.

Returning Profits to Shareholders

Shareholder returns will be determined by taking into account the balance between the redistribution of profits to all shareholders and retained earnings for future growth of the Company while taking into consideration the business results and medium- to long-term capital requirements.

During the JSR20i9 mid-term business plan, we are aiming for an overall return to shareholders of 50 percent or higher through a combination of dividends and share buybacks. In fiscal 2018 shares were repurchased along with dividend payouts for an overall return of 58.6%.

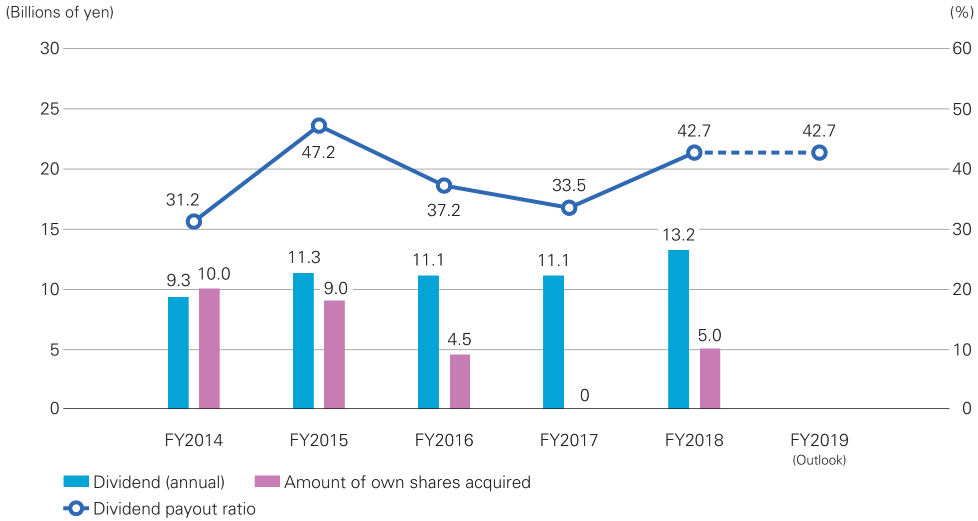
The dividend per share for fiscal 2018 was 30 yen for the end of Q2 and 30 yen for end of Q4 for an annual dividend of 60 yen. Compared with the annual dividend of 50 yen in fiscal 2017, we have increased the dividend by 10 yen per share. Taking into account the business results forecast for fiscal 2019, we are again planning to pay a dividend of 30 yen per share at the end of the second quarter and 30 yen per share at the end of the fiscal year for an annual dividend of 60 yen.

Fiscal 2019 Forecast

(Billions of yen)

		FY18 Act	191H pro	192H pro	FY19 Pro	YoY
Consolidated	Revenue	496.7	252.0	256.0	508.0	+2%
	Operating Profit	43.0	21.5	23.0	44.5	+3%
	Profit Attributable to Owners of Parent	31.1	15.0	16.0	31.0	–0%
Elastomers Business	Revenue	200.7	100.0	101.0	201.0	+0%
	Operating Profit	7.4	2.7	2.8	5.5	–26%
Plastics Business	Revenue	105.4	51.0	51.0	102.0	–3%
	Operating Profit	9.2	5.0	5.0	10.0	+9%
Digital Solutions Business	Revenue	142.2	72.5	72.5	145.0	+2%
	Operating Profit	32.7	16.5	17.5	34.0	+4%
Life Sciences Business	Revenue	43.9	25.5	28.5	54.0	+23%
	Operating Profit	0.8	0.5	1.0	1.5	+92%
Other Businesses & Adjustment	Revenue	4.5	3.0	3.0	6.0	+34%
	Operating Profit	–7.0	–3.2	–3.3	–6.5	–

Changes in Shareholder Returns



CFO MESSAGE

Thoughts on M&A and our Approach to Growth Investment

The Company regards business growth over the long term as its top priority. To generate sustainable long-term growth, JSR Group strives to increase its competitiveness by developing new businesses through the strengthening of research and development activities from a long-term perspective.

In particular, we have promoted M&A in the Life Sciences Business to accelerate growth. In fiscal 2018, we made Crown Bioscience International Inc., a contract research organization (CRO) that provides drug discovery support services for pharmaceutical companies in the pre-clinical trials stage of the drug development a wholly-owned subsidiary. Through previous acquisitions, including this one, we have established a framework, with a focus on antibody drugs in the Life Sciences Business, that enables consistent process support from the discovery of drugs through to their manufacture.

We shall carefully consider any M&A in the future as and when necessary in light of business growth.

Basic Policy, Results and Forecast for R&D Expenses

The target for R&D expenses is at around 5% of revenue, of which 1% shall be allocated our next generation businesses. Research and development expenses in fiscal 2018 were 24.9 billion yen, 5% of sales revenue.

We recognize that R&D is very important for future growth. We will therefore strive to make the best use of resources while allocating them according to the needs of the business.

Basic Policy, Results and Forecast for Capital Investment

Capital investments mainly include expansion of production capacity for business growth, replacement of outdated equipment and safety measures such as ensuring earthquake resistance.

In fiscal 2018, capital investment decreased by 6.2 billion yen to 36 billion yen. The main factors contributing to the decrease were lower construction costs (compared with the previous year) of the JSR MOL Synthetic Rubber Ltd. plant established in Hungary as a joint venture, and in the Life Sciences Business, to the absence of construction costs for the expanded production capacity of KBI and the bioprocess material of Amsphere A3, implemented in the previous year.

We expect an increase of 9 billion yen to 45 billion yen in fiscal 2019 compared with fiscal 2018. The main reasons for the increase include the expansion of production capacity in the Semiconductor Materials Business and the Life Sciences Business, and updating of the Company's enterprise resource planning (ERP) system which will digitally transform the whole Company. We will assess the implementation carefully while looking at the management environment.

Changes in Capital Investment (Billions of yen)

	FY2014	2015	2016	2017	2018	2019
Capital Investment	35.2	24.3	31.8	42.2	36.0	45.0

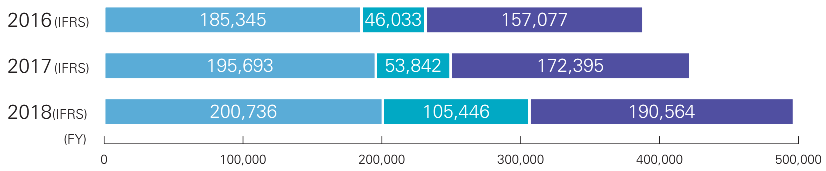
The SSBR Hungary Plant (completed in April 2019)

BUSINESS DOMAIN

The business domain for JSR Group are Elastomers Business, Plastics Business, Digital Solutions Business and Life Sciences Business. In each of these domains, we are developing business activities based on mid- and long-term perspectives.

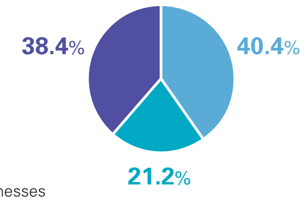
JSR Group has reclassified its disclosure segments effective from fiscal 2018, the fiscal year ending March 31, 2019. Please refer to page 3 for details.
Pursuant to Paragraph 1 Article 120 of the Rules of Corporate Accounting, the Company's consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) effective from fiscal 2017, the fiscal year ended March 31, 2018. Moreover, numerical data for fiscal 2016, the fiscal year ended March 31, 2017 is presented in accordance with IFRS for reference purposes.

Revenue by Business Segments (Millions of yen)



Elastomers Business Plastics Business Digital Solutions Business, Life Sciences Business and Other Businesses

FY2018 Composition Ratio



ELASTOMERS BUSINESS

General-Purpose Synthetic Rubbers
- SSBR (Solution polymerization styrene-butadiene rubber), ESBR (Emulsion polymerization styrene-butadiene rubber), BR (Polybutadiene rubber), IR (Isoprene rubber), etc.

Special-Purpose Synthetic Rubbers
- NBR (Nitrile rubber), IIR (Butyl rubber), EPM/EPDM (Ethylene-propylene rubber), etc.

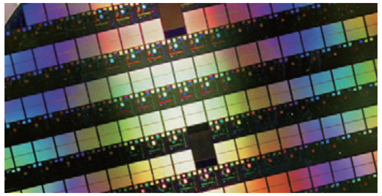
Thermoplastic Elastomers (TPE)
- RB (Butadiene type TPE), DYNARON™ (Hydrogenated polymer), TR (Styrene-butadiene type TPE), SIS (Styrene-isoprene type TPE), EXCELINK™ (Olefin type TPE), etc.

Emulsions
- Paper coating latex, SB latex, Acrylic emulsions, Binders for batteries, SIFCLEAR™ (Water-based durable stain resistant emulsion), etc.

PLASTICS BUSINESS

- ABS resins, AES resins, HUSHLLOY™ (Anti-squeak material), etc.

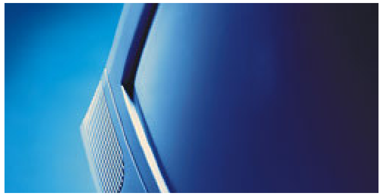
DIGITAL SOLUTIONS BUSINESS



Semiconductor Materials

Lithography Materials
- Photoresists, Multilayer materials, etc.

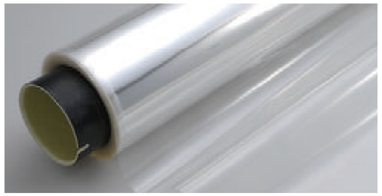
Advanced Electronic Materials
- CMP slurries, CMP pads, Thick-film photoresists, photosensitive insulation materials, etc.



Display Materials

LCD Materials
- Alignment films, Protective coatings, Color pigment dispersed resists, Photosensitive spacers, Insulating layers, etc.

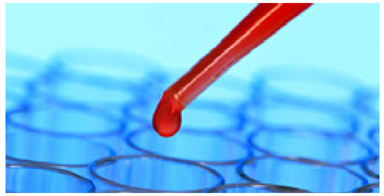
OLED Materials
- Insulating layers, Planarization layers, etc.



Edge Computing

- ARTON™ (Heat-resistant transparent resin), etc.
- High-performance UV curable resins, etc.

LIFE SCIENCES BUSINESS



In-vitro Diagnostic and Research Reagents
- Beads for clinical diagnostics, Research reagents, Magnetic beads, Size standard beads

Bioprocess Materials
- Amsphere™ A3 (Protein A chromatography resin)

Drug Discovery Support Services
- Development and manufacturing services

OTHER BUSINESSES

- Lithium ion capacitors, next generation technology research, etc.

BUSINESS STRATEGY

Elastomers Business

Sustainable development within the industry, typified by the SDGs and a focus on reducing impact on the environment, will lead to further sophistication and diversification of customer and social needs. We see this trend as a major business opportunity for our elastomer materials. There are technological demands for low-wear and high-durability materials due to the widespread use of conventional fuel-efficient tires and electric vehicles (EV). Our solution polymerization SBR (SSBR) is set to provide a range of solutions for all the diversified needs of our customers.

Managing Officer in charge of Elastomers Business

Hayato Hirano

Progress of Mid-Term Business Plan

Operating Results for Fiscal 2018

Revenue was 200,736 million yen (up 2.6% from previous year), and operating profit was 7,421 million yen (down 50.1% from previous year)

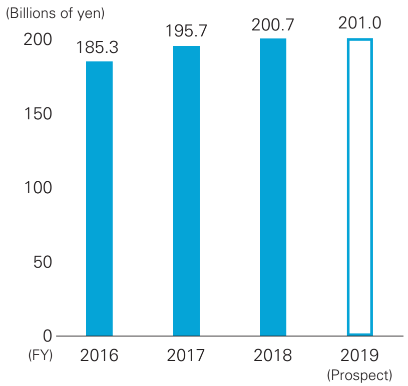
Production of automobile tires, a major demand industry, was higher in Japan than in the previous fiscal year but remained unchanged globally due to a decline in automobile production in China and Europe.

Under these conditions, although overall sales volume decreased compared with the previous fiscal year, revenue increased due to revised product prices and a rise in sales of solution polymerization SBR (SSBR), positioned as one of the Company's strategic products. With regard to operating profit, while the previous fiscal year saw improved buy/sell spreads due to a temporary pick up in the market environment which resulted in levels of high profit, this fiscal year has seen sales fall below those of the previous fiscal year due to a decline in buy/sell spreads from sluggish market conditions and an increase in fixed costs which include the start-up costs of the SSBR Hungary plant.

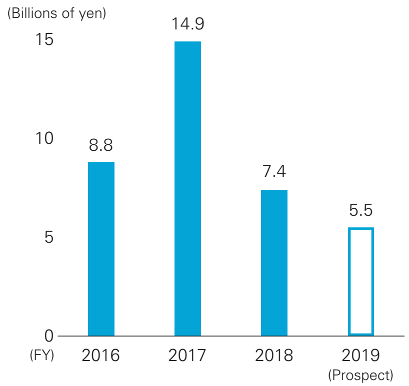
Business Outlook for Fiscal 2019

Global tire production is expected to be on par with the previous year while demand for SSBR for high performance tires is expected to grow steadily. In contrast, operating profit is expected to decrease due to the rise in fixed costs associated with the new JSR MOL Synthetic Rubber Ltd. plant, a joint venture established in Hungary, scheduled to begin operations in fiscal 2019.

Revenue



Operating Profit



Note: Since fiscal 2017, consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as per Paragraph 1 Article 120 of the Rules of Corporate Accounting. For reference, figures for fiscal 2016 are also presented based on IFRS.

BUSINESS STRATEGY: Elastomers Business

S — Strength

- Technological capabilities developed from polymer technology
- Global production and sales bases

W — Weakness

- Aging production facilities in Japan

O — Opportunity

- Tighter environmental regulations in various countries
- More awareness about reducing impact on the environment
- Wider use of electric vehicles
- Growing demand for all-season tires

T — Threat

- Fluctuating price of raw materials
- Drop in demand for cars
- Changing international situations (trade friction, tariffs, etc.)

Business Environment and Strategy

In line with increased global demand for SSBR for high-performance tires, such as fuel-efficient tires, the SSBR market growth rate is expected to be 6-8%. We are aiming to exceed this market growth rate with annual growth in sales volume of more than 10%, aiming to capture the top share in the global market.

In fiscal 2018, sales volumes at JBE in Thailand were up, increasing by 11% from the previous year, exceeding 10% for the second consecutive year.

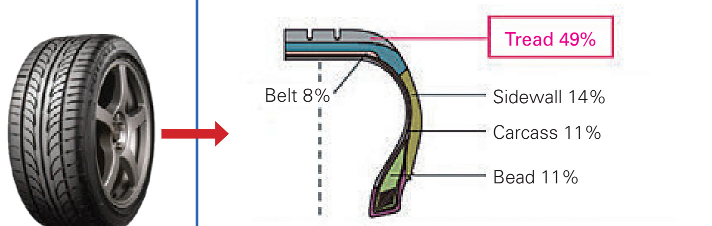
Currently, Thailand and Japan have a total SSBR production capacity of 160,000 tons, but we aim to further expand sales by increasing production capacity to 220,000 tons with the launch of the new plant in Hungary.

In addition to materials for tires, such as SSBR, we will provide not only materials but also solutions with our comprehensive expertise and processing technologies for a range of automobile parts such as car window frames and fuel hoses.

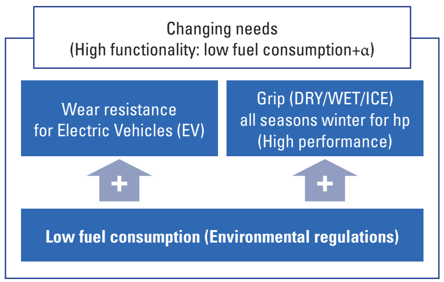
Synthetic Rubber SSBR for Fuel-Efficient Tires, Providing Great Potential for Solving Global Environmental Problems

SSBR is designed to have a low rolling resistance by reducing internal friction using a technology that makes it easy for the rubber and reinforcing molecules to closely bind together without changing the characteristics of the rubber, which are needed to stop the tire when moving. This helps to reduce the impact of the tire during use, which is where we see the biggest benefit to the environment within the life cycle of the tire, from raw material through to use and eventual disposal.

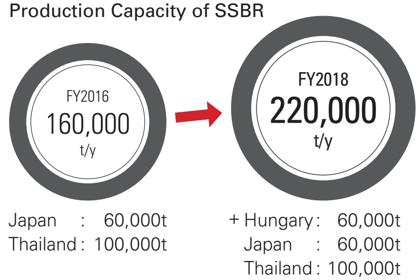
Contribution to tire parts on rolling resistance



Source: Kazumi Ueno: The technology trends of low rolling resistance tires. Journal of Society of Automotive Engineers of Japan. Vol34,No.10(1980)



Production Capacity of SSBR



SDGs Contribution

JSR Corporation contributes to efficient energy use by providing solutions for automobile parts, such as tires

BUSINESS STRATEGY

Plastics Business

The mission of Techno UMG Co., Ltd., the main player in our Plastics Business, is to continue to provide added value in response to the diversified needs of our customers. Recently, we have developed a product called HUSHLLOY® that reduces the squeaking noise from plastic joints, leading to quieter cars. By utilizing the characteristics of the ABS material, which goes well with other materials, we provide not only physical properties such as strength and heat resistance but also added comfort to our customers.

Managing Officer in charge of Plastics Business

Hayato Hirano

Progress of Mid-Term Business Plan

Operating Results for Fiscal 2018

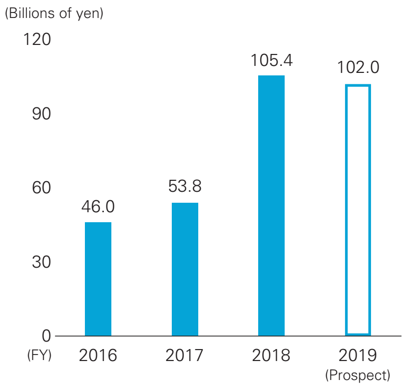
Revenue was 105,446 million yen (up 95.8% from previous year), and operating profit was 9,214 million yen (up 65.2% from previous year)

In the Plastics Business, sales revenue and operating profit were significantly higher than the previous fiscal year due to establishing the merged company, Techno UMG Co., Ltd. in April.

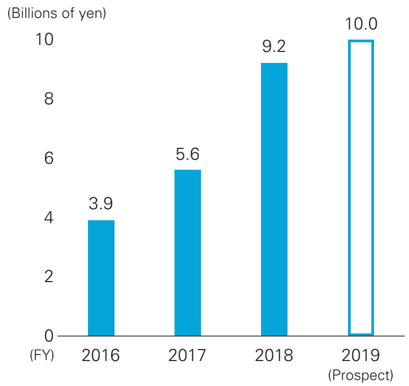
Business Outlook for Fiscal 2019

Techno UMG Co., Ltd. will realize synergies by improving development, manufacturing efficiency, cost competitiveness, increasing the range of differentiated products, and especially by expanding sales of specialty products overseas.

Revenue



Operating Profit



Note: Since fiscal 2017, consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as per Paragraph 1 Article 120 of the Rules of Corporate Accounting. For reference, figures for fiscal 2016 are also presented based on IFRS.

BUSINESS STRATEGY: Plastics Business

S — Strength
- Development and manufacturing capabilities of specialty products using proprietary technologies
- Increased manufacturing efficiency and cost competitiveness through merger
- Global production bases and SCM system

W — Weakness
- Not enough presence overseas
- In-house production base only in Japan

O — Opportunity
- Increase in demand for high value-added products for improved global living
- Increased need for noise reduction due to wider use of electric vehicles

T — Threat
- Soaring price of raw materials
- Slowdown in automobile production
- Increase in plastic substitutes due to plastic waste problems in the oceans, etc.

Business Environment and Strategy

Techno-UMG Co., Ltd. was created on April 1, 2018 through the merger of two companies; Techno Polymer Co., Ltd. (a wholly owned subsidiary of JSR) and UMG ABS, Ltd. (equally owned by Mitsubishi Chemical Corporation and Ube Industries, Ltd.).

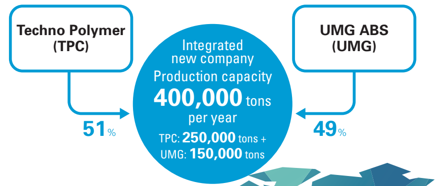
In fiscal 2018 we were able to increase production efficiencies while reducing our investment to increase capacity by moving production items between plants.

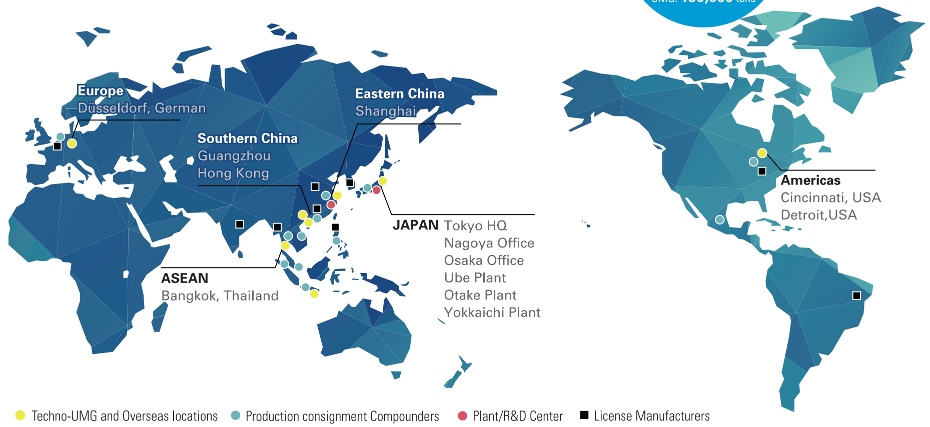
Utilizing the manufacturing, development and sales capabilities of by both companies, we will strive to expand sales of specialty products such as those which target specific problems, especially in overseas markets, thereby achieving synergies through the merger.

Stronger Competitiveness through Mergers

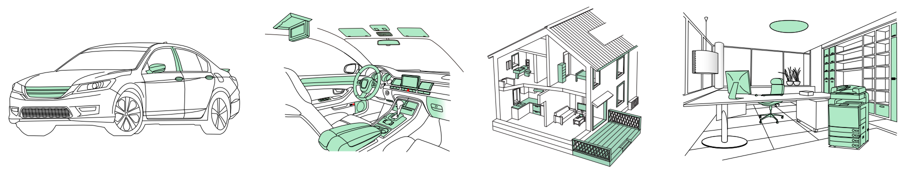
The scale of earnings, production capacity and sales bases in the Plastics Business has expanded due to the merger of the two companies, the top domestic styrene resin manufacturers focusing on ABS resin.

Overview of New Company





The former Techno Polymer Co., Ltd. has strength in interior material applications and the former UMG ABS, Ltd. has strength in exterior material applications for cars. The merger of both companies aims to bring these strengths together.



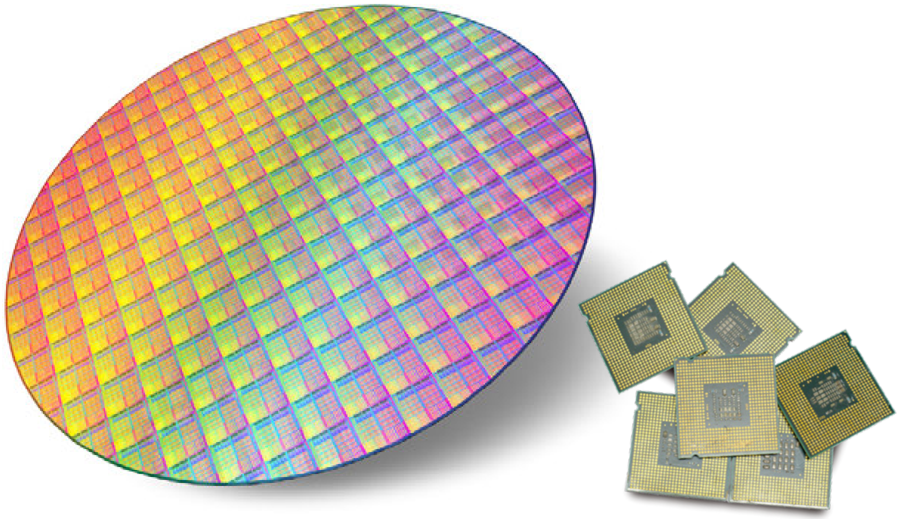
SDGs Contribution

JSR Corporation contributes to a more comfortable way of life by providing high-performance ABS for automotive parts.

BUSINESS STRATEGY

Digital Solutions Business

—Semiconductor Materials—



The semiconductor market is expected to grow due to the full-scale introduction of 5G, IoT, and autonomous driving. Consequently it is likely to bring about major changes in a wide range of fields including electronic components, industrial equipment, and automobiles. JSR is working with semiconductor manufacturers around the world to develop cutting-edge materials that contributes to evolution of semiconductor technologies.

Officer in charge of Electronic Materials Business

Junichi Takahashi

Progress of Mid-Term Business Plan

Business Results in Fiscal 2018

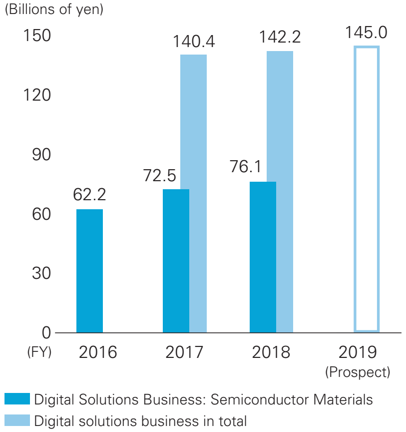
Revenue was 142,216 million yen (up 1.3% from previous year), operating profit was 32,663 million yen (up 6.4%) of which 76,100 million yen (up 5%) was revenue in the semiconductor materials business

On the back of steady demand for semiconductors, revenue and operating profit increased due to increased sales volumes of lithography materials, centered on cutting-edge photoresists, CMP materials, cleaning solutions, and packaging materials.

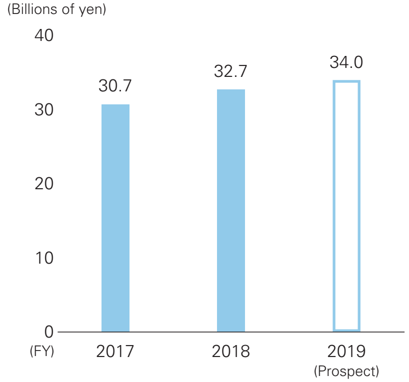
Fiscal 2019 Forecast

By strengthening our competitiveness in the global market we will increase revenue and operating profits on lithography materials, CMP materials, cleaning solutions and packaging materials for cutting edge semiconductors.

Revenue



Operating Profit



* Results for the digital solutions business in fiscal 2016 not published

Note: Since fiscal 2017, consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as per Paragraph 1 Article 120 of the Rules of Corporate Accounting. For reference, figures for fiscal 2016 are also presented based on IFRS.

BUSINESS STRATEGY: Digital Solutions Business —Semiconductor Materials—

Strength (S)	Weakness (W)
▪ Strong relationship with global cutting edge users ▪ Material development capabilities utilizing polymer / organic synthesis and analytical technologies ▪ Manufacturing and continuous supply of high quality products	▪ Promote portfolio expansion to avoid heavy dependence on certain areas
Opportunity (O)	**Threat (T)**
▪ Growing demand for semiconductors due to progress of digitalization in society ▪ Increasing needs for cutting-edge materials because of digital technology innovation	▪ Responding to rapid changes in technologies

Business Environment and Strategy

JSR Group will develop and provide cutting-edge materials that contribute to the evolution of semiconductors in a growing market driven by innovations in digital technology, such as with the development of IoT and 5G. In the field of advanced lithography materials for the 10nm generation, we continue to maintain a large share of the global market. In addition, we focus on product development and improvement of production technologies for EUV (extreme ultraviolet) resists, which are now being used for high volume production in the 7nm generation devices.

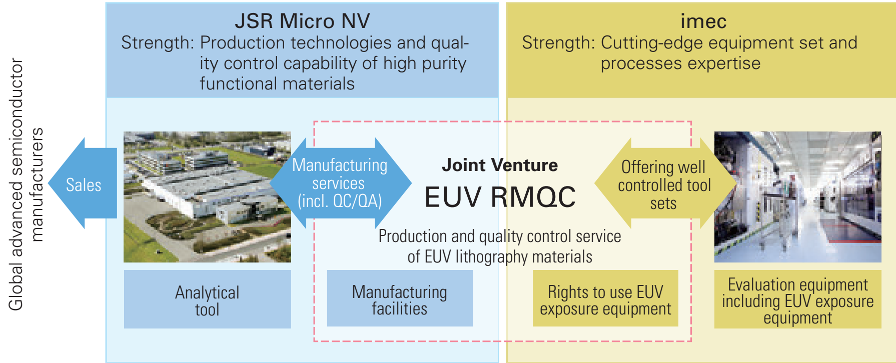
We will expand our product portfolio with peripheral materials including CMP materials, cleaning solutions, and packaging materials.

EUV Resist Manufacturing & Qualification Center N.V. (EUV RMQC)

EUV RMQC, established as a joint venture with imec, a leading research institute on nano-electronics technology, and began commercial production of EUV resists in 2017.

Leveraging the strengths of both JSR and imec, high-quality EUV resists are supplied to the world's leading semiconductor manufacturers.

About EUV Joint Venture (EUV RMQC)



EUV RMQC has built an infrastructure of production and quality control for EUV lithography materials to support the next generations of advanced devices in the semiconductor industry.

SDGs Contribution

JSR contributes to the realization of a smart society by providing cutting edge semiconductor materials.

BUSINESS STRATEGY

Digital Solutions Business

—Display Materials—

The liquid crystal panel market is growing mainly in China where we will further expand JSR's presence. In the liquid crystal and next-generation display markets, we will continue to propose solutions that fit our customers needs by making full use of novel development initiatives arising from digitalization.

Senior Officer in charge of Display Solution Business

Yoshikazu Yamaguchi

Progress of Mid-Term Business Plan

Business Results in Fiscal 2018

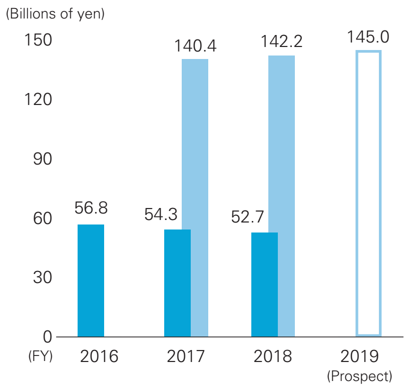
Revenue was 142,216 million yen (up 1.3% from previous year), operating profit was 32,663 million yen (up 6.4%) of which 52,671 million yen (down 3%) was revenue in the display materials business

Product prices and sales of color resists declined in fiscal 2018 due to severe competition. However, overall revenue decreased slightly due to increased sales volume of alignment films and insulating films which are particularly strong in China, which is marked by stable liquid crystal panel production.

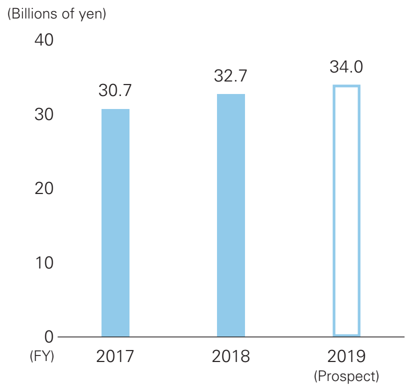
Fiscal 2019 Forecast

Although we expect continued stable growth in the liquid crystal panel market, as display materials become more commoditized and competition intensifies, we will strive to increase sales with a focus on our competitive alignment films and insulating films for large-sized liquid crystal panels, especially in the Chinese market where considerable growth is expected.

Revenue



Operating Profit



Digital Solutions Business: Display Materials
Digital solutions business in total

* Results for the digital solutions business in fiscal 2016 not published
Note: Since fiscal 2017, consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as per Paragraph 1 Article 120 of the Rules of Corporate Accounting. For reference, figures for fiscal 2016 are also presented based on IFRS.

BUSINESS STRATEGY: Digital Solutions Business —Display Materials—

Strength (S)
- Possessing high share product
- Sales and production systems to meet customer needs
- Technological capabilities developed from polymer technology

Weakness (W)
- Response to more commoditized products
- Dispersion of resources

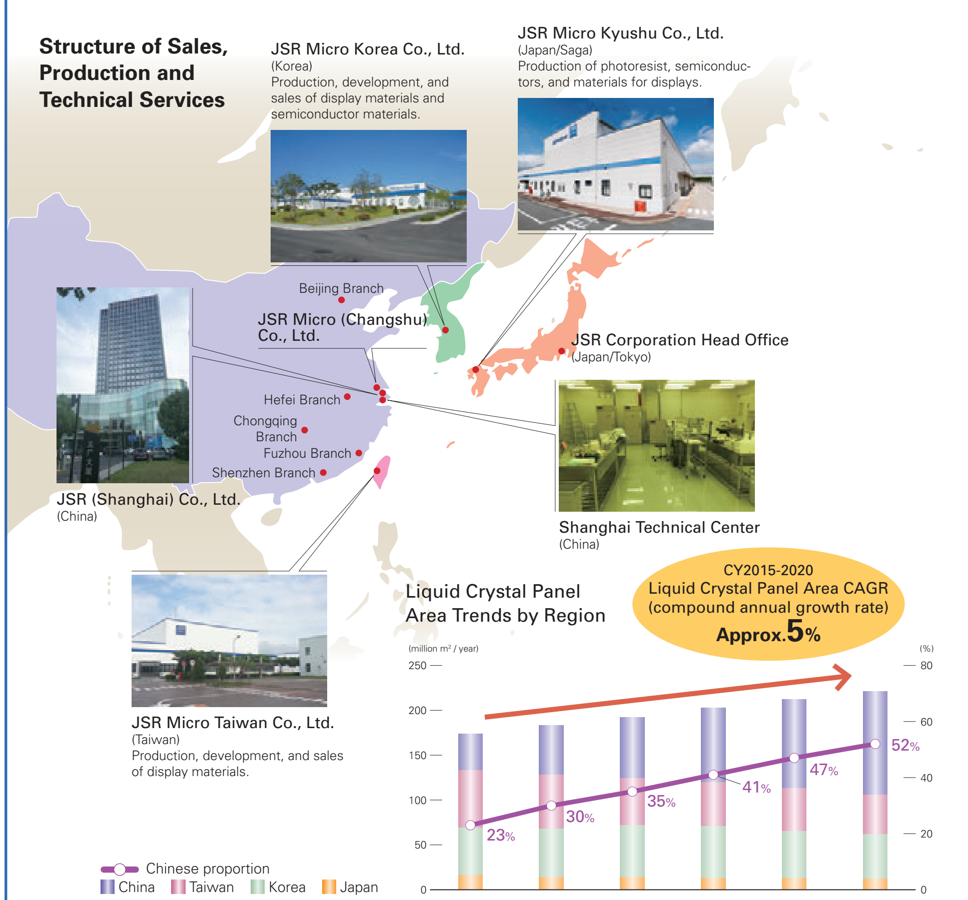
Opportunity (O)
- Spread of high-definition televisions such as 4K and 8K
- Expansion of liquid crystal panel production in China due to strong demand for liquid crystal panels

Threat (T)
- Severe competition in materials coming from more commoditized liquid crystal panels
- Rapid technological progress beyond industry and market forecasts

Business Environment and Strategy

In the Chinese market, where growth is expected for large liquid crystal panels, we will continue to increase sales by proposing high-image quality solutions for liquid crystal panels that compete with OLED.

Developing Display Materials in the Chinese Market



Source: Created by JSR based on IHS data

SDGs Contribution

JSR provides high-image, high-quality solutions for liquid crystal panels.

BUSINESS STRATEGY

Life Sciences Business

JSR Life Sciences has grown substantially through acquisition throughout the last several years. Moving forward, we will rely on our core values of Innovation, Quality, Customers and our Employees as we focus more heavily on integrating our affiliated companies and continue to expand our materials and services offerings.

Officer in charge of
Life Sciences Business

Tim Lowery

Progress of Mid-Term Business Plan

Operating Results for Fiscal 2018

Revenue: 43,872 million yen (up 66.0% year-on-year)

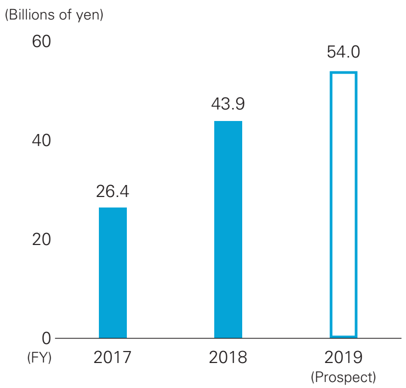
Operating profit: 781 million yen (operating loss of 1,803 million yen in the previous fiscal year)

Revenue in our Life Sciences business segment increased considerably from the previous fiscal year. This growth was due to 3 primary factors: the acquisition of Crown Bioscience, which became a consolidated subsidiary at the end of May 2018, a significant increase in demand for contract services provided by KBI Biopharma, and solid growth in the delivery of JSR's bioprocess materials (Amsphere™ A3) and in vitro diagnostic and research reagents. Through these efforts, the Life Sciences business segment's operating profit became positive within this fiscal year.

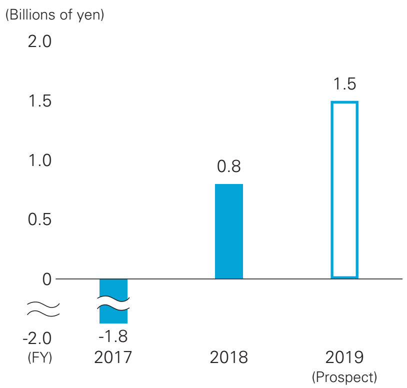
Business Outlook for Fiscal 2019

Revenue and operating profit is expected to increase through the expansion of our drug discovery, analytical and manufacturing support services provided by Crown Bioscience, Selexis SA and KBI Biopharma, and increased demand for JSR Life Sciences' bioprocess materials and in vitro diagnostic and research reagents.

Revenue



Operating Profit



* Results for the digital solutions business in fiscal 2016 not published

Note: Since fiscal 2017, consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as per Paragraph 1 Article 120 of the Rules of Corporate Accounting. For reference, figures for fiscal 2016 are also presented based on IFRS.

BUSINESS STRATEGY: Life Sciences Business

S — Strength
- Capability to provide one stop shop services from drug discovery to GMP
- Capability to provide development support of very complex biological drugs
- Robust QA systems established through Semiconductor and other businesses

W — Weakness
- Low market recognition as JSR Life Sciences brand due to relatively new entry to this space

O — Opportunity
- Drug demand increasing with aging population
- Development of precision medicines
- Continuous rapid advancement in technology

T — Threat
- Increase in competition by new entrants into this space
- Possible changes in laws and regulations

Business Environment and Strategy

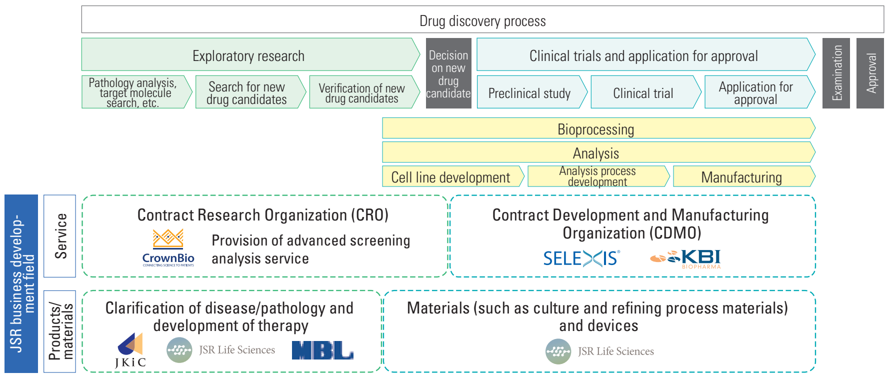
In fiscal year 2018, we acquired Crown Bioscience, a provider of preclinical drug discovery and development services, as a consolidated subsidiary. Together with our previous acquisitions of KBI Biopharma, Inc., MEDICAL & BIOLOGICAL LABORATORIES CO., LTD., and Selexis SA, the JSR Life Sciences group has created a business structure and innovation engine to support the entire process of new drug development, from discovery to production.

JSR will create synergies among our affiliate companies through the integration of each companies' unique capabilities and expertise. The business will recognize the benefits of previous and continued investments, achieving revenue of approximately 50,000 million yen in fiscal 2019 and approaching the level of 100,000 million yen in the early 2020s.

Our mission is to shorten the timeline and improve the probability of success for our drug development partners

JSR is committed to providing a portfolio of integrated products, services and technologies to the life sciences industry to reliably develop and commercialize therapeutics and diagnostics that benefit global human health.

We will work directly with pharmaceutical companies, startups and academia to provide services and innovative materials throughout the entire drug discovery and development process.



Synergies among Group Companies

Through operational integration, co-development and collaborative R&D initiatives, we are able to enhance and expand each JSR Life Sciences companies' core technology.

- The time to IND can be reduced from 12-24 months to 9 months (KBI x SELEXIS)
- New biomarker and CDx discoveries through AI-based analysis (Crown x KBI x MBL)
- A complete suite of services from pre-clinical to IND (Crown x SELEXIS x KBI)

SDGs Contribution

We will contribute to societal good health and longevity through our support of the entire drug discovery and development process.

STRONG FINANCIAL FOUNDATION

Ratio of Equity Attributable to Owners of Parent to Total Assets (FY2018)

58.1%

Rating (As of July 23rd, 2019)

Long-Term Bond **AA-**

Short-Term Bond **a-1+**

Rating & Investment Information, Inc.

Capital Policy (FY2018)

Dividend (Annual)

13.22 Billion yen

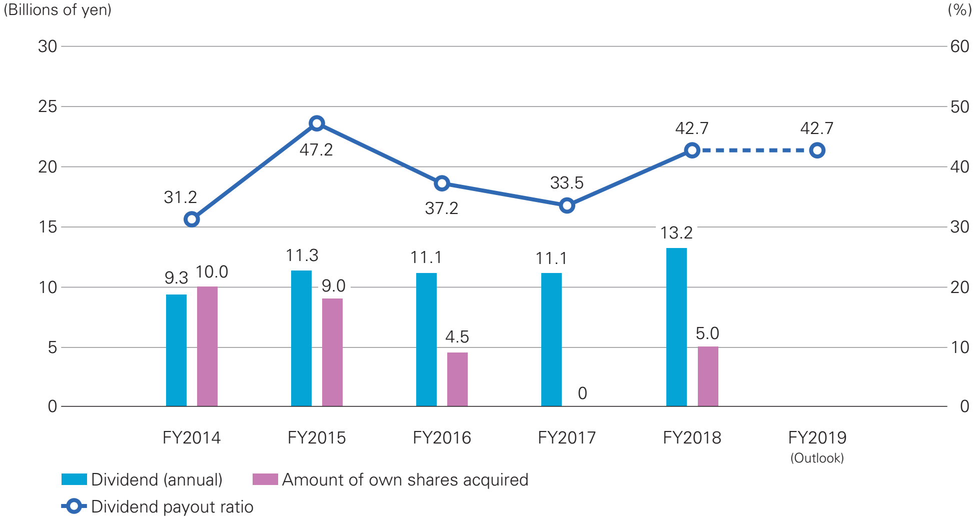
Amount of Own Shares Acquired

5 Billion yen

Dividend Payout Ratio

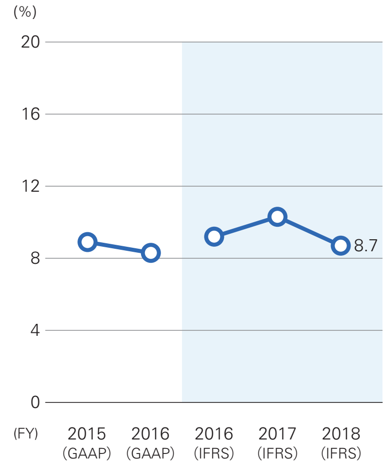
42.7%

The total return ratio including share buybacks was 58.6%



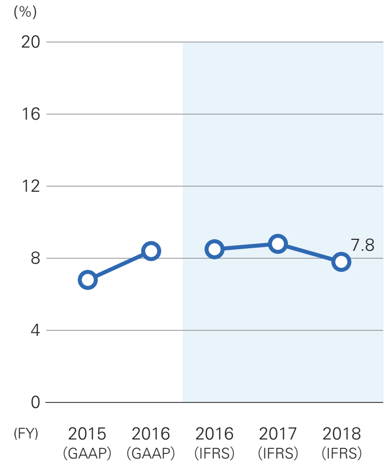
Operating Profit Ratio (FY2018)

8.7%



ROE (FY2018)

7.8%

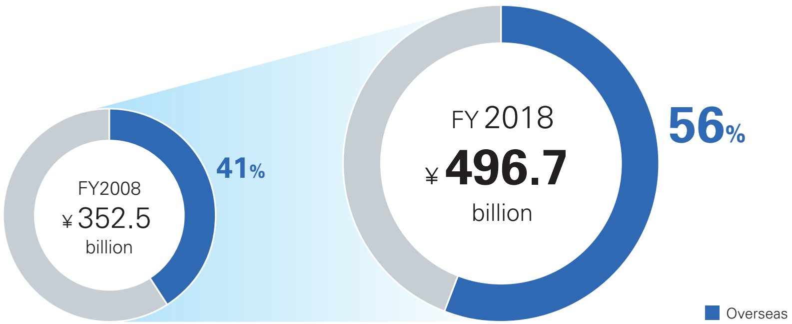


GLOBAL NETWORK

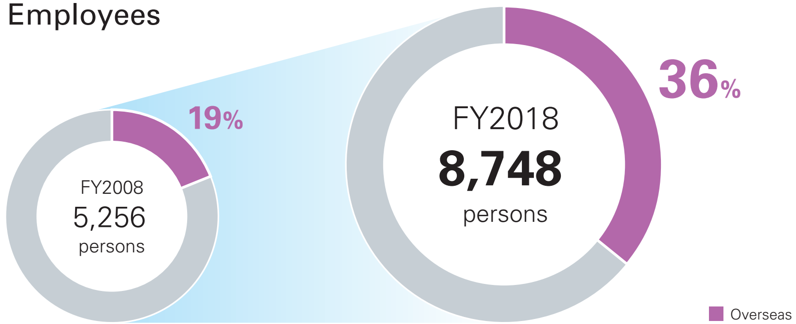
JSR was established as a national policy concern to pioneer synthetic rubber production in Japan and started production in 1960. Since then JSR has continuously expanded its business and currently four main business segments: Elastomers, Plastics, Digital Solutions and Life Sciences, are conducting business not only in Japan but in the US, Europe, China, Korea, Taiwan, Thailand and others. Our business has increased substantially overseas in the last decade.

2008 ▶ 2018

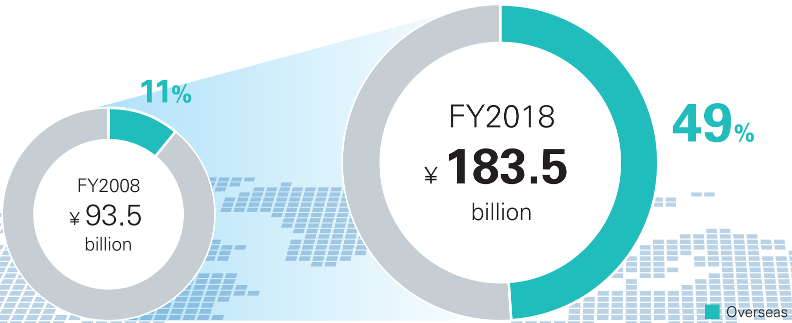
Revenue



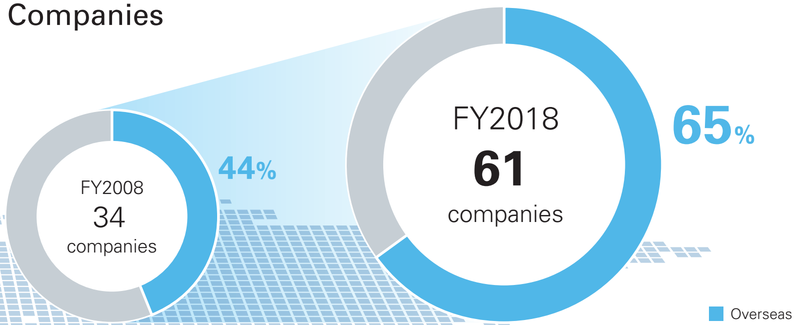
Number of Group Employees



Tangible Fixed Assets



Number of Group Companies



GLOBAL NETWORK

Elastomers Business

The recent rise in environmental awareness has led to the introduction of a labeling system that promotes the wider use of fuel-efficient tires in Japan, EU, Korea, and China, and is expected to be introduced in the United States, India, and other countries. Moreover, technological demands for high performance tires are also on the increase with the spread of electric vehicles, and our solution polymerization SBR (SSBR) is set to provide a range of solutions for all the diversified needs of our customers.

Europe

JSR Elastomer Europe GmbH
(Germany)
Sales agency of products such as synthetic rubbers.

JSR MOL Synthetic Rubber Ltd.
(Hungary)
Sales and manufacturing of Solution Polymerization Styrene-Butadiene Rubber.
(60,000tons)

Asia

JSR Elastomer India Private Limited
(India)
Sales agency of products such as synthetic rubbers.

JSR Elastomer Korea Co., Ltd.
(Korea)
Sales agency of products such as synthetic rubbers.

JSR (Shanghai) Co., Ltd.
(China)

JSR BST Elastomer Co., Ltd.
(Thailand)
Sales and manufacturing of Solution Polymerization Styrene-Butadiene Rubber.
(100,000tons)

JSR Corporation Head Office
(Japan/Tokyo)

JSR Corporation Yokkaichi Plant
(Japan/Mie prefecture)
(60,000tons)

North and Central America

JSR Elastomer America, Inc.
(US)
Sales of synthetic rubber.

GLOBAL NETWORK

Digital Solutions Business

[Semiconductor Materials Business]

Target markets where major semiconductor manufacturers are now located have spread to Europe, the United States, Korea, Taiwan, China, and Japan. JSR Group has secured manufacturing bases in each region of the world to develop and provide cutting edge materials that enable the evolution of semiconductor chips in a market driven by innovation in digital technology, such as with the development of IoT and Big Data.

EUV Resist Manufacturing & Qualification Center N.V. (EUV RMQC)
(Belgium)
Production of EUV photoresist for semiconductors.

JSR Micro N.V.
(Belgium)
Production and sales of semiconductor materials

JSR Electronic Materials Korea Co., Ltd.
Sales agent for semiconductor materials

JSR (Shanghai) Co., Ltd.
(China)

JSR Corporation Yokkaichi Plant
(Japan/Mie prefecture)
Production and R&D of semiconductor materials

JSR Corporation Head Office
(Japan/Tokyo)

JSR Micro Kyushu Co., Ltd.
(Japan/Saga prefecture)
Production and sales of semiconductor materials

JSR Micro, Inc.
(US)
Production, sales and R&D of semiconductor materials

GLOBAL NETWORK

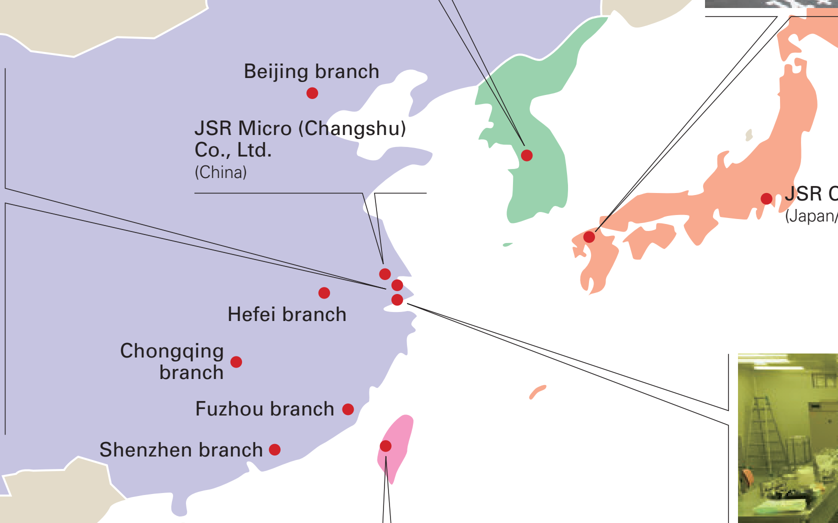
Digital Solutions Business

[Display Materials Business]

Our target markets are China, Korea, Taiwan, and Japan, where LCD panel production is thriving. We entered China, where high growth continues, relocating the business' main operating body from head office (Japan) to China. As a comprehensive manufacturer of display materials, we shall continue to provide solutions to our customers.

JSR Micro Korea Co., Ltd.
Design, development, production and sales of display materials.

JSR Micro Kyushu Co., Ltd.
(Japan/Saga prefecture)
Production of display materials



JSR (Shanghai) Co., Ltd.
(China)

Shanghai Technical Center
(China)

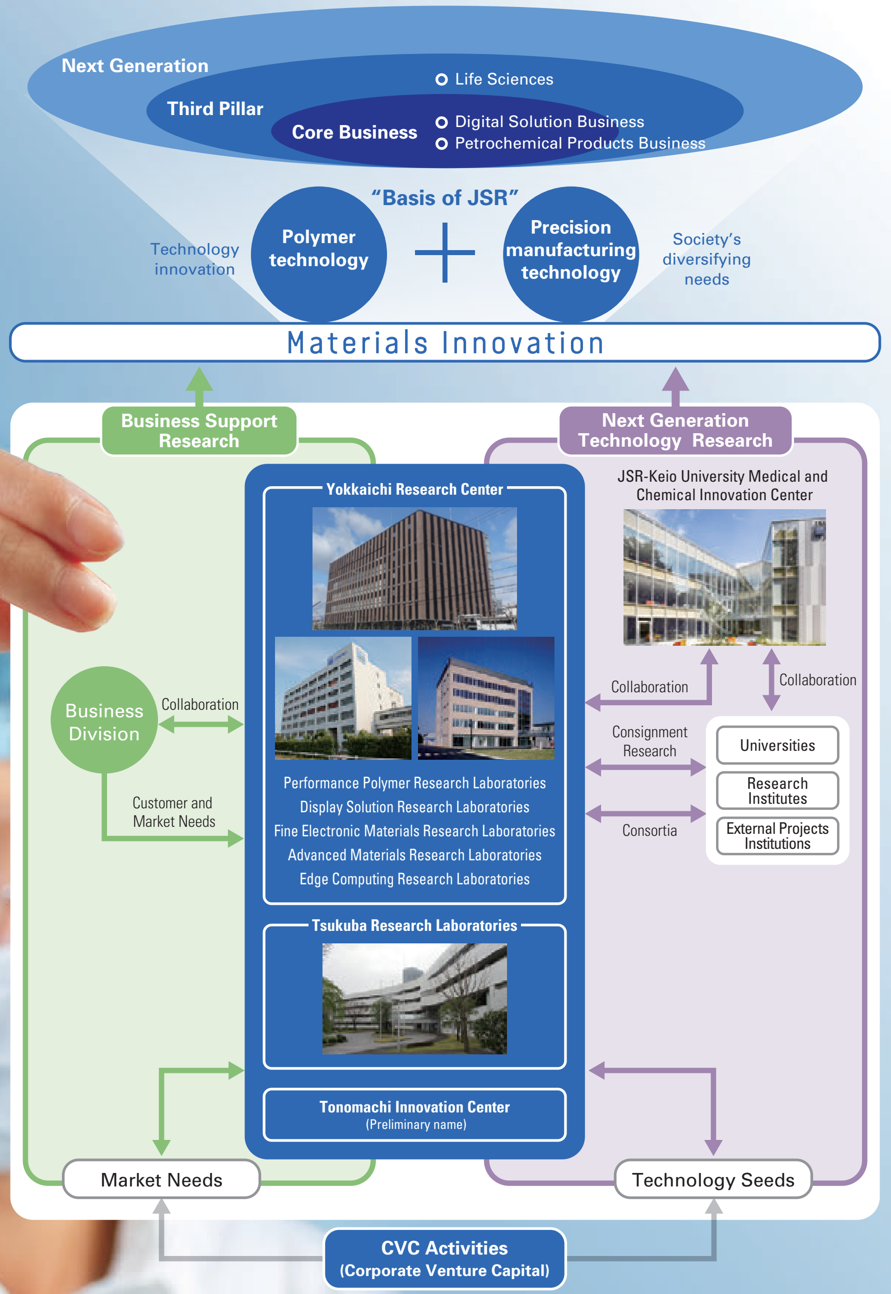
JSR Micro Taiwan Co., Ltd.
Design, development, production and sales of display materials.

GLOBAL NETWORK

Life Sciences Business

We are focusing on expanding our business into the biopharmaceuticals field as well as the field of high-precision diagnosis and research reagents with an eye towards the major markets of Europe, the United States, and Asia (China and Japan). JSR Group will provide new value to the pharmaceutical industry while expanding Group companies globally through mergers and acquisitions.

EVOLVING TECHNICAL CAPABILITIES



With deep expertise in its core polymer and precision manufacturing technologies, the JSR Group has widened the scope of its technological domains by integrating technologies from disparate fields such as photochemistry, inorganic chemistry, precision processing, and bio-technologies. In this way, the Group has advanced R&D activities, and its accumulated efforts have enabled it to develop unique strengths relative to chemical companies worldwide, which is our driving force to expand superior materials and technologies globally.

The JSR Group's main R&D centers are located in Yokkaichi City in Mie Prefecture and Tsukuba City in Ibaraki Prefecture. There we carry out R&D activities aimed at tracking swiftly evolving societal needs such as the changes emanating from the digital revolution.

Our R&D mission can be broadly divided in two categories: "business support research" for business domains we are developing, and "next-generation technology research," such as novel and applied research for peripheral fields. In promoting research, we emphasize close linkages in the Group's value chain, ranging from market development to process development and manufacturing technology development, and extending to manufacturing, sales, and distribution. We also promote integration within the system, with researchers themselves making direct contact with customers to uncover their needs. Moreover, we are enhancing technical services in various countries and building a system capable of providing global and timely support for customers' business activities.

For next-generation technology and seed research, it is necessary for R&D to anticipate latent market needs. Particularly in the case of new R&D fields, we promote open innovation such as joint research with universities and research institutions in Japan and overseas. We have established the JSR-Keio University Medical and Chemical Innovation Center (JKiC), a joint research facility on Keio University's Shinanomachi campus, which opened in October 2017. We will create innovation through investigating the wholly-novel concept of fusing medicine and chemistry, which will lead to practical technologies that contribute to global society with people living long and healthy lives.

We are now planning to open a new innovation center in the field of life sciences and materials informatics in the Tonomachi area of Kawasaki city, Kanagawa prefecture to acceralate R&D activities through collaboration with universities and start-ups.

1. Advanced Simulation Technology, Machine and Deep Learning

① IBM Q

IBM Q is the name of the quantum computer provided by IBM. The IBM Q Network is the world's largest network consisting of various private companies, universities, and public research institutions with the aim of utilizing quantum computers in different forms. JSR participates in the IBM Q Network as a member company of the IBM Q Network Hub at Keio University and also participates as an IBM Q Network Partner.

The fastest practical application of quantum computers is expected to be simulations using high-precision quantum chemical calculations. When this technology is perfected it is expected to drastically reduce experimental trial and error testing, having an immeasurable impact on material development. JSR is working on the development and acquisition of quantum chemical calculation technology focused on actual materials

EVOLVING TECHNICAL CAPABILITIES

through the IBM Q Hub, etc., and is also looking at applications for the tests. It is expected to take several years, possibly more than ten, to put an actual quantum computer into practical use. However, development of algorithms and the identification of major use cases are expected to be completed by then with these being published in papers and patented at the current time.

IBM Q Network Hub at Keio University

② MI and Enthought

JSR is pushing forward with cross-organizational efforts in order to promote a digital transformation in R&D based on material informatics (MI).

In addition to various computer experiments and simulations, including first-principle calculation aimed at developing materials through cyber-space experiments as opposed to chemical experiments in the real world, we are working to establish underlying technologies such as advanced analytics, including machine learning. These technologies have been brought about by dramatic improvements in computer capabilities, but in the latter half of the 2020s, as more disruptive technologies, quantum computers and brain-type chips become ever more powerful, we believe that completely different methods for developing materials will be achieved.

In collaboration with Enthought, Inc., JSR has been working on the development of a data management system and various simulation technologies with an eye towards applications for actual product development. In the data management system, as a platform for data utilization such as machine learning, JSR has built a database of various materials and an automatic management tool for experimental results. By involving engineers with full knowledge of the current development process, in addition to placing importance on how easy the system will be to use in the workplace, we are expecting there to be a number of benefits including a big change in the current development process.

Through these efforts we will promote the development of data science with a business perspective, and not only improve efficiency, but also create real value for business. Furthermore, we will aim to create new businesses in the future.

2. Factory IoT

① Drones

Using drones to inspect facilities and for routine patrols dramatically improves our ability to collect information. Drones are able to improve security and reduce workloads by managing information history and automatically assessing equipment corrosion through image analysis.

The Kashima Plant began using drones for equipment inspection in its non-hazardous material area in 2017, and based on the March 2019 guidelines regarding the safe operation of drones at plants issued by the Ministry of Economy, Trade and Industry, the Ministry of Internal Affairs and Communications, and the Ministry of Health, Labor and Welfare, we carried out drone flights to inspect hazardous facilities from above the ground during regular repairs in June. Inspecting high places is labor-intensive with setting up scaffolding, expensive, and highly dangerous work. By continuing to carry out drone inspections, as well as increasing safety by eliminating the dangers associated with inspecting high places, we are promoting smarter work practices and improving visual inspections with more "eyes" to check our facilities.

Inspections using drones

② Smart Industrial Complex

The skills and know-how of experienced technicians with their tacit knowledge will, by using digital technology, be converted into explicit knowledge and utilized as such. More specifically, a platform will be built leveraging smart sensors and wireless technology to automatically collect and analyze unstructured data, such as motion images and sound recordings, from plant operation management and maintenance tasks performed by experienced technicians in the chemical products production process. This data will then be combined with data from machine equipment such as distributed control systems (DCS). In the future we will develop a solution that can present operators with more informed decisions using a machine learning algorithm in real-time, and we will continue to demonstrate and implement the functions and foundations required for next-generation smart industrial complexes.

Chiba Plant

③ Virtual Reality

Since the latter half of the 1990s, automation of plant equipment has progressed, reducing field work and greatly improving safety. The younger generation of workers who haven't had the opportunity to get to know the difficulties or troubles of operating the plant experience simulations of work training, occupational accidents, and equipment accidents using virtual reality headsets. Unlike paper-based manuals, through these kinds of simulations, workers are able to get an idea of the dangers that can happen in the field ensuring they don't make the same mistakes in real life.

Work training in virtual reality

3. Open Innovation

① JKiC

The Company and Keio University have established a joint research building, JSR-Keio University Medical and Chemical Innovation Center (JKiC), positioned as a base for collaboration among industry, academia, and medicine.

This kind of collaboration between a university medical school and a chemical materials manufacturer is the first of its kind in the world.

Through close collaboration with researchers from Keio University's medical department and

EVOLVING TECHNICAL CAPABILITIES

hospital, who are developing basic through to clinical medicine and medical care, and JSR chemical materials researchers, who are developing advanced materials and products positioned as a strategic business in the field of the life sciences, we will realize a wide range of needs and advanced ideas in the medical field, conduct research and create businesses that lead to the establishment and spread of new diagnosis and treatment techniques, and medical support technologies that support a society of health and longevity.

At JKiC, where medical viewpoints and knowledge of material development come together, we plan to provide various solutions in the fields of health and longevity research based on new types of diagnosis and treatment techniques, medical support technologies that use digital health and 3D printing, and genome analysis.

While ensuring there is adequate space for promoting collaboration among industry, academia, and medicine, we will establish a department matches medical needs with the seeds of technology, working on new innovations in Japan where the advances of age far exceed those of any other country in the world. By delving into a completely new concept of fusion between medicine and chemistry, we will create innovations and establishing practical technologies that contribute to a world of health and longevity.

JKiC

② Center of Materials Innovation

The research and development base in the Yokkaichi Plant is made up of 5 laboratories; the Performance Polymer Research Laboratories concerned with the Petrochemical Products Business, the Display Solution Research Laboratories, the Fine Electronic Materials Research Laboratories, and the Edge Computing Research Laboratories concerned with the Digital Solutions Business, and the Advanced Materials Research Laboratories which develops new materials not connected with any existing business with the help of free-thinking researchers. The main purpose of our new research building will be to focus on research to create new businesses. To this end, we will establish a flexible research system, in close collaboration with the five research laboratories, to enable quick response to users' situations by setting research areas that anticipate market needs. Furthermore, in order to enhance our ability to create innovation, which is the source of our sustainable competitiveness, we utilize this new building to create an environment where adventitious communication and collaboration between different fields from each laboratory can flourish and research activities in collaboration with external parties as a base for open innovation can be promoted.

Center of Materials Innovation

4. Mass Production Expertise

① SSBR Global Manufacturing

New materials developed by researchers will be scaled up from the laboratory to plant production facilities, and advanced to the commercial production stage. To do this, we must not only realize function and performance but also develop safe and simple processes with low manufacturing costs. Materials with superb performance born in the laboratory cannot enter in the market unless they can be produced stably and economically. There are many things that work perfectly well in the laboratory but not at the scale of commercial production. By combining the materials produced through research and development with the best production processes and the best equipment design, we will surely acquire more business opportunities.

② Precision Manufacturing Technology for Semiconductor Materials and Display Materials

When manufacturing semiconductor materials, such as photoresist, and display materials, such as alignment films, a clean environment is required to prevent contamination of foreign substances. In particular, strict particle control is necessary for semiconductor materials as required pattern size is getting tighter.

Semiconductor materials and display materials are manufactured in a special room known as a cleanroom*1 where air particles are removed and controlled at very low level. After raw material mixing, filtration*2 takes place by a fine filter to remove any tiny, invisible foreign substances.

One of the major differences to the production of synthetic rubber is that manufacturing takes place using super pure raw materials in a super clean environment. Products are automatically filled into shaded bottles at very clean environment. Because semiconductor materials and display materials react when exposed to light, shaded bottles are required. Those bottles are thoroughly washed with ultrapure water*3 (super DI water), which is free from fine particles and ions.

Considerations must also be given to environment control such as temperature and humidity for storing and transporting products. Temperature control is vital for materials used in semiconductors and LCD TVs to maintain quality. Each product is stored within a specified temperature range and vehicles capable of constant temperatures are used for transportation. One of the strengths of JSR is its ability to consistently mass-produce while carrying out strict quality control.

*1 Cleanroom
Designed to maintain extremely low levels of airborne particles. In normal air approximately 1 million minute dust particles, that are about 1 / 100th thickness of a hair, are present in 1 cubic foot*, but at the cutting-edge semiconductor manufacturing site, the number is confined to 10 or less.
* approx. 30 x 30 x 30 cm

*2 Filtration
The separation of tiny, invisible foreign matter from liquid products.

*3 Ultrapure water
Water with the highest levels of purity obtained by removing impurities such as ions, organic substances and gases from the water.

Cleanroom for photoresist manufacturing

RESPONSIBLE CARE

1. Philosophy

JSR Group developed its Environment Safety Management Policy promotion items with reference to "Management Policies - Responsibility to Our Stakeholders" and the Japan Chemical Industry Association's "Guiding Principles for the Improvement of Environmental, Safety and Health Conditions." We use these items as the basis for formulating concrete activity plans and advancing our RC activities.

2. What is Responsible Care®(RC)? International Initiatives

RC is an acronym for Responsible Care. In the chemical industry, each company handling chemical substances is responsible for ensuring that safety, health, and environmental issues are addressed throughout the chemical lifecycle, from development and production to distribution, use and disposal, publishing the results of their activities and maintaining dialogue and communication with society - all voluntarily. This initiative is called "Responsible Care."

The International Council of Chemical Associations (ICCA) has adopted the Responsible Care (RC) Global Charter, a voluntary activity policy shared by the chemical industry, to enhance and reinforce RC activities around the world.

JSR subscribes to this activity policy, and signed a declaration supporting the RC Global Charter in October 2008. JSR has also signed the revised RC Global Charter in March 2015. By signing the declaration, JSR has committed itself to making even greater contributions to health, safety, and environmental preservation not just in Japan, but around the world.

The declaration supporting the RC Global Charter

Health and Safety Initiatives

[Non-Financial KPI]
Zero Facility Accidents and Workplace Accidents

1. Philosophy and Course of Action for Occupational Health and Safety

JSR has established a "Course of Action for the Philosophy for Occupational Health and Safety" that present specific actions demanded of the company and each of its employees. It is based the "Philosophy For Occupational Health and Safety" that is spelled out in the "Top Commitment" issued by JSR's top management and which serves as the basis for realizing worksites in which everyone can work "healthily," "safely," and "with peace of mind."

<Philosophy for Occupational Health and Safety>

At JSR Corporation, safety is our highest priority and the foundation of all of our activities. Accordingly, we will create safe worksites and strive to maintain physical and mental health, with the goal of ensuring a safe return home at the end of each workday.

<Courses of Action of the Philosophy for Occupational Health and Safety>

1. No matter the situation, we will act with safety foremost in mind.
2. We will comply with established rules and never fail to act in accordance with safety basics.
3. We will maintain safety by identifying and eliminating both actual and potential hazards.
4. We will strive to create comfortable work environments and promote physical and mental health.
5. Through communication and ingenuity, we will aim to achieve 100% employee participation in all safety activities.

2. Occupational Health and Safety Initiatives

Workplace Accident Record

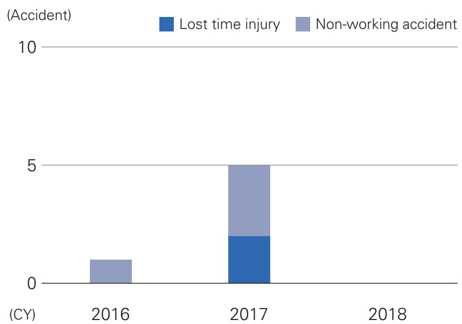
No lost time accidents nor non-lost time accidents affecting JSR employees occurred in 2018. Among our manufacturing partners, there were no lost time accidents; however, there was one lost time accident.

Among domestic Group companies, there were two lost time accidents and three non-lost time accidents in 2018. Among the manufacturing partners of domestic Group companies, there were no lost time accidents; however, there were two non-lost time accidents. Among domestic Group companies, an increasing trend is seen in terms of both the number of all workplace accidents and the number of lost time workplace accidents. Accidents involving tripping, falling, and entanglement are increasing.

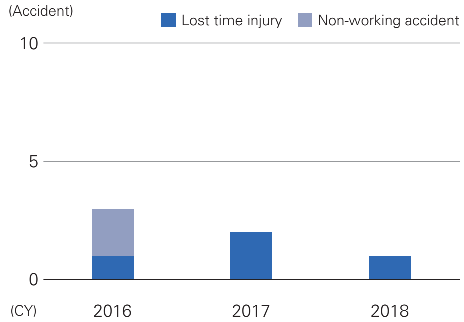
Among overseas Group companies, workplace accidents continue to occur in a manner similar to that seen with domestic Group companies. We will make pertinent improvements by deepening collaborative safety activities throughout the entirety of JSR Group.


Safety Monument

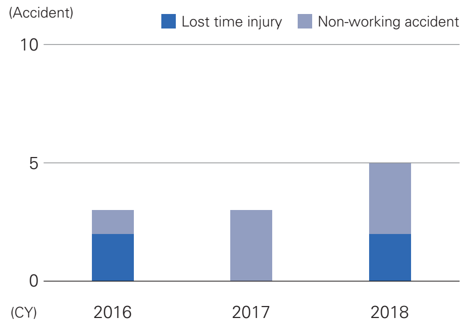
Number of Workplace Accidents (JSR)



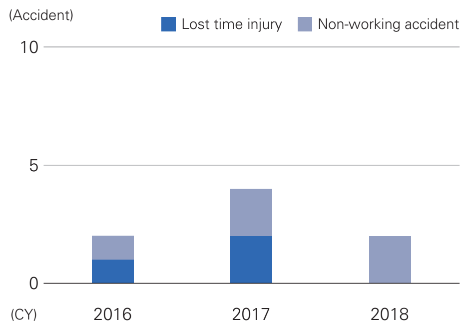
Number of Workplace Accidents
(Manufacturing partners of JSR)



Number of Workplace Accidents
(Domestic group companies)



Number of Workplace Accidents
(Manufacturing partners of domestic group companies)



RESPONSIBLE CARE

Environmental Impact Reduction

[Non-Financial KPI]
Reduce greenhouse gas emissions by 15% in FY2030 compared to the 2013 level.

1. Initiatives to Reduce Greenhouse Gas (GHG) Emissions

Environmental problems attributable global warming (e.g., forest fires, droughts, water shortages, rising sea levels, threats of extinction, and impacts on ecosystems) are occurring on a global scale. Such problems are also seen in Japan. They are represented by floods caused by torrential rains, health problems such as heatstroke that result from more and more days of extreme heat, and such impacts on the ecosystems as coral bleaching.

JSR Group recognizes this as an important issue. We therefore strive to reduce GHG emissions by, for example, reducing the amount of energy needed in the various processes of producing and supplying our products.

(1) Response by JSR (business establishments)

●Actions for Scopes 1 and 2
In FY2012, JSR established its "System to Reduce Total CO_2 Emissions from Three Plants by 6% Compared to FY1990" by upgrading its energy-saving technologies through the introduction of fuel conversion at the Kashima Plant (Kashima South Joint Power Corporation) and a natural gas-fired gas turbine cogeneration system and sludge dewatering system at the Yokkaichi Plant. In FY2018, we reduced our CO_2 emissions by 7.4% compared to the FY1990 level.

Beginning in FY2005, we achieved a significant reduction of 21.6% by FY2013 compared to the FY2005 level by promoting the above-mentioned fuel conversion and making large-scale capital investments.

However, since FY2013, our GHG emissions have remained about the same, despite our efforts to conserve energy.

Looking ahead, we will strive to reduce our GHG emissions toward achieving a long-term goal of "reducing emissions by 15% in FY2030 compared to the FY2013 level." In addition to energy conservation activities, we will achieve this by introducing highly efficient equipment and using renewable energy.

At the head office, we are promoting energy conservation on our own initiative by voluntarily setting a specific power saving target.

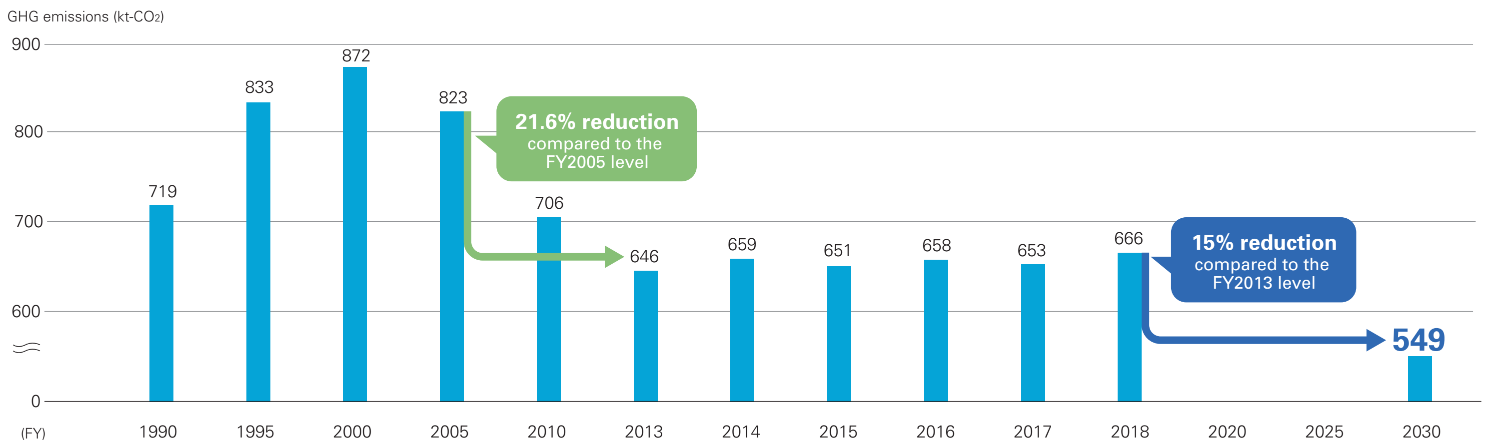
In FY2018, our power consumption fell below the base year average as a result of the main initiatives described below, and we achieved a 15.6% reduction in our emissions compared to the base year average.

●Actions for Scopes 3
We have taken steps to reduce our transport energy use as a designated shipper under the amended Energy Conservation Act.

In FY2018, as a result of policies to transport goods and raw materials by railway and ship, we achieved a modal share of approximately 85%, thus maintaining last year's high level, and successfully held down per-unit transportation energy.

(2) Response by Global Group Companies
Globally, we emitted 1,078 kt-CO_2 in FY2018. This represented an increase of 2% compared to the previous year. We will promote activities that take a long-term perspective on the global side of our business as well.

Changes in JSR's CO_2 Emissions and 2030 Reduction Target



RESPONSIBLE CARE

Waste Reduction

[Non-Financial KPI]
Maintain achieving zero-emission target

1. Initiatives to Reduce Industrial Waste

JSR Group is controlling the amount of waste it generates, sorting waste, and searching for businesses that accept recyclable materials. In FY2018, the Group generated 72,000 tons of waste globally.

JSR

Since FY2000, JSR has been implementing its goal of "zero emissions"*1 through activities that include prevention of generation of waste materials, sorting of waste, and the search for recycling locations throughout the company. We have been continuing our zero-emissions efforts since FY2003.

*1 JSR's definition of "zero emissions": When the volume of final off-site waste buried at third-party landfills is less than 0.1% of the volume of waste generated

Specifically, the Yokkaichi Plant is continuing the following measures targeting ① sludge and ② coal ash, which account for about 90% of the total volume of generated waste materials.

① Transforming sludge into a valuable material (conversion into fuel) with the introduction of sludge drying equipment
② Recycling coal ash as cement material

Furthermore, we are an executive member of the Mie Prefecture Industrial Waste Solutions Promotion Committee and endeavor to continually reduce industrial waste and ensure its proper disposal in cooperation with the community.

Moreover, aiming to help create a recycling-based society, JSR is searching for even more recycling locations and taking other measures toward fulfilling the goal of "reducing waste by 15% in 2030 compared to the FY2013 level."

In FY2018, we reduced our generated waste by 4.5% compared to FY2013. We will continue working toward our goal by reducing the amount of waste we generate.

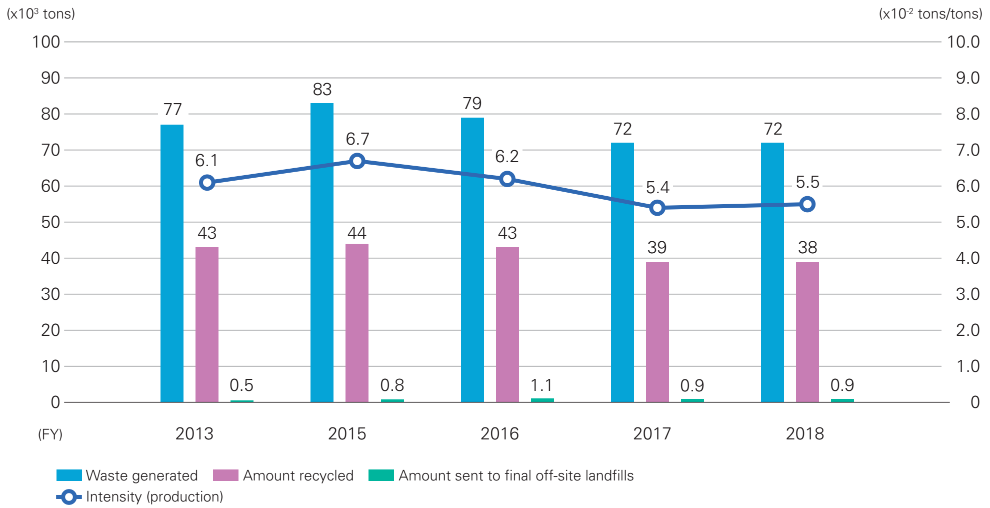
2. Responding to the Marine Plastic Litter Problem

JSR considers the problem of marine plastic litter to be an important issue. In light of this, we are participating in the Japan Initiative for Marine Environment (JaIME), an organization that was launched by five chemical industry bodies on September 7, 2018, as a founding member. We are also investigating JSR Group's disposal processes for plastics in Japan based on the national government's proposed "plastic materials recycling strategy (tentative)" and studying management indices.

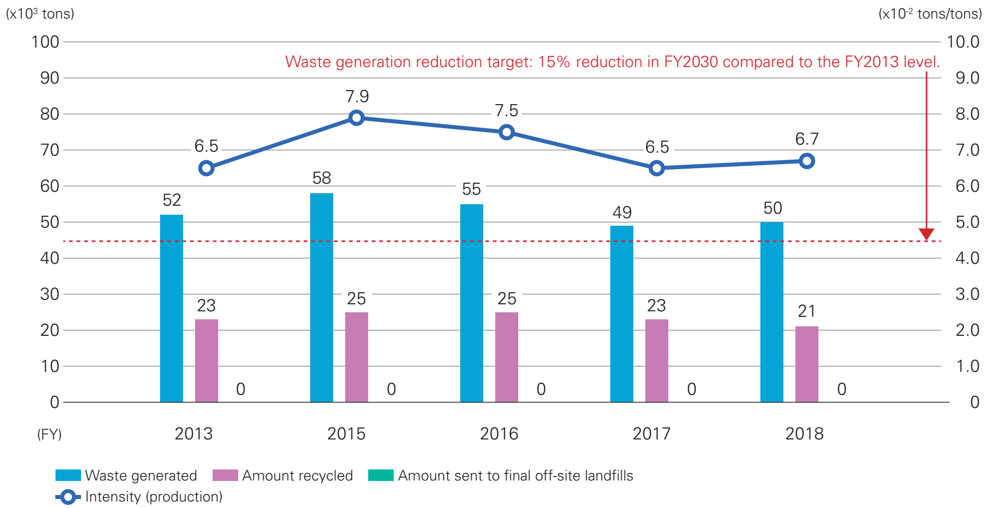
Looking ahead, we will promote further recycling of waste plastics by setting the following two points as long-term targets (FY2030). We will also strive to make a social contribution by, for example, raising awareness of the plastics problem through in-house seminars and explanatory briefings, promoting "3R"-based activities in daily life (e.g., regarding the use of plastic bags and PET plastic bottles), and participating in coastal cleanups.

- 100% recycling (including heat recovery)
- 60% recycling (not including heat recovery)

Wastes Generated by JSR Group



Wastes Generated by JSR



RESPONSIBLE CARE

Quality Management

1. Philosophy

JSR Group' Corporate Mission is "Materials Innovation - We create value through materials to enrich society, people and the environment." Moreover, the Group's Management Policies set forth "emphasis on improving customer satisfaction" and "continuous increase in customer satisfaction" as basic policies concerning quality for the entire company. We believe that an important role of JSR Group is to offer innovative materials and excellent products that meet customer needs and contribute to the making of a better society.

2. Quality Assurance

(1) ISO 9001 Certification

JSR Group supplies customers with chemicals and other diverse products and services. To continuously deliver reliable quality in all of our products and services, we give full attention to quality management each day and also continually strive to further improve quality under a management framework that is based on manufacturing and quality management standards (ISO 9001*1).

We acquire ISO 9001 certification at all of our main plants and business establishments (including relevant divisions and indirectly involved departments). Established at each certified business establishment has a Quality Assurance (QA) Advancement Committee that is led by the plant manager or senior management. Items addressed by this committee include activities to improve quality levels, measures to prevent quality deficiencies, development of CS activities*2, and reporting of quality abnormalities. The information the committee collects is stratified and put to use in preventing the recurrence of problems having the same root cause. CS activities receive particular attention. Customer complaints as well as quality issues that did not go so far as to generate complaints are stratified and analyzed, and the results are applied to the prevention of complaints and problems. Constantly grasping and analyzing quality risks is useful in eradicating quality-related complaints and problems. We strive to prevent and stop recurrence and emphasize activities to prevent quality problems through an organization-wide approach. In this way, the process extending from problem discovery to recurrence prevention measures operates as a PDCA cycle.

*1 ISO 9001: An international standard for quality management systems that was issued by the International Organization for Standardization (ISO)
*2 Customer Satisfaction (CS) activities: Activities to gain customers' satisfaction by meeting their expectations, to create a better relationship with customers and build trust with them, and to link that relationship to sales.

(2) Global Quality Guidelines

As its development, purchasing, production, and sales all become more globalized, JSR Group recognizes that its philosophy vis-à-vis quality in the continual pursuit of "Materials Innovation" must be shared throughout the Group, and that any divergence from that philosophy must be prevented. For this reason, we are formulating guidelines for the sharing of basic thinking and mechanisms concerning quality management that JSR Group can rely on (e.g., elimination of differences and variations in thinking concerning quality management, application of shared language).

With these Global Quality Guidelines, we are promoting the sharing of basic thinking and mechanisms and presenting examples that illustrate quality management methods that are indispensable to "manufacturing," which is the "soul" of our company. They include responses to quality abnormalities in design reviews for planning (e.g., of business models) and product design, contractor management, test management, logistics management, and global emergency response system. Additionally, we are focused on building a quality management system that includes not only JSR Group's overseas production bases but also contractors and business partners. Such a system will permit us to supply products and services of reliable quality continually and globally throughout the entire supply chain, from product planning, design and development to mass production and customer service. To respond to JSR's push into global and widespread fields, and to respond to supply chain diversification and increasingly sophisticated customers' needs that are occurring as a result, we will continue reinforcing our global quality assurance system.

(3) Quality Education

We also see education oriented toward improving quality levels and preventing product accidents as an important activity. JSR Group is also working to enhance employee education. In FY2007, we established training centers in our three plants as part of this effort. We are expanding our education program and providing education on quality control and PLP*3, holding QFD*4 seminars, and implementing product safety training for specific employee classes (employees with the company between 1 and 3 years, employees with the company between 6 and 10 years, and employees who will be/have been promoted to the rank of manager). JSR Group will continue to promote better awareness of quality among our employees and pour effort into human resources development in order to improve quality control and meet the sophisticated needs of our customers.

*3 Product Liability Prevention
*4 Quality Function Deployment

(4) Quality Audits

Top management-led quality performance audits have been performed annually including reports on plant QA activity concerns such as trends and corresponding solutions of claims and other issues, and activities to improve plant capability. They also include reports on customer satisfaction levels and presentations on quality improvement activities such as Six Sigma training and small-group improvement activities.

In addition, we implement internal quality audits and external quality audits for the purpose of improving our quality management system. We strive to improve quality control activities and frameworks in all quality audits with a view to achieving higher customer satisfaction.

A Quality Performance Audit being conducted by top management (JSR Corporation's Yokkaichi Plant)

Presentation of a Quality Performance Audit's "highest excellence" award (at JSR Corporation's Head Office; March 28, 2019)

HUMAN RESOURCES

Human Rights

1. Philosophy

As a global company, JSR Group supports the thinking behind the UN Universal Declaration of Human Rights (UDHR), the UN Guiding Principles on Business and Human Rights, and the UN Global Compact and accordingly respects the basic human rights and diversity of individuals. Moreover, we will not discriminate nor permit discrimination on the basis of gender, age, nationality, ethnic group, race, origin, religion, beliefs, social status, physical disability, or sexual orientation.

2. Response to Human Rights Issues

(1) Participation in Global Initiatives

The JSR Group is a signatory and supporter of the United Nations Global Compact. We also participate in the Human Rights Due Diligence Working Group of Global Compact Network Japan and, as such, participate in workshops and gather and disseminate pertinent information within the company. As a specific activity in FY2019, we participated in a human rights policy group and presented a model case for newly formulating human rights policy under the theme of "our vision of the ideal framework for human rights policy."

At the present time, we have begun applying knowledge we obtained through this activity in a study toward formulation of JSR Group's human rights policy with concerned departments in the company.

(2) Principles of Corporate Ethics

JSR Group respects human rights and prohibits discrimination by establishing the following code of conduct for human rights and labor in the JSR Group Principles of Corporate Ethics.

<Code of Conduct for Respecting Human Rights>

① We will respect and uphold basic human rights, such as the Universal Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights, declared internationally and protected under constitution and legal precedents of respective countries, and will not infringe basic human rights.

② We shall never allow child labor or forced compulsory labor, whether at the JSR Group or in the workplaces of business partners and collaborating companies.

③ We will abide by national and international labor codes and respect workers' right of association and right for collective negotiation in the realm of basic labor rights.

3. Respect for Human Rights in the Labor Environment

JSR Group respects the human rights of employees by clearly specifying its responsibilities to employees in its management policies.

- To be evaluated and rewarded based on fair standards
- Continuous opportunities to grow by challenging themselves
- Acceptance of the diversity of fellow colleagues and to be provided a place where all employees can work together as a team

4. Respect for Human Rights in the Supply Chain

JSR Group clearly specifies its responsibilities to customers and business partners in its management policies.

- Act in good faith and maintain fair and equitable business relations
- Continue to be socially and environmentally conscious throughout the supply chain

Specifically, we respect the human rights of our customers and business partners through our supply chain management.

Participation in the United Nations Global Compact

JSR Group became a participant in the United Nations Global Compact in April 2009. As such, we will more proactively fulfill our corporate social responsibilities with recognition that businesses operating on a global level must make a greater commitment to human rights, labor, the environment and anti-corruption, as expressed in The Ten Principles of the United Nations Global Compact.

WE SUPPORT

Representative Director, CEO
Eric Johnson

The Ten Principles of the United Nations Global Compact

1. Businesses should support and respect the protection of internationally proclaimed human rights; and
2. make sure that they are not complicit in human rights abuses.
3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
4. the elimination of all forms of forced and compulsory labour;
5. the effective abolition of child labour; and
6. the elimination of discrimination in respect of employment and occupation.
7. Businesses should support a precautionary approach to environmental challenges;
8. undertake initiatives to promote greater environmental responsibility; and
9. encourage the development and diffusion of environmentally friendly technologies.
10. Businesses should work against corruption in all its forms, including extortion and bribery.

HUMAN RESOURCES

Labor Environment

1. Philosophy

We, JSR Group, specify our responsibilities to employees within our management policies.

- To be evaluated and rewarded based on fair standards
- Continuous opportunities to grow by challenging themselves
- Acceptance of the diversity of fellow colleagues and to be provided a place where all employees can work together as a team

(1)Human Resource Development

① Human Resource Development Philosophy

We are working on human resource development with the understanding that it is the greatest priority for achieving sustainable, long-term corporate growth. In particular, we are promoting human resource development in order to strengthen our organizational capacity by implementing the Course of Action "The 4Cs" - "Challenge," "Communication," "Collaboration," and "Cultivation" - of our Course of Action at a higher level, and with focus on "skill/know-how" and "awareness/motivation."

(2) Work-Life Management

① Work-Life Management Philosophy

JSR is actively promoting its Work-Life Management initiative. Employees are encouraged to not only develop work-related skills, but to also actively participate in social, and personal activities (e.g., social and community groups, family, volunteer activities, self-development, and hobbies). JSR believes that by encouraging our employees to become well-rounded individuals, and by finding a personal sense of self-fulfillment and satisfaction that they will then be able to bring that energy into their work.

JSR encourages all of our employees to closely manage their personal time and maintain a balanced work schedule. We are also working on implementing various systems that support flexible work styles, with special consideration for childbirth, childcare and family-nursing needs.

Work-life management is vital in the implementation of diversity management, because in order to create an organization with a diverse workforce, we must also promote a corporate culture that is open to diverse values and work styles.

② Codes of Conduct

We provide a work environment that facilitates flexible "work-life management" for employees, and strive to improve both productivity and employee satisfaction.

③ Work-Style Innovation

At JSR, we are focused on work-style innovation with the goal of realizing sustainable growth for both the company and our employees.

In advancing innovation-oriented activities, we will analyze factors in the workload of each department and then formulate and execute concrete measures to reduce work and alleviate workloads based on prioritization so that each employee can approach it with problem awareness. Management is demonstrating its commitment to these activities by, for example, establishing opportunities for reporting by assigned officer countermeasures proposed by each department.

Diversity

[Non-Financial KPI]

4.5% of women in managerial positions by the end of FY2019

1. Philosophy: Recruitment and Promotion of Diverse Human Resources

JSR Group is rapidly expanding its various business activities around the world, and we believe that harnessing diverse human resources is crucial for the advancement of our wide-ranging business strategies.

We view the promotion of diversity as a fundamental part of our management strategy. In taking this approach, we are engaged in developing management that is focused on individualism and the respect for, and utilization of values through diversity. Furthermore, a corporate culture which is welcoming of new values and work styles is instrumental in our goals of creating a diverse workplace. We are committed to promoting these ideals with our work-life management initiatives.

JSR has established a Diversity Development Office to serve as an organization dedicated to the advancement of diversity. The office's mission is to establish and implement initiatives which enable diversity in the workforce. In addition to our emphasis on gender equality initiatives, JSR Group shows its commitment to the future by expanding the scope of our initiatives to include foreign nationals, individuals with disabilities, and individuals in the lesbian, gay, bisexual, and transgender (LGBT community). Furthermore, our initiatives also include intergenerational work-style and mindset understanding programs.

2. Promotion Measures and Schemes

Promoting the Active Participation and Advancement of Women in the Workforce

As a part of our mid-term business plan, JSR has publicly announced our quantitative targets for the active support of our female employees.

We have also developed an action plan to promote and support the lives of working women within JSR, based on and in accordance with the Act on Promotion of Women's Participation and Advancement in the Workplace (Women's Act). The Women's Acts' second phase is set for April 1, 2018 to March 31, 2020. These targets demonstrate our management's commitment in achieving understanding and cooperation throughout the organization. JSR has also publicly announced each of our action plans to nurture and raise the next generation of children. These plans are based the Act on Advancement of Measure to Support Raising Next-Generation Children (Next-Generation Act), which has been in effect since April 2005. The seventh phase of which is set for March 31, 2018 to March 31, 2020. We have continued to establish, notify, publicly disclose, raise awareness of, and implement action plans throughout the first phase of the Women's Act and sixth phase of the Next-Generation Act while executing initiatives in line with both acts.

JSR's Active Support of Women in the Workforce: Quantitative Targets (As of April 1st of each fiscal year)

	Target	FY2016	FY2017	FY2018	FY2019
Percentage of women hired annually per position	College graduates, engineering positions: 15-20%	15%	20%	18%	23%
	College graduates, administrative positions: 40-50%	60%	50%	45%	50%
Percentage of women in managerial positions	March 2020: 4.5%	3.6%	3.8%	4.1%	4.3%

CORPORATE GOVERNANCE

Strengthening Corporate Governance for Sustainable Growth

The Company, by enhancing its corporate governance, endeavors to realize its corporate mission, achieve its business plan, and increase corporate value over the medium to long-term

The Company is constantly improving its corporate governance with the aim of obtaining the trust of shareholders and all other stakeholders and building an appealing corporate structure. Even before the Corporate Governance Code was established, the Company had been focusing on the enhancement of corporate governance by, for example, appointing several independent outside directors and establishing the Remuneration Advisory Committee. The Company will continuously strive to strengthen and enhance its corporate governance to ensure transparent and sound management based on rational and prompt management decisions.

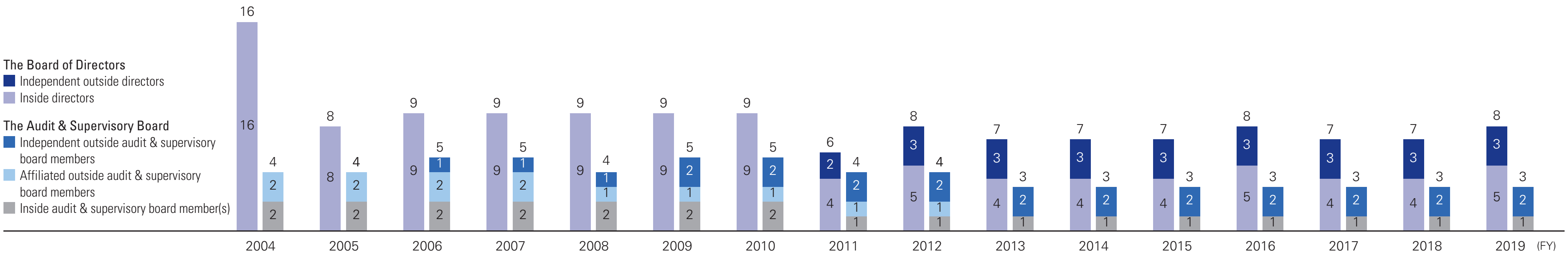
Basic Views and Policies on Corporate Governance of JSR

Basic Policy

(1) It is JSR Group's goal to make steady progress in realizing its corporate mission (Materials Innovation: We create value through materials to enrich society, people and the environment). This shall be done through efficient and transparent business management, by sustaining sound and healthy business practices. The Group will also continuously strive to create new corporate values with the hope of becoming an attractive corporation that can earn the trust of, and satisfy the interests of, all our stakeholders.

(2)The Company therefore has been, and will continue, focusing on the enhancement of corporate governance as an important management challenge.

Governance history since 2004



The Board of Directors

Reduction in term of office of director from 2 years to 1 year (2004)

Introduction of an officer system (2005)

Reduction in number of directors from 16 to 8 (2005)

Appointment of independent outside directors 2 (2011), 3 (2012)

Establishment of the Remuneration Advisory Committee (2014)

Establishment of the Nomination Advisory Committee (2015)

The Audit & Supervisory Board

Appointment of an independent outside audit & supervisory board member(s) (2006)

Appointment of a certified public accountant as an independent outside audit & supervisory board member (2006)

Appointment of a lawyer as an independent outside audit & supervisory board member (2009)

Corporate Audit Department

Establishment of the Corporate Audit Department (2006)

CORPORATE GOVERNANCE

Four Characteristics of JSR's Corporate Governance Structure

The Company, by enhancing its corporate governance, endeavors to realize its corporate mission, achieve its business plan, and increase corporate value over the medium to long-term.

All three outside directors have experience in corporate management

Ratio of independent outside directors with experience in management of corporations: **100%**

The current Board of Directors consists of eight (8) directors, three (3) of whom are independent outside directors with vast experience and extensive expertise in management of corporations and businesses. In the future, the Company will elect 1/3 (one third) or more independent outside directors with similar experience and expertise in order to enhance corporate value and oversee business management.

Independent outside audit & supervisory board members that are legal and accounting specialists

Ratio of Business Specialists **100%**

The current Audit & Supervisory Board consists of three (3) audit & supervisory board members, two (2) of whom are independent outside audit & supervisory board members with extensive and sophisticated expertise; one is a lawyer and the other is a certified public accountant qualified as a certified public tax accountant. In the future, the Company will elect two independent outside audit & supervisory board members with vast experience and extensive and sophisticated expertise in such fields as law, accounting, etc., to effectively audit the execution of duties by directors and management.

A lead independent outside director chairs the Nomination Advisory Committee and the Remuneration Advisory Committee

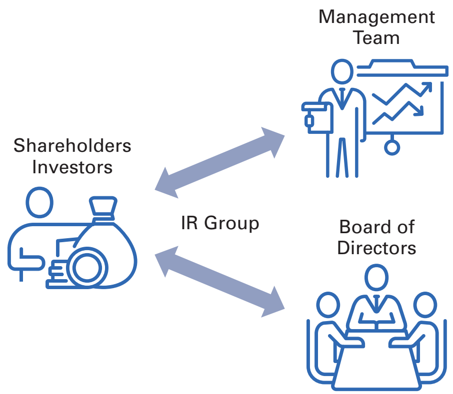
Nomination Advisory Committee Chair

Remuneration Advisory Committee Chair

The Company established the Nomination Advisory Committee of which majority of members are independent outside directors and the chair of which is a lead independent outside director to ensure the transparency of the policy and procedures of nominating candidates for directors. The committee deliberates criteria for the size, diversity in breadth of knowledge, experience, and capabilities necessary for the Board of Directors as well as criteria and procedures for nominating and/or identifying candidates for future appointment as CEO and/or president, directors, officers with directorship status (including senior officers), and audit & supervisory board members, and submits its findings to the Board of Directors.

The Company also established the Remuneration Advisory Committee of which a majority of members are independent outside directors and the chair of which is a lead independent outside director in order to ensure the objectivity and transparency of its directors' remuneration framework. The committee deliberates the basic policy of remuneration, the remuneration structure, the mechanism of a performance-based remuneration, the setting of targets, and assessment of performance, and submits its findings to the Board of Directors.

The Company is keen to reflect the voices of investors and/or analysts in its management



The Company appoints an officer in charge of IR. The CEO, the president or the officer in charge of IR explains, at the explanatory meetings for business results and mid-term business plan for institutional investors and/or market analysts, the business performance, financial positions, and the details and progress of the mid-term business plan.

In addition, the CEO, the president or the officer in charge of IR also holds face-to-face meetings with institutional investors, both in Japan and overseas, to explain the above mentioned business results and progress of the mid-term business plan.

In dialogues with the investors and/or analysts, the Company has strived to appropriately treat insider information and feed back to management and board of directors the opinions and questions expressed by the investors and/or analysts during such dialogues.

CORPORATE GOVERNANCE

Corporate Governance Structure

(1) As a company with audit & supervisory board members, the Company principally monitors and oversees the execution of duties by directors and the management through its Board of Directors and audit & supervisory board members.

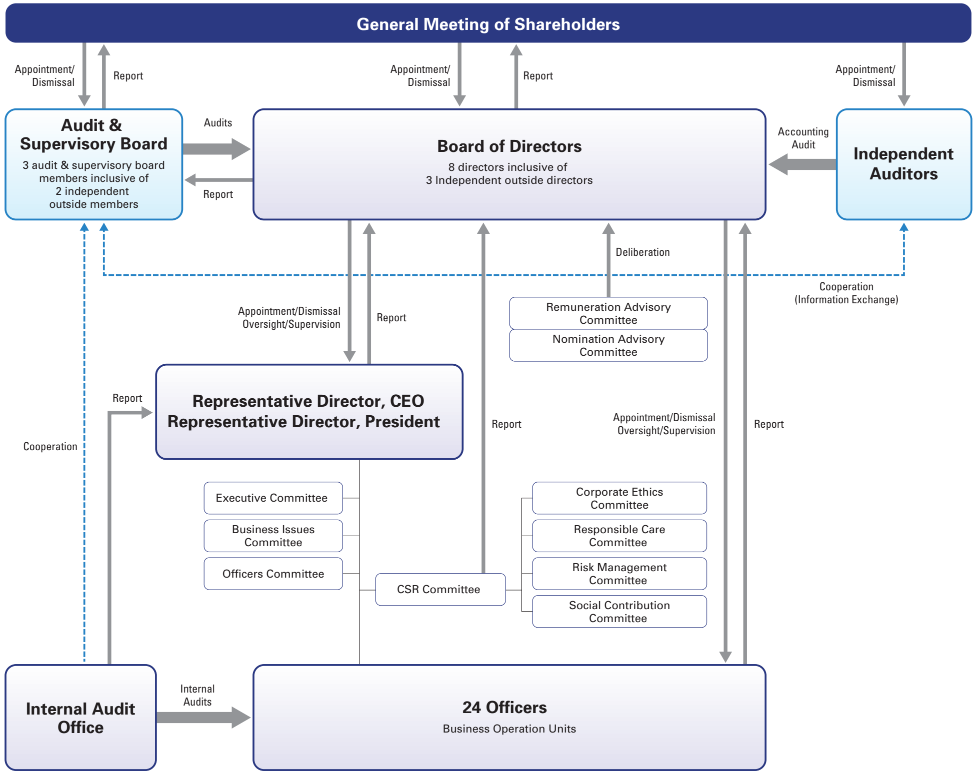
(2) The Company has continuously strengthened the function of management supervision, improved efficiency in decision making and execution of business duties, and enhanced the transparency and soundness of business management through the introduction of an officer system and the appointment of outside directors and outside audit & supervisory board members, who are independent from the Company and have extensive business experience and a high level of expertise.

(3) The Board of Directors has established JSR's corporate mission and makes important decisions including those of the Company's business strategies.

(4) The Board of Directors has developed an environment where management can take appropriate risks and demonstrate entrepreneurship through the introduction of a performance-based director remuneration framework.

Corporate Governance Structure Diagram

(As of September 5, 2019)



(5) The Board of Directors supervises directors and the management through the assessment of business performance and appointment of directors.

Management system is outlined below.

1. Board of Directors

The Board of directors consists of eight (8) directors, and three (3) of whom are independent outside directors with independence and extensive experience of business and management and hold meetings once monthly, in principle. The Board discusses and makes decisions on important business matters, including the direction of the Company's business strategy and also supervises directors' and officers' execution of their business duties.

The Board of Directors is chaired by the chairman in principle for the purpose of securing corporate governance by distinguishing the rolls of CEO, and the president and COO of the Company, from that of chairman of the Board of Directors responsible for monitoring and overseeing the execution of the Company's operations. In addition, all three (3) audit & supervisory board members including two (2) independent outside audit & supervisory board members regularly attend the Board of Directors meetings to state their opinions.

2. Executive Committee

The Executive Committee holds extensive discussions on items relating to fundamental management initiatives, management policies and management plans, along with important matters concerning the execution of business activities in each department. The committee thus gives direction in relation to these issues or receives reporting. As required, certain items submitted to this committee are passed on to the Board of Directors for further discussion.

This committee is made up of the CEO, the president, officers with directorship status, and officers appointed by the president, and responds to important business execution with the aim of expediting decision making and improving the efficiency of such operations. As a rule, this committee meets once a week, and is chaired by either the CEO or the president. The standing audit & supervisory board member also attends these committee meetings.

3. Business Issues Committee

The Business Issues Committee engages in broad-ranging debate about items related to fundamental management strategies and policies, basic policies behind specific projects, and changes to business strategies. It also shares information to ensure a common understanding of such matters and discusses the company's direction. Its findings are reflected in deliberations of the Board of Directors and the Executive Committee. The Business Issues Committee, which meets twice a month in principle, consists of the CEO, the president and officers with directorship status, and is chaired by CEO or the president.

4. Officers Committee

This committee consists of the CEO, the president and all officers and aims to ensure members' thorough understanding of business conditions and important business matters.

CORPORATE GOVERNANCE

5. Audit & Supervisory Board and audit & supervisory board members

The Audit & Supervisory Board, consisting of a total of three (3) audit & supervisory board members, and holding meetings once monthly in principle, as stipulated in the Regulations of the Audit & Supervisory Board, receives reports on important matters, holds discussions, and makes decisions. The two (2) outside audit & supervisory board members are independent, a lawyer and a certified public accountant qualified as a certified public tax accountant, and conduct audits from a standpoint independent from the Company using their professional expertise.

In accordance with standards for audits by audit & supervisory board members, the audit & supervisory board members attend meetings, of the Board of Directors, and other important meetings, including Executive Committee meetings to monitor how important decisions are reached and business activities are executed. The audit & supervisory board members also receive reports from the independent auditors, directors, and employees. Through these activities, audit & supervisory board members holds deliberations in order to form auditing opinions.

6. Outline of audit by audit & supervisory board members, Internal Audit, and Independent Auditors

(1) Audit by audit & supervisory board members

The details of audit conducted by the audit & supervisory board members are stated as in the above 5. Audit & Supervisory Board and audit & supervisory board members.

(2) Internal Audit

JSR has established the Corporate Audit Department to improve the effectiveness of the JSR Group's internal control systems. In accordance with the internal audit plan, the Corporate Audit Department regularly conducts internal audits, such as compliance audits and business operation audits, at its divisions and departments as well as its Group companies both in Japan and overseas and reports the audit results to CEO, the president, related departments, and audit & supervisory board members.

(3) Independent Auditors

JSR's independent auditor is KPMG AZSA LLC. The audit & supervisory board members work closely with the independent auditors. The audit & supervisory board members interview the independent auditors about the audit plan and receive reports on the audit results. Furthermore, the audit & supervisory board members and independent auditors exchange information and opinions as necessary throughout the course of each fiscal year.

Directors and Audit & Supervisory Board Members (As of September 5, 2019)

Representative Director, CEO

Eric Johnson

North America Business President of JSR North America Holdings, Inc.

Representative Director, President, COO, and CTO

Nobuo Kawahashi

Research & Development

Representative Director, Chairman of the Board

Mitsunobu Koshiba

Director, Executive Managing Officer

Koichi Kawasaki

Procurement, Logistics, Manufacturing and Technology, Product Safety & Quality Assurance, Safety and Environment Affairs, Human Resources, Diversity Development President of Japan Butyl Co., Ltd.

Director, Managing Officer

Hideki Miyazaki

Accounting, Finance, Corporate Communications

Standing Audit & Supervisory Board Member

Atsushi Kumano

Outside Director

Yuzuru Matsuda

Outside Director

Shiro Sugata

Outside Director

Tadayuki Seki

Outside Audit & Supervisory Board Member

Hisako Kato

Outside Audit & Supervisory Board Member

Sumio Moriwaki

CORPORATE GOVERNANCE

7. CSR Committee

Through the JSR Group's Corporate Social Responsibility (CSR) policy, the Company is committed to behave faithfully as a good corporate citizen and meet the expectations of our stakeholders. It has established the CSR Committee to promote CSR. Under the CSR Committee, there are the following four committees: the Corporate Ethics Committee, the Responsible Care (RC) Promotion Committee, the Risk Management Committee, and the Social Contribution Committee. The CSR Committee integrates and guides the activities of the above four committees and meets four times each year, along with special meetings as necessary, to further strengthen the management the Company's CSR and proceed CSR activities.

Independent Outside Directors (As of September 5, 2019)

The Company has appointed 3 independent outside directors to further strengthen the functions of the Board of Directors to supervise management and make decisions in a timely and appropriate manner.

By appointing independent outside directors with a broad range of corporate management experiences and an independent perspective as outside personnel, the Company ensures fair and reasonable business judgement and transparent and sound management.

Yuzuru Matsuda

Mr. Matsuda served as the President and Chief Operating Officer of KYOWA HAKKO KOGYO CO., LTD and Kyowa Hakko Kirin, Co., Ltd as well as an Advisor to Kyowa Hakko Kirin. He has vast experience in corporate management for global companies especially in the field of medical products and biochemical. He also possesses an independent perspective as outside personnel. He has utilized his experiences and independent viewpoints to help the Company in making crucial decisions, to supervise the performance of duties at the Board of Directors level, and to strengthen the Company's fair corporate governance through enhancement of fair and reasonable business judgment and transparent and sound management, thereby continually contributing further to the enhancement of JSR Group's corporate value. He is therefore appointed again as an outside director.

Shiro Sugata

Mr. Sugata served as the Representative Director and President of USHIO INC., where he currently serves as an advisor. He also served as Vice Chairman, Executive Director at the Japan Association of Corporate Executives. He has vast experience in corporate management of global companies, especially in the field of optical application products and industrial machineries, and also has experience obtained through activities in the business community, and possesses the perspectives as an independent outside personnel. He has utilized his experiences and independent viewpoints to help the Company in making crucial decisions, to supervise the performance of duties at the Board of Directors level, and to strengthen the Company's fair corporate governance through enhancement of fair and reasonable business judgment and transparent and sound management, thereby continually contributing further to the enhancement of JSR Group's corporate value. He is therefore appointed again as an outside director.

Tadayuki Seki

Mr. Seki served as the Representative Director and Executive Vice President and thereafter as an Advisory Member at ITOCHU Corporation. He has vast experience in corporate management of a general trading company which operates a global trading business and possesses the perspectives of independent outside personnel. He has utilized his experiences and independent viewpoints to help the Company in making crucial decisions, to supervise the performance of duties at the Board of Directors level, and to strengthen the Company's fair corporate governance through enhancement of fair and reasonable business judgment and transparent and sound management, thereby continually contributing further to the enhancement of JSR Group's corporate value. He is therefore appointed again as an outside director.

CORPORATE GOVERNANCE

Independent Outside Audit & Supervisory Board Members (As of September 5, 2019)

The Company has appointed 1 standing audit & supervisory board member and 2 independent outside audit & supervisory board members to further strengthen the functions of monitor the management of the audit & supervisory board members as well as the Audit & Supervisory Board.

The Company appoints a certified public accountant and lawyer, both of whom possess a high level of expertise, broad experiences and independent perspectives as outside personnel, as independent outside audit & supervisory board members in order to ensure fair and reasonable business judgement and transparent and sound management.

Hisako Kato

Ms. Kato has a range of professional knowledge and vast experience in financing and accounting matters as a Certified Public Accountant both in Japan and the US, and a Certified Tax Accountant by providing necessary and appropriate advices. She has been utilizing her vast experience, knowledge, and sophisticated expertise, as well as her viewpoint as an independent outsider, to audit the Directors' decision-making and execution of duties as well as to enhance fair and reasonable judgment for, and accountable and sound management of, the businesses of the Company.

Sumio Moriwaki

Mr. Moriwaki has vast legal expertise and experience as a lawyer. He has utilized his experience, knowledge, and sophisticated expertise, as well as his viewpoint as an independent outsider, to audit the directors' decision-making and execution of duties, as well as to enhance fair and reasonable judgment for, and accountable and sound management of, the businesses of the Company.

Officers (excluding those who concurrently serve as directors) (As of September 5, 2019)

Managing Officer
Hayato Hirano
Elastomer Business, Plastics Business General Manager of Elastomer Div.
President of Techno-UMG Co., Ltd.

Managing Officer
Katsuya Inoue
Corporate Planning, Business Planning and Investment , Digital Solutions Business, Emerging Business, Office of the CEO
General Manager of Corporate Planning Div.
General Manager of Office of the CEO
Chairman of JSR Micro (Changshu) Co., Ltd.

Managing Officer
Tadahiro Suhara
Digital Solutions Business

Senior Officer
Takao Shimizu
Office of the President, IT Strategy, Cyber Security Management, Business Process Renovation
General Manager of Office of the President
General Manager of Office of Business Process Renovation

Senior Officer
Tsuyoshi Watanabe
China Business Chairman of JSR (Shanghai) Co., Ltd. Chairman of JSR Display Technology (Shanghai) Co., Ltd.

Senior Officer
Kazumasa Yamawaki
Elastomer Business (deputy)
Deputy General Manager of Elastomer Div.
General Manager of Business Management Dept., Elastomer Products
Vice President of KRATON JSR ELASTOMERS K.K.
Director of JSR Elastomer Europe GmbH

Senior Officer
Makoto Doi
Legal General Manager of Legal Dept.

Senior Officer
Yoshikazu Yamaguchi
Display Solution Business
Representative Director of JSR Micro Korea Co., Ltd.

Senior Officer
Kazushi Abe
President of ELASTOMIX CO., LTD.
President of ELASTOMIX (FOSHAN) CO., LTD.
The Chief Director of JSR Group Corporate Pension Fund

Officer
Eiichi Kobayashi
Executive Vice President of JSR NORTH AMERICA HOLDINGS, INC. JSR Micro, Inc.
JSR Life Sciences, LLC

Officer
Yoichi Mizuno
Edge Computing Business
General Manager of Edge Computing Div.

Officer
Mika Nakayama
General Manager of Intellectual Property Dept.

Officer
Koichi Saeki
Yokkaichi Plant Yokkaichi Plant Manager

Officer
Seiji Takahashi
Manufacturing and Technology (deputy)
General Manager of SSBR Global Manufacturing & Technology Management Dept.

Officer
Yasufumi Fujii
General Affairs, Secretarial Office, CSR
General Manager of General Affairs Dept.
General Manager of Secretarial Office

Officer
Mikio Yamachika
Lithium Ion Capacitors Business
President of JM Energy Corporation

Officer
Tim Lowery
Life Sciences Business
General Manager of Life Sciences Div.
President of JSR Life Sciences, LLC

Officer
Koichi Hara
Executive Vice President of JSR North America Holdings, Inc.
General Manager of Life Sciences Business Planning Dept.

Officer
Junichi Takahashi
Electronic Materials Business General Manager of Electronic Materials Div.
General Manager of Taiwan Branch., Electronic Materials Div.

Officer
Keisuke Wakiyama
General Manager of Display Solution Business Div.

Officer
Ichiko Tachibana
General Manager of Support Dept., Emerging Business

Officer
Toru Kimura
General Manager of Research & Development

CORPORATE GOVERNANCE

Director Remuneration

Based on the understanding that remuneration for directors is one of the important pillars supporting the Company's corporate governance, the Board of Directors deliberates and makes decisions based on the discussions and reports of the Remuneration Advisory Committee within the scope approved by the General Meeting of Shareholders in accordance with the basic policy, remuneration governance, remuneration scheme and decision-making procedures.

Basic Remuneration Policy

Based on the fulfillment of responsibility to explain to all its shareholders, the Company has established the following basic policy with its aim to firmly execute management plans and business strategies, for the purpose of sustainable development and improving corporate value over the medium to long term.

(1) A remuneration system that can attract, secure, and reward diverse and talented human resources regardless of nationality, in order to build and improve the Company's competitive advantage, and to further promote global management.

(2) In order to motivate management to achieve business objectives in line with the Company's business strategies with the aim of sustainable development of the Company, the remuneration system shall develop a healthy spirit of entrepreneurship in management through incentives that reflect the potential risks of achieving these objectives.

(3) A remuneration system that improves corporate value over the medium to long term by actively sharing the interests of shareholders and management through increased shareholdings during the director's tenure.

Types of Remuneration

The Company's director remuneration is comprised of a basic remuneration as fixed basic remuneration, an annual bonus linked to the attainment of business performance in each fiscal year, a mid-term bonus linked to the attainment of medium and long-term business performance, and a remuneration which grants restricted shares for the purpose of quickly promoting shared value among all shareholders. However, in view of their roles, remuneration for outside directors and Audit & Supervisory Board members is limited to basic remuneration only.

Remuneration Governance and Remuneration Decision Making Procedures

Discussions and reports of the Remuneration Advisory Committee
- Director remuneration survey data from external expert organizations
- Benchmarks (Similar enterprise concerning business size, type, and conditions)
- Potential risks associated with achieving performance targets

→ **Decision made by Board of Directors**

Appropriate involvement and advice from independent outside directors

Audit & Supervisory Board member remuneration is determined through discussions between Audit & Supervisory Board members

Remuneration System

		Basic Remuneration	Performance-Linked Remuneration			Basic Remuneration Performance-Linked Remuneration
			Annual Bonus	Mid-Term Business Performance-Linked Bonus	Remuneration which Grants Restricted Shares	
Directors (not including outside directors)	CEO	100	100	approx.133	approx.67	100:300
	Chairman and President	100	30	50	25	100:105
	Executive Managing Officer / serving concurrently as Managing Officer	100	25	30	15	100:70

*Performance indicators for consolidated company-wide performance use consolidated revenue and consolidated operating profit. Based on the assumption that payout rate is 100% when attained level for targets set at beginning of fiscal year is 100%, payout rates may vary within the range of 0 to 200% depending on the level of attainment for each specific target.
**The average consolidated ROE (return on equity) over three years is used as a performance indicator. Based on the assumption that payout rate is 100% when attained level for targets set at beginning of each fiscal year is 100%, payout rates may vary within the range of 0 to 150% depending on the level of attainment for target.

COMPLIANCE / RISK MANAGEMENT

Compliance

1. Philosophy

JSR Group has been endeavoring, by building up and maintaining good relationship with all our stakeholders, to become a trustworthy and indispensable corporate citizen. We have been vigorously performing our Code of Conduct in order to materialize "Our Responsibility to our Stakeholders", an essential part of our Management Policies, as well as to ensure compliance with the relevant laws and regulations during the course of our business.

2. JSR Group Principles of Corporate Ethics

JSR Group is advancing corporate ethics activities in an integrated manner at all Group companies both at home and abroad. To achieve this, we have formulated the JSR Group Principles of Corporate Ethics as a concrete guideline for globally-shared corporate ethics that reflects our "Essential Elements." The principles serve as a Code of Conduct that all directors and employees (full-time, contract, part-time, and temporary employees as well as employees on short-term contracts) of JSR companies should comply with in order to develop our corporate activities while fulfilling the management policies spelled out in "Our Responsibility to our Stakeholders."

JSR Group shall never require directors and employees of Group companies to act in violation of this Codes of Conduct. Additionally, JSR Group shall not disadvantage any director or employee who refuses to execute an order to perform an act that is in violation of the Code of Conduct because of that refusal.

3. Corporate Ethics Activities

(1) Corporate Ethics Awareness Survey

JSR Group works to grasp and improve corporate ethics-related issues by conducting annual surveys on corporate ethics awareness that target the directors and employees of JSR Group companies in Japan and overseas. The results are reported at the Corporate Ethics Committee and then to an Officers Committee. They are subsequently fed back to employees by being posted in a summarized form on the company intranet together with a message from the assigned officer explaining issues and other matters gleaned from the results. Some overseas Group companies also strive to build awareness of corporate ethics and legal compliance among their employees, including their locally hired employees, using methods that are appropriate for the local culture.

(2) Hotline (Internal Reporting Channels)

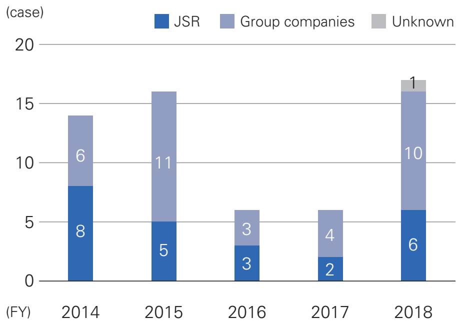
① Hotline for Employees

The JSR Group has introduced a system of internal reporting channels called the "Corporate Ethics Hotline." The "internal hotline" is connected to the Corporate Ethics Committee in JSR or the relevant Group company. The "external hotline" is set up to connect to two contact points. One is a designated independent attorney and the other is an independent and specialized outside organization capable of handling communication in Japanese, English, Chinese, Korean, Thai, and Indonesian. This system is designed to facilitate use even by overseas employees. Reports made to the external hotline are also simultaneously reported to full-time auditors, and independence from management is ensured. We encourage our employees to use these hotlines through promotions via internal newsletters and other media, and strive to build trust in the hotlines by ensuring confidentiality and prohibiting unfair treatment of hotline users.

For each report that comes in, the office of the Corporate Ethics Committee in the company concerned asks the relevant department to ascertain the facts. The office then discusses and decides on responses based on the department's findings, and later follows up on the results. If the reporter desires feedback, the contact point that initially received the report contacts him or her with the results as well as the responses taken.

Six reports were received during FY2018. Of them, four involved abuse of power. Suitable responses are being implemented in all cases.

State of Use of JSR Group's Hotline
(Number of reports)



② Hotline for Business Partners

JSR employs at its Procurement Department a "Suppliers' Hotline," an external reporting channel for business partners, namely suppliers and services providers, with whom domestic Group companies do regular business. It receives reports from business partners to quickly discover and resolve violations of the law as well as actual and possible violations of corporate ethics in business transactions. Hotline services are entrusted to the same outside organization employed for the employees' hotline. Efforts are being made toward improving reliability, by thoroughly enforcing strict secrecy of reports and prohibiting handling of reports that would be disadvantageous to those reporting something. Since its introduction in FY2014, there have been no reports made using the Suppliers' Hotline.

4. Legal Compliance Measures

Every JSR Group member defines legal compliance regulations that form the basis of its legal compliance. Each company then uses the regulations to solidify its compliance through regular review and improvement as well as legal training to increase awareness of laws and regulations and instill commitment to compliance. JSR Group identifies laws and regulations that are particularly relevant to the execution of business as Overall Significant Laws and Legal Regulations, and concentrates on establishing individual systems to ensure compliance with these critical laws and regulations.

Approach to Preventing Bribery and Unfair Competition

JSR has formulated "Rules on Complying with Anti-Corruption Laws" and "Standards for Gift-Giving and Entertaining" that specify necessary items for all executives and employees to comply with the Japanese Unfair Competition Prevention Act, U.S. Foreign Corrupt Practices Act, U.K. Bribery Act and other anti-corruption laws when performing their tasks, based on the JSR Group Principles of Corporate Ethics and laws and regulations that require compliance.

In addition, JSR has also formulated "Rules on Antimonopoly Law" (Japan), "Rules on Complying with U.S. Antitrust Laws", "Rules on Complying with the EU's Antitrust Laws and "Rules on Complying with Korean Fair Trade Laws" that specify items necessary for complying with each country's antimonopoly (antitrust) laws.

COMPLIANCE / RISK MANAGEMENT

5. Protection of Personal Information

JSR Group recognizes the importance of protecting personal information under the circumstances of highly advanced information and communication technologies. We have therefore formulated a Privacy Policy and Rules for Handling Personal Information that sets out our approach to the acquisition, use, and management of personal information based on the Act on the Protection of Personal Information. We have also established Rules for Handling Specific Personal Information in response to the introduction of Japan's Individual Number system. Moreover, in accordance with relevant laws and our privacy policy, we ensure the appropriate handling of specific personal information in the company by defining precautions and security standards necessary to ensure the proper use and protection of this information at each of the stages of acquisition, storage, use, provision, disclosure, correction, suspension of use, and deletion.

Furthermore, for Group companies that will handle personal data covered by the EU's General Data Protection Regulation (GDPR), we are providing support for the development and operation of a GDPR compliance system to be applied to the acquisition, processing, and transfer of covered personal data.

Risk Management

1. Philosophy

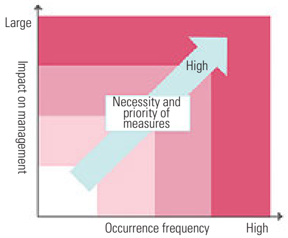
JSR Group believes that preventing a major crisis from occurring and minimizing its impacts on business activities is an important management role. The Group has formulated Risk Management Policies and established a Risk Management Committee through which it actively pursues risk management activities.

2. Risk Management Measures

(1) Identifying Risks and Selecting Important Risks

Since FY2009, JSR Group has fulfilled group-wide annual risk management procedures using its unique risk management system under the initiative of the Risk Management Committee. For each division of JSR Group companies in and outside of Japan, we identify and evaluate all potential risks, and formulate measures to control such risks.

Utilizing a risk map that represents level of business impact and frequency of occurrence, we identify risks that could have a significant impact on business continuity and organize them risks into the JSR Group Risk Factors. By monitoring and regularly reviewing risks that senior management has personally ascertained, we are building and maintaining a system for prevention and crisis preparedness.

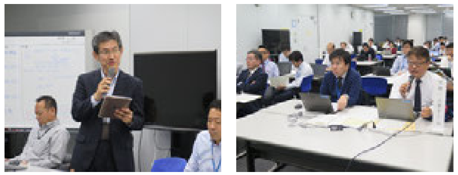


(2) Crisis Management Training

JSR has formulated BCM procedures that summarize the BCM/BCP* systems in place for both peacetime and emergency situations. These procedures define the BCM organization and the actual BCP, which includes stipulations on target recovery times, and BCP activation and cancellation standards. They also define the organizational structure that takes effect during activations of the BCP, and corresponding priority businesses and operations.

We also systematically conduct disaster drills and evacuation drills at our plants and offices to improve our crisis responsiveness and minimize impact.

As for our physical infrastructure, we are proceeding with step-by-step seismic reinforcement. In particular, we are conducting seismic retrofitting at our production bases and manufacturing facilities after establishing independent standards that are even stricter than those required by law.


The headquarters for accident and crisis control during the crisis management training

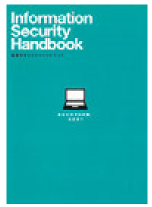

General disaster drill conducted jointly by plants and offices in the Kashima District (JSR, Japan Butyl, and Kraton JSR Elastomers)

(3) Enhancing Information Security

JSR Group adopted an Information Security Policy and is working to implement appropriate information management by informing all personnel of the policy.

<Information Security Policy>

- The JSR Group, by complying with laws and regulations and by observing other social norms relating to the handling of information, will protect information that belong to the JSR Group, its customers, business partners and other third parties.
- The JSR Group will strive to develop and actively use its information assets for the efficient execution of its business. The Group's officers and employees will only use these information assets for the purposes of their work and within the scope of their authority.
- The JSR Group will improve organizations and systems, provide education on information security, thoroughly disseminate this policy and related regulations, and implement measures to ensure information security.
- The JSR Group will implement appropriate human, organizational, and technological measures and work to prevent unauthorized access to information assets from outside the company, as well as leaks, falsification, loss, theft and destruction of information assets.
- If an information security-related problem occurs, the JSR Group will promptly identify the cause and take measures to minimize damage and prevent recurrences.
- The JSR Group will periodically assess and review its information security measures to respond appropriately to changes in external environments.



Information security handbook

SUPPLY CHAIN

Supply Chain Management

1. Philosophy

We believe that an important role of JSR Group is to offer innovative materials and excellent products that meet customer needs and contribute to the making of a better society. We are able to respond to social issues through our business partners and supply chain management.

2. Supply Chain Management

(1) CSR/sustainable procurement

JSR Group supply chain management has a unique feature of a chemicals manufacturer supplying materials to various industries and supporting society. Specifically, that is our ability to deliver products of discernible quality to our customers reliably and without interruption.

Supply chain management is specific to each of our businesses and so is different in the Elastomers Business, Plastics Business, Digital Solutions Business, and Life Sciences Business. The JSR Group Purchasing Policy states that when making purchases, JSR will give sufficient consideration to legal and regulatory compliance, resource protection, environmental conservation, safety, human rights, biodiversity, and other factors that lead to a sustainable society. With suppliers' understanding, and through communication, mutual understanding, and cooperation, we can continue engaging in effective initiatives.

Based on our Purchasing Policy and CSR/sustainable procurement initiatives implemented in FY2010, we surveyed the social and environmental considerations of our suppliers using a questionnaire. When an issue was detected, we dispatched the person in charge of procurement to the supplier to work on solving the issue together. We were able to survey the suppliers that represent 99% of our purchased materials by FY2013. We will continue to conduct the same process as we establish new suppliers in the future.

Additionally, amid recent globalization of the supply chain, issues such as forced labor, child labor, environmental destruction, global warming, and corporate scandals have occurred, and boycotts and demand for improvement are being seen. Such developments are beginning to significant impacts on corporate activities. In response, we revamped and expanded the questionnaire items used for surveying CSR/sustainable procurement in FY2017. We are now conducting the second round of the survey using this revised questionnaire.

Moreover, understanding that engaging in supply chain management in this way brings mutual prosperity to both JSR Group and our business partners, we rearranged the items that JSR Group wants business partners to comply with that appear on the revised questionnaire and newly formulated the "JSR Group CSR/Sustainable Procurement Policy" in December 2018. We are sequentially distributing the new policy to our business partners and asking them to make it known to their organizations and to practice it.

(2) Green procurement of raw materials

JSR has long been committed to green procurement, a policy that puts the highest priority on goods with minimal environmental impact when purchasing raw materials. In response to the growing industry trend in managing chemicals in the supply chain, JSR joined the Joint Article Management Promotion-consortium (JAMP)*1 in October 2008, and reviewed of its Green Procurement Guidelines*2. JSR will continue to practice green procurement with an emphasis on disseminating information through the supply chain.

*1 The Joint Article Management Promotion Consortium (JAMP) was established as an inter-industry organization in September 2006 to support activities that aim to create and expand specific systems for the proper management of information on chemicals in articles (components, products, and so on) and to facilitate the disclosure and dissemination of information within supply chains. JSR conducts activities that contribute to the practice of these principles through its participation in JAMP.

*2 Green Procurement Guidelines:
JSR began formulating its Green Procurement Guidelines in 2000 and has been promoting environment-friendly "green procurement" based upon them. In 2008 JSR joined JAMP and revised the guidelines to bring its managed substances and format in line with JAMP MSDSplus. We again revised the guidelines during a switch from MSDSplus to chemSHERPA (a new format led by the Ministry of Economy, Trade and Industry for communicating information on chemical substances) in 2018. We will continue advancing green procurement with an emphasis on the dissemination of information so we can effectively manage chemical risks in our supply chains.

CSR PERFORMANCE

Evaluation by Outside Organization

The JSR Group is highly regarded for its CSR activities and other non-financial initiatives, as reflected by its inclusion in international socially responsible investment indexes and investment universes. Also, the JSR Group has been selected for inclusion in the FTSE Blossom Japan Index and MSCI Japan Empowering Women Index (WIN), S&P /JPX Carbon Efficient Index, these of which are ESG indexes selected by the Government Pension Investment Fund (GPIF).

Inclusion in ESG indexes, socially responsible investment (SRI) indexes and investment universes (Current as of July 1, 2019)

FTSE4Good
(England)
For 16 consecutive years since 2004 we have been selected by FTSE Russell as a constituent of the FTSE4Good Index Series.

EURONEXT Vigeo Eiris World 120
(France)
We are reconfirmed for inclusion in the EURONEXT Vigeo Eiris World 120 Index as a global company with outstanding ESG (environment, social, governance) performance.

ETHIBEL PIONEER & EXCELLENCE Investment Registers (Belgian)
On June 30, 2017, we were reconfirmed for inclusion in the Ethibel Pioneer & Excellence Investment Registers, which is an international SRI universe.

SNAM Sustainability Index
(Japan)
In recognition of our standing as a company with a high ESG (Environment, Social, and Governance) evaluation, we are reconfirmed by Sompo Japan Nipponkoa Asset Management Co., Ltd. (SNAM) as a brand for investment to be included in the SNAM Sustainable Investment Fund.

FTSE Blossom Japan Index
(Japan)
We were selected as an investment brand of the "FTSE Blossom Japan Index" for being a Japanese company with excellent consideration for ESG (Environment, Social, and Governance)

MSCI Japan Empowering Women Index (WIN) (Japan)
We were selected by MSCI as an investment brand of the "MSCI Japan Empowering Women Index (WIN)" for being a company with excellent gender diversity.

"White 500" — 2019 Certified Health & Productivity Management Outstanding Organizations Recognition Program (Japan)
We were selected by the Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi as one of the top 500 companies in Japan in terms of outstanding health and productivity management practices.

The JSR Group has continually been ranked in the Global Compact 100 since FY2013.

CONTRIBUTION TO ADVANCED TECHNOLOGY INNOVATION

Contributing to a Healthy and Long-Living Society

Super-aging society is already creating issues such as increased medical care expenses and elder-to-elder nursing. Extending healthy life expectancy without daily assistance or care is now an issue that our society faces.

Healthcare methodologies and techniques will likely change during the coming years. Examples of this shift include the development of diagnostic technologies for early detection of disease as well as advances in highly effective treatments and pharmaceuticals to treat serious diseases at early stages.

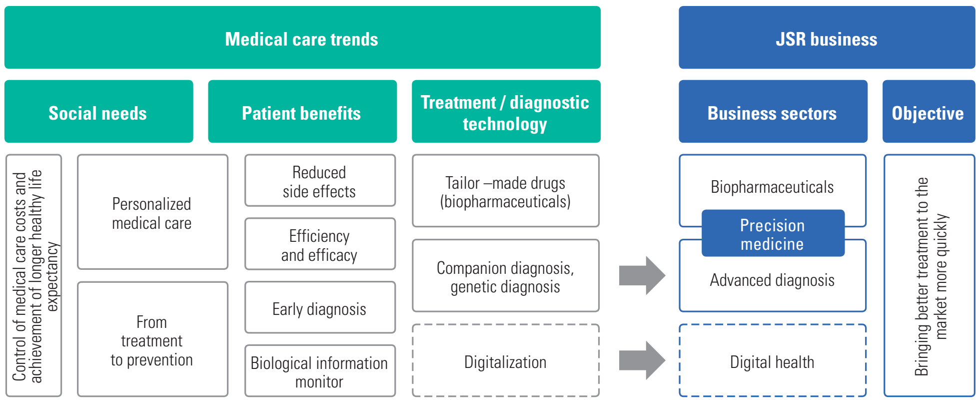
Speeding up the practical application of advanced therapies for quick delivery to patients—that's JSR's challenge.

Medical Care Trends and JSR's Life Sciences Business Fields

As drug development becomes increasingly sophisticated, the cost and time required to develop drugs is growing and becoming a major issue within the pharmaceuticals industry. It has been reported that, between 2006 and 2014, the cost required for major pharmaceuticals companies of the world to commercialize one molecule as a drug was between 3.2 and 32.3 billion dollars (roughly between 300 billion and 3 trillion yen).*1 Moreover, the average length of time needed for a new drug to reach the market was 12 years.*2

Advancements in innovation and analytical technologies as well as new understanding of biology have made drug discovery—and particularly the biologics and precision medicine fields—more complex. In accordance with such medical care trends, JSR Group is developing businesses centered on the bio-pharmaceuticals and advanced diagnosis fields. Moreover, we will continue working to raise treatment development success rates, shorten development periods and improve treatment efficacy in bio-pharmaceuticals-centered fields.

*1 Source: Shuhmacher, Gassman, Hinder, Journal of Translational Medicine
*2 Source: California Biomedical Research Association



Contribution to Quality of Life and Happiness

The materials developed through our Digital Solutions Business contribute to the creation of newer and better computers, microchip-equipped electronics and digital communications devices, and these, in turn, add value to society.

As the ongoing digital revolution continues to evolve, we expect that such materials will have an important role to play in addressing the societal challenges embodied in the SDGs; thus, in order to contribute to a better quality of life and happiness for society, the JSR Group is expanding its business across the entire range of advanced materials essential to the digital revolution.

Society and the Coming Digital Revolution

Today, when life without computers and the Internet is no longer imaginable, an even greater revolution is underway.

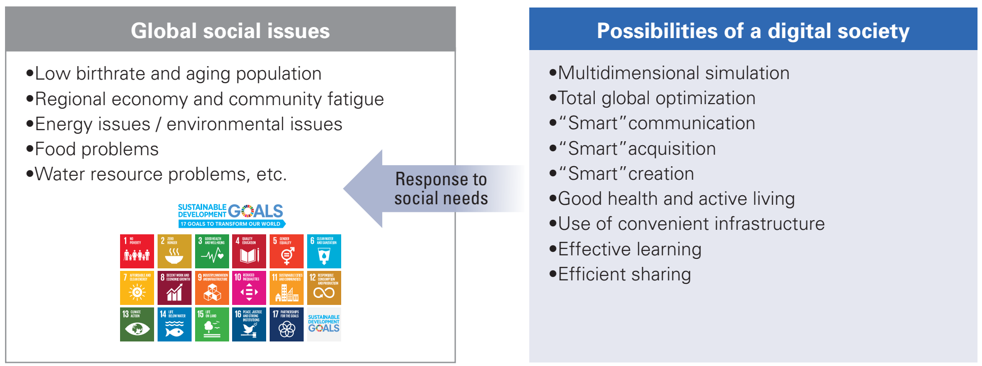
Internet of Things can connect the virtual world with people and things. Cloud computing collects an incredible amount of data (Big Data) in the cloud and the data can be stored and shared over the Internet. Artificial intelligence becomes dramatically smarter while learning an enormous amount of data collected, and it can also learn by itself (Cognitive Computing). Such technological innovation and data utilization will lead to the solution of global issues that could not be dealt with until now.

The digital solutions business of the cognitive computing age will need more than a materials-based approach whereby it simply supplies functional chemical products—specifically, differentiated high-value products. It will also require an approach that involves providing solutions that are matched to customers' needs. For this reason, JSR's Digital Solutions Business ascertains information and knowledge on cutting-edge social trends quickly and precisely as an organization, and with focus on the customer, it enables them to link to expeditious solutions. It provides added value for the resolution of social issues through products.

For example, to address the social issue of realizing a healthy and long-lived society, it is developing materials for wearable devices that will make constant health management possible. Also, to tackle the social issue of ensuring equal educational opportunities, it is developing e-book materials that will help to improve educational accessibility.*

JSR's Digital Solutions Business will quickly respond to social change and contribute to the development of society utilizing IoT and Big Data. Our goal is to help bring about a more prosperous society for each and every person of the world.

*Educational accessibility: The ability to access and use educational environments without physical, informational, institutional, or psychological impediments, regardless of disability or other physical or mental circumstances or living environment.



Source: Prepared based on materials of the Ministry of Economy, Trade and Industry's "New Industrial Structure Vision"

CONTRIBUTION TO ADVANCED TECHNOLOGY INNOVATION

Contribution to Global Environmental —Conservation Eco-Friendly Products—

Because both humans and innumerable other living things share this planet Earth, we must make an earnest effort to deal with environmental issues. JSR Group has adopted its E2 Initiative™ as a concept to simultaneously reduce environmental impact and create new business opportunities using the environmentally-friendly aspects of our products.

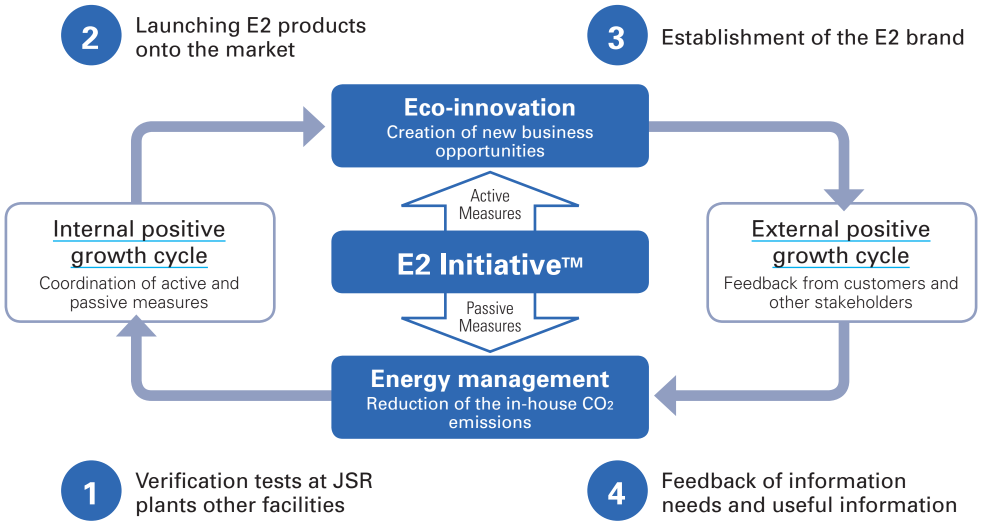
Working to Solve Environmental Issues through the Deployment of E2 Initiative™

JSR Group's "E2 Initiative™" is a clear and important concept of "environmental value creation" that we constantly have in mind as we manufacture our products and develop our business.

It is also used as a concept that allows us to work toward solving problems in environmental burden, resources, and climate change when we carry out our business activities.

The E2 Initiative™ is based on "Eco-Innovation," which is designed to create business opportunities based on the environment, and "Energy Management," which is focused on reducing CO_2 emissions. It is a concept that allows us to create value both in active and passive ways. As we shifted our concept of value from the conventional two approaches of "differentiation" and "cost," our new concept of "environmental performance" has become essential.

By using the "Life Cycle Assessment (LCA)" to evaluate the "environmental impact" of our products from the design stage in the product development to the use of the product, we are working to solve environmental problems throughout business operations.



Contribution with Eco-Friendly Products

— SSBR: A Synthetic Rubber for Low Fuel-Efficient Tires with Great Potential in the Effort to Solve Global environmental Issues

SSBR before packing

Fuel-efficient tires are environmentally-friendly products and yet maintain their ability to stop safely and securely. JSR Group's polymerization SBR (SSBR) solution has received positive feedback from customers. JSR Group designed SSBR using technology that more readily facilitates rubber molecules and tire reinforcing material molecules to bond tightly, which reduces internal friction and rolling resistance*.

In addition, this is achieved without changing the characteristics of rubber that enable tires to stop. SSBR allows large reductions in environmental impact through the entire lifecycle of the tire, from the material selection and its usage to disposal.

Automobiles will still require tires even after automotive engines are replaced with electric motors. Thus, demand for SSBR is high both in countries and regions where environmental standards are high, such as Japan and Europe, and in emerging nations where reducing transportation-related environmental impact is an urgent issue. Amidst the rapid pace of automotive electric motor adoption, SSBR not only adds lower rolling resistance to tires, it also contributes to wear resistance and durability, thereby helping to maintain long-term performance. In addition, SSRB helps in meeting the growing demand for all-season tires that can be used year-round by adding a degree of softness that ensures even tires with safe stopping performance in the summer can also provide reliable stopping performance on cold road surfaces.

Within the JSR Group, we are constantly working on delivering more of this sort of added value through the innovative SSRB products that we develop and bring to market.

The JSR Group currently manufactures SSBR in two countries: At the Yokkaichi Plant in Japan and JSR BST Elastomer in Thailand. Additionally, production is scheduled to start at JSR MOL Synthetic Rubber in Hungary in 2019. We will continue helping to solve global environmental issues by meeting the global demand for fuel-efficient tires.

*Rolling resistance: Resistance in the direction opposite to the direction of tire rotation.

JSR MOL Synthetic Rubber Ltd.

JSR BST Elastomer Co., Ltd.

MAIN GROUP ENTERPRISES (As of June 30, 2019)

HEAD OFFICE

JSR Corporation
Shiodome Sumitomo Bldg.
1-9-2, Higashi-Shimbashi, Minato-ku, Tokyo 105-8640 Japan

BRANCH OFFICES

Nagoya Branch **Taiwan Branch**

PLANTS

Yokkaichi Plant
100, Kawajiricho, Yokkaichi-shi, Mie 510-8552 Japan

Chiba Plant
5, Chigusakaigan, Ichihara-shi, Chiba 299-0108 Japan

Kashima Plant
34-1, Towada, Kamisu-shi, Ibaraki 314-0102 Japan

LABORATORIES

Yokkaichi Research Center
100, Kawajiricho, Yokkaichi-shi, Mie 510-8552 Japan

Tsukuba Research Laboratories
25, Miyukigaoka, Tsukuba-shi, Ibaraki 305-0841 Japan

JSR-Keio University Medical and Chemical Innovation Center
35, Shinanomachi, Shinjuku-ku, Tokyo 160-8582 Japan

JAPAN

Elastomers Business

ELASTOMIX CO., LTD.
Compounding of crude rubber and sales of compounded products

Japan Butyl Co., Ltd.
Production, processing, and sales of butyl rubber

KRATON JSR ELASTOMERS K. K.
Production, purchase, and sales of thermoplastic rubber

Emulsion Technology, Co., Ltd.
Compounding and sales of crude latex

Plastics Business

Techno-UMG Co., Ltd.
Production, sales, and R&D of ABS resin

JAPAN COLORING CO., LTD.
Coloring and sales of synthetic resins

Digital Solutions Business

D-MEC LTD.
3D model generation, analysis by CAE and sales of solid modeling system and optically-hardened resins

JSR Micro Kyushu Co., Ltd.
Production of photoresist, semiconductors, and materials for displays

JAPAN FINE COATINGS Co., Ltd.
Sales and manufacture of coating materials for fiber-optic cables reinforced by ultraviolet or electron radiation and for other apparatus

Life Sciences Business

JSR Life Sciences Corporation
Manufacture of life science related materials

MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
Research, development, manufacturing, and sales of diagnostic and research reagents

LEXI Co., Ltd.
Development, sales, and services of software and devices for supporting surgical operations

CMIC JSR Biologics Co., Ltd.
Development of design and manufacturing process for next-generation antibodies to methods for management and quality control for next-generation antibodies

Other Businesses

JM Energy Corporation
Design, development, production and sales of lithium ion capacitors

JSR Trading Co., Ltd.
Export, purchase and sale of various chemicals and distribution materials. Purchase and wholesale of various equipment

JEY-TRANS CO., LTD.
Freight forwarding, warehousing, and delivery management

JSR Logistics & Customer Center Co., Ltd.
Customer service agent and logistics management

JSR ENGINEERING CO., LTD.
Engineering and consultation for chemical engineering equipment

JSR Business Services Co., Ltd.
Human resources, payroll calculation, welfare, general affairs

JN System Partners Co., Ltd.
Computer system design, programming, operation and maintenance

Goko Trading Co., Ltd.
Export, purchase and sale of various chemicals and distribution materials. Purchase and wholesale of various equipment

OVERSEAS

Elastomers Business

Kumho Polychem Co., Ltd.
Production and sales of ethylene-propylene rubber (EPR)

ELASTOMIX (THAILAND) CO., LTD.
Compounding of crude rubber and sales of compounded products

PT.ELASTOMIX INDONESIA
Compounding of crude rubber and sales of compounded products

ELASTOMIX (FOSHAN) CO., LTD.
Compounding of crude rubber and sales of compounded products

ELASTOMIX MEXICO, S.A. de C.V.
Production and sales of rubber carbon master batch

Tianjin Kuo Cheng Rubber Industry Co., Ltd.
Compounding of crude rubber and sales of compounded products

JSR BST Elastomer Co., Ltd.
Sales and manufacturing of SSBR (Solution Polymerization Styrene-Butadiene Rubber)

JSR MOL Synthetic Rubber, Ltd.
Sales and manufacturing of solution polymerization styrene-butadiene rubber (SSBR)

JSR Elastomer Korea Co., Ltd.
Sales agency of products such as synthetic rubber

JSR Elastomer Europe GmbH
Sales agency of products such as synthetic rubber

JSR Elastomer India Private Limited
Sales agent for synthetic rubbers and other elastomer products

JSR Elastomer America, Inc.
Sales of synthetic rubber

JSR (Shanghai) Co., Ltd.
Sales agency of products such as synthetic rubber, semiconductor materials, LCD materials, and performance chemicals

Plastics Business

Techno-UMG Hong Kong Co., Ltd.
Sales and technical services of synthetic resin in Hong Kong and neighboring regions

Techno-UMG Asia Co., Ltd.
Sales and technical services of synthetic resin in ASEAN region

Techno-UMG Europe GmbH
Sales and technical services of synthetic resin in Europe

Techno-UMG Shanghai Co., Ltd.
Sales and technical services of synthetic resin in China

Techno-UMG Shanghai Technical Center Co., Ltd.
Production and processing of plastics and technical services related to plastics in China

Techno-UMG Guangzhou Co., Ltd.
Sales and technical services of synthetic resin in Guangzhou and neighboring regions

Techno-UMG America, Inc
Sales of plastics and technical services related to plastics in North America

Digital Solutions Business

JSR Micro N.V.
Production and sales of semiconductor materials

JSR Micro, Inc.
Production and sales of semiconductor materials and sales of life sciences products

JSR Micro Korea Co., Ltd.
Production, development, and sales of display materials

JSR Electronic Materials Korea Co., Ltd.
Sales agent for semiconductor materials

JSR Micro (Changshu) Co., Ltd.
Production of display materials

JSR Micro Taiwan Co., Ltd.
Production, development, and sales of display materials

EUV Resist Manufacuturing & Qualification Center N.V.
Production of EUV photoresist for semiconductors

JSR (Shanghai) Co., Ltd.
Sales agency of products such as synthetic rubber, semiconductor materials, LCD materials, and performance chemicals

JSR North America Holdings, Inc.
Management and oversight of JSR Micro, Inc. and JSR Life Sciences, LLC's global operations

Life Sciences Business

JSR Micro N.V.
Production and sales of semiconductor materials and life sciences related materials

J&W Beijing Biotech Co., Ltd.
Development, manufacturing and sale of latex reagent intermediates and chemiluminescent reagent intermediates

MBL Beijing Biotech Co., Ltd.
Sales of in-vitro diagnostic reagents, basic research reagents, IVD reagent materials and bioprocess materials, sales and contract manufacturing of gene diagnostic materials and synthetic DNA, RNA products

MBL International Corporation
Development, manufacturing and sales of solutions-based products for both life science research and clinical diagnostics

MBL Hangzhou Biotech Co., Ltd.
Manufacture of clinical diagnostics materials, antibodies and intermediates

KBI Biopharma, Inc.
Biopharmaceutical contract development and manufacturing services

Selexis SA
Cell-line development services

Crown Bioscience International
Efficacy testing services for candidates of drugs against oncology, inflammation, cardiovascular and metabolic disease and development of antibodies for those diseases

JSR North America Holdings, Inc.
Management and oversight of JSR Micro, Inc. and JSR Life Sciences, LLC's global operations

JSR Life Sciences, LLC
JSR Life Sciences global business headquarters and distribution of life sciences products in the US market

Other Businesses

JSR Trading Vietnam Co., Ltd.
Export, import and sales of synthetic rubber and steel container, materials and market development

JSR Trading (Shanghai) Co., Ltd.
Export, import, sales and purchases of industrial-use chemical products

JSR Trading Bangkok Co., Ltd.
Export, purchase and sale of various chemicals and distribution materials. Purchase and wholesale of various equipment

JSRT Mexico S.A. de C.V.
Compounding of crude rubber and sales of compounding products

CORPORATE DATA (AS OF MARCH 31, 2019)

JSR Corporation

Established
December 10, 1957

Capital (Common Stock)
23,370 million yen

Employees
8,748

Closing date
JSR books are closed on March 31, each year.

Shareholders Information (As of March 31, 2019)

Stock Listing
Tokyo Stock Exchange

Number of Shares Issued
226,126,145 shares

Number of Shareholders
17,678

Major Shareholders

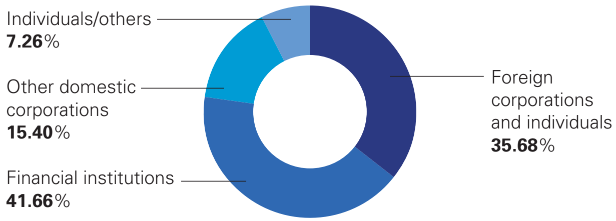
Name of shareholder	Percentage of shares held (voting rights)(%)	Number of shares held (thousands)
Bridgestone Corporation	10.15	22,366
The Master Trust Bank of Japan, Ltd. (trust account)	7.17	15,811
Japan Trustee Services Bank, Ltd.(trust account)	6.81	15,017
Japan Trustee Services Bank, Ltd. (trust account 9)	3.54	7,793
BNYMSAMV AS AGENT/CLIENTS LUX UCITS NON TREATY 1	2.96	6,524
Japan Trustee Services Bank, Ltd. (trust account 5)	1.75	3,864
Nippon Life Insurance Company	1.69	3,717
Meiji Yasuda Life Insurance Company	1.65	3,631
SSBTC CLIENT OMNIBUS ACCOUNT	1.59	3,496
Mizuho Bank, Ltd.	1.51	3,325

* 5,694,949 shares of treasury stock held by the Company are not included in the above breakdown of major shareholders.

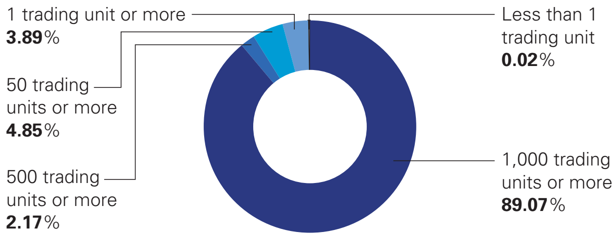
Composition of Shareholders

	Shareholders	Shares held (thousands)
Individuals and others	16,756	16,012
Foreign corporations and individuals	574	78,642
Other domestic corporations	226	33,942
Financial institutions	77	85,450
Securities companies	44	6,386
Treasury stock	1	5,695
Total	**17,678**	

By Type of Shareholders



By Number of Shares Held



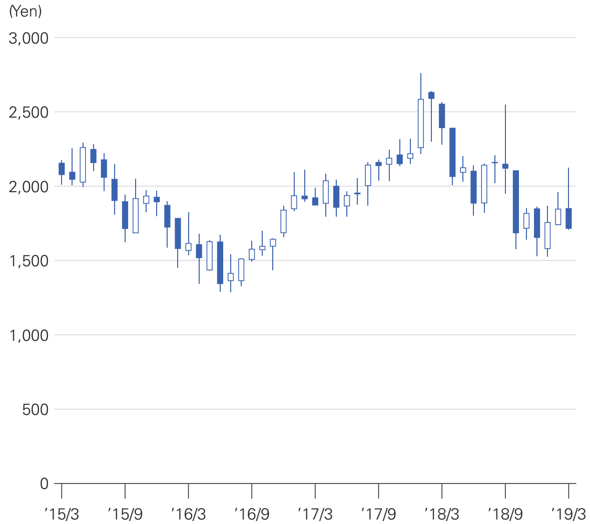
Ordinary General Meeting of Shareholders
The annual General Meeting of Shareholders is held in June each year. The 2018 annual General Meeting was held on June 18, 2019.

Transfer Agent and Register
SUMITOMO MITSUI TRUST BANK, LIMITED

Independent Auditors
KPMG AZSA LLC.

Common Stock Price Range
(Yen/share: Tokyo Stock Exchange)

		1st Q	2nd Q	3rd Q	4th Q
FY2007	High	2,985	3,120	3,020	2,875
	Low	2,540	2,445	2,465	1,886
FY2008	High	2,460	2,180	1,397	1,312
	Low	2,000	1,246	795	990
FY2009	High	1,687	1,960	1,959	1,974
	Low	1,162	1,561	1,545	1,714
FY2010	High	1,999	1,666	1,543	1,875
	Low	1,436	1,201	1,341	1,183
FY2011	High	1,724	1,655	1,582	1,790
	Low	1,413	1,221	1,218	1,408
FY2012	High	1,695	1,455	1,644	1,994
	Low	1,255	1,274	1,224	1,670
FY2013	High	2,360	2,073	2,049	2,085
	Low	1,748	1,713	1,663	1,694
FY2014	High	1,933	1,975	2,229	2,171
	Low	1,622	1,681	1,711	1,893
FY2015	High	2,296	2,227	2,054	1,903
	Low	1,998	1,626	1,688	1,455
FY2016	High	1,682	1,635	1,872	2,115
	Low	1,292	1,287	1,437	1,835
FY2017	High	2,082	2,177	2,320	2,758
	Low	1,794	1,871	2,035	2,215
FY2018	High	2,425	2,229	2,177	1,909
	Low	1,803	1,824	1,530	1,526



JSR Corporation

FINANCIAL SECTION 2019

CONTENTS

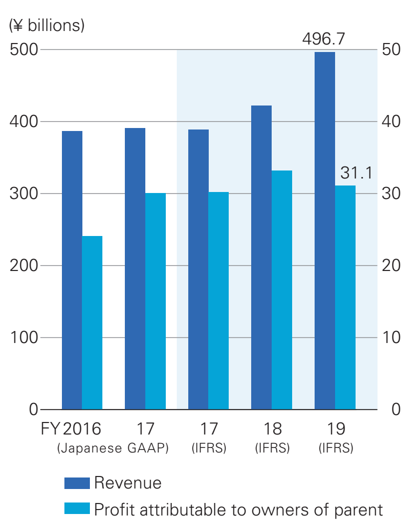
JSR

TEN-YEAR SUMMARY

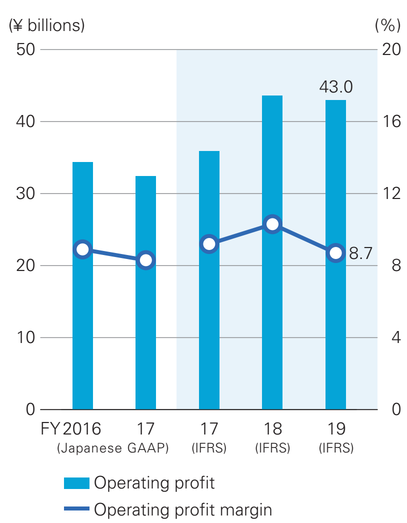
Fiscal Years ended March 31	2010	2011	2012	2013	2014	2015
Results for the year						
Net sales	¥ 310,184	¥ 340,666	¥ 349,947	¥ 371,487	¥ 394,309	¥ 404,073
Costs and expenses	(289,954)	(301,571)	(313,982)	(336,281)	(358,247)	(366,005)
Operating profit	20,230	39,095	35,964	35,206	36,062	38,068
Interest and dividends income	568	626	634	809	916	1,390
Interest expenses	(172)	(146)	(147)	(126)	(142)	(345)
Profit before income taxes	19,458	40,674	41,245	42,847	36,956	41,069
Profit attributable to owners of parent	13,645	27,571	26,407	30,278	25,173	29,919
Capital expenditures	17,707	11,801	19,728	27,608	21,499	35,157
Depreciation	22,380	19,245	17,784	19,145	18,096	17,407
Year-end financial position						
Total assets	373,566	390,591	430,693	482,935	501,320	534,592
Long-term loans payable	1,500	1,028	500	6,626	11,069	20,387
Total liabilities	122,865	126,475	148,335	167,202	164,060	169,918
Equity	249,440	262,679	280,955	308,641	331,284	358,303
Current ratio (times)	2.3	2.4	2.3	2.3	2.5	2.5
Return on assets (%)	3.7	7.1	6.4	6.6	5.1	5.8
Return on equity (%)	5.6	10.8	9.7	10.3	7.9	8.7
Equity ratio (%)	66.8	67.3	65.2	63.9	66.1	67.0
Per share of common stock (Yen and U.S. Dollars)						
Profit attributable to owners of parent	¥ 55.87	¥ 113.07	¥ 109.46	¥ 126.13	¥ 106.10	¥ 128.19
Cash dividends	26.00	32.00	32.00	34.00	38.00	40.00
Equity	1,021.31	1,088.87	1,164.63	1,299.77	1,409.06	1,557.08

(Notes) 1. Amounts in U.S. dollars are translated from yen, provided for convenience only, at the exchange rate of 1.00 U.S. dollar = 110.99 Japanese yen; the prevailing rate on March 31, 2019.
2. The Group has adopted International Financial Reporting Standards (IFRS) as from the fiscal year ending March 2018.

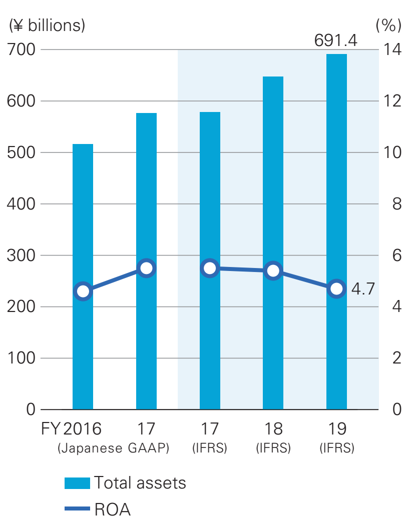
Revenue/ Profit attributable to owners of parent



Operating Profit/ Operating Profit Margin

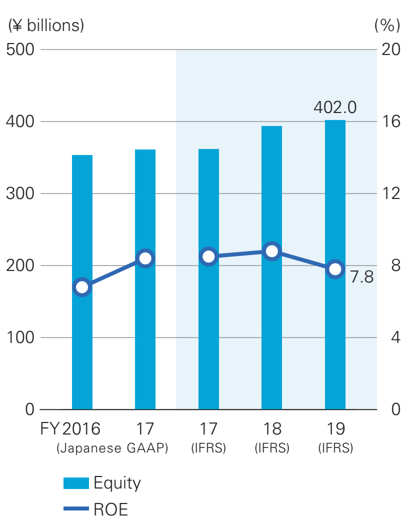


Total Assets/ROA

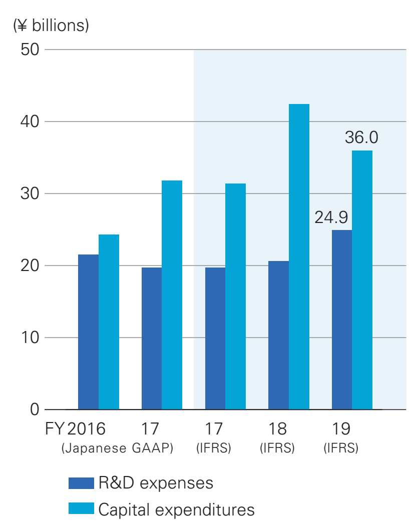


	Millions of yen			Millions of yen			Thousands of U.S. dollars
2016	2017			FY2017	FY2018	**FY2019**	**FY2019**
		Results for the year					
¥ 386,709	¥ 390,599	Revenue		¥ 388,455	¥ 421,930	**¥ 496,746**	**$ 4,475,596**
(352,301)	(358,228)	Costs, other income and expenses		(352,512)	(378,360)	**(453,716)**	**(4,087,908)**
34,408	32,370	Operating profit		35,943	43,569	**43,030**	**387,688**
1,380	1,369	Finance income		3,045	3,659	**2,499**	**22,515**
(527)	(699)	Finance costs		(694)	(1,022)	**(1,352)**	**(12,184)**
27,367	38,327	Profit before tax		38,294	46,206	**44,176**	**398,020**
24,069	30,078	Profit attributable to owners of parent		30,243	33,230	**31,116**	**280,348**
24,276	31,785	Capital expenditures		31,377	42,408	**36,038**	**325**
18,508	14,676	Depreciation		14,793	16,973	**21,842**	**197**
		Year-end financial position					
516,360	576,016	Total assets		578,484	647,699	**691,435**	**6,229,704**
22,249	38,381	Borrowings (non-current liabilities)		38,381	53,456	**50,777**	**457,492**
154,006	199,302	Total liabilities		202,120	236,084	**251,075**	**2,262,140**
353,145	361,394	Total equity attributable to owners of parent		361,889	393,499	**401,998**	**3,621,933**
2.7	2.5	Current ratio (times)		2.5	2.3	**1.97**	**1.97**
4.6	5.5	Return on assets (%)		5.5	5.4	**4.65**	**4.65**
6.8	8.4	Return on equity (%)		8.5	8.8	**7.8**	**7.8**
68.4	62.7	Equity ratio (%)		62.6	60.8	**58.1**	**58.1**
		Per share of common stock (Yen and U.S. Dollars)					
¥ 105.87	¥ 134.43	Profit attributable to owners of parent		¥ 135.17	¥ 149.32	**¥ 140.62**	**$ 1.27**
50.00	50.00	Cash dividends		50.00	50.00	**60.00**	**0.54**
1,565.45	1,624.14	Equity attributable to owners of parent		1,626.36	1,767.81	**1,823.69**	**16.43**

Equity/ROE



R&D Expenses/ Capital Expenditures



Shareholder Return/ Dividend Payout Ratio

MANAGEMENT'S DISCUSSION AND ANALYSIS

Analysis of Operating Results

Overview of FY ended March 2019 (April 1, 2018 to March 31, 2019)

In FY ended March 2019 (April 1, 2018 to March 31, 2019), among the JSR Group's main customer industries, global automobile production fell from the previous fiscal year, reflecting a slowdown in China and other factors, but automobile tire production remained unchanged despite the impact of lower automobile production. Demand in the semiconductor market grew over the full term of the fiscal year under review, but demand has been sluggish since October 2018. Production of panels in the display market was robust. The exchange rate was essentially unchanged from the previous fiscal year.

Amid these circumstances, the Elastomers Business of the JSR Group saw revenue rise over the previous fiscal year, chiefly due to growth in the sales volume of solution styrene-butadiene rubber (SSBR) for fuel-efficient and other high-performance tires. Whereas a large profit, reflecting a favorable market, had been enjoyed in the previous fiscal year, operating profit fell in the fiscal year under review owing to stagnant market conditions, a lack of improvement in buy-sell spreads, and increased fixed costs.

The Plastics Business saw significantly higher revenue and operating profit compared to the previous fiscal year, mainly because of Techno-UMG Co., Ltd., a joint venture established in April between Techno Polymer Co., Ltd., a Group company, and UMG ABS, Ltd., which is equally owned by Mitsubishi Chemical Corporation and Ube Industries, Ltd.

In the Digital Solutions Business, the Semiconductor Materials Business recorded higher revenue over the previous fiscal year due to sales volume growth, especially in state-of-the-art photoresists. The Display Materials Business was adversely affected by declines in color-pigmented resist sales and lower product prices brought on by intensified competition. Despite these factors, revenue suffered only a slight decline, benefiting from growth in sales volume, especially in China. Consequently, the Digital Solutions Business posted overall gains in both revenue and operating profit.

Revenue in the Life Sciences Business, positioned as the JSR Group's third core business, jumped considerably from the previous fiscal year, and the segment's operating profit moved into the black. These gains reflected an increase in contracts received by KBI Biopharma Inc. (KBI) and the acquisition of Crown Bioscience International (Crown Bio) as a consolidated subsidiary.

As a result, the Group reported revenue of 496,746 million yen (up 17.7% year-on-year), operating profit of 43,030 million yen (down 1.2% year-on-year), and profit attributable to owners of parent of 31,116 million yen (down 6.4% year-on-year).

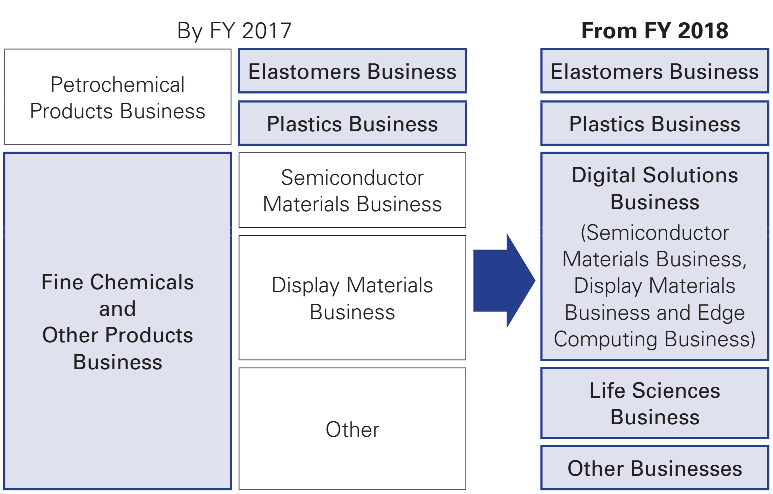
Review of Operations

<Elastomers Business Segment>

The production of automobile tires, one of the segment's main customer industries, in Japan increased from the previous fiscal year's level but remained flat globally, due to the impact of automobile production reductions in China, Europe, and elsewhere.

Amid these circumstances, the segment's revenue rose from the previous fiscal year, because of sales price revisions and related factors and because of expanded sales volume of SSBR, which the Company has positioned as a strategic product, which offset an overall decline in sales volume. The previous fiscal year had enjoyed high profit levels from improved buy-sell spreads driven by a temporary favorable turn in market conditions. However, market sluggishness in the fiscal year under review led to lower buy-sell spreads, even as fixed costs increased, primarily due to startup costs for the SSBR plant in Hungary. Consequently, operating profit tumbled from the previous fiscal year.

As a result, the Elastomers Business segment posted an operating profit of 7,421 million yen (down 50.1% year-on-year) on revenue of 200,736 million yen (up 2.6% year-on-year).



Operating Profit (¥ millions)

Fiscal Years ended March 31	2018	2019
Elastomers Business	¥ 195,693	¥ 200,736
Operating Profit	14,866	7,421
Plastics Business	53,842	105,446
Operating Profit	5,579	9,214
Digital Solutions Business	140,394	142,216
Operating Profit	30,684	32,663
Life Sciences Business	26,424	43,872
Operating Profit	(1,803)	781
Revenue	421,930	496,746
Operating Profit	¥ 43,569	¥ 43,030

*We have changed our disclosure segment classification from FY ending March 2019. From FY ended March 2018, IFRS has been applied.

<Plastics Business Segment>
The Plastics Business segment witnessed a steep rise in both revenue and operating profit over the previous fiscal year, mainly because of the establishment in April of the joint venture Techno-UMG Co. Ltd.

Consequently, the Plastics Business segment posted an operating profit of 9,214 million yen (up 65.2% year-on-year) on revenue of 105,446 million yen (up 95.8% year-on-year).

<Digital Solutions Business Segment>
Both revenue and operating profit in the Digital Solutions Business segment improved from the previous fiscal year.

The Semiconductor Materials Business saw increases in revenue and operating profit on the back of sound growth in semiconductor demand, reflecting increased sales volume of lithography materials, particularly state-of-the-art photoresists, and expansion in sales volume of CMP materials, cleaning solutions, and packaging materials. The Display Materials Business was hit by declines in product prices caused by increased competition pressures and lower color-pigmented resist sales. Nevertheless, the drop in revenue was small, thanks to robust panel production that spurred growth in sales volume particularly for the Company's competitive alignment films and insulating films destined for the China market.

As a result, the Digital Solutions Business segment posted an operating profit of 32,663 million yen (up 6.4% year-on-year) on revenue of 142,216 million yen (up 1.3% year-on-year).

<Life Sciences Business Segment>
The Life Sciences Business segment saw a sharp jump in revenue from the previous fiscal year, chiefly due to the acquisition of Crown Bio as a new consolidated subsidiary completed at the end of May 2018, the expansion in contracts received by KBI, a Group company, and favorable growth in sales of the Company's bioprocess materials (Amsphere A3) as well as diagnostic reagents and intermediates. The expanded revenue turned the previous fiscal year's operating loss into an operating profit.

Consequently, the Life Sciences Business segment posted an operating profit of 781 million yen, versus an operating loss of 1,803 million yen in the previous fiscal year, on revenue of 43,872 million yen (up 66.0% year-on-year).

Business Outlook

The following is the outlook of the Group's main customer industries at a time of uncertainty in global economic trends. JSR forecasts that automobile production at the global level will remain unchanged from 2018 levels, with a production slump anticipated in China. Global automobile tire production is expected to remain unchanged from last year, as a result of sluggish demand for tires for new vehicles. The semiconductor market will see a recovery, despite weakness in underlying demand, driven by faster communication speeds, increased data capacities, and other factors. In the display market, panel production is expected to see favorable progress, with production projected to rise especially in China.

In the Elastomers Business, JSR forecasts global tire production will remain unchanged from 2018 levels, but the Company anticipates steady growth in demand for SSBR for high-performance tires. Under such circumstances, the Company will meet further demand increases with plans to launch JSR MOL Synthetic Rubber Ltd., a joint venture established in Hungary, in FY ending March 2020, as the first-phase and second-phase facilities at JSR BST Elastomer Co., Ltd., a joint venture in Thailand, are nearing full output.

In the Plastics Business, Techno-UMG Co., Ltd., established through a merger in April 2018, is realizing synergy benefits through business consolidations, by further boosting development, manufacturing efficiencies, and cost competitiveness and by introducing more differentiated products and enlarging sales of specialty products in overseas markets.

In the Digital Solution Business, the semiconductor materials business is maintaining its competitiveness in the global market for lithography materials used in state-of-the-art 7 to 10 nm processes and working to enlarge sales volume of peripheral materials, such as packaging materials, cleaning solutions, and CMP materials. EUV Resist Manufacturing & Qualification Center N.V. — a joint venture providing manufacturing and quality control services set up in Belgium with imec, a world-leading research institute in cutting-edge nanoelectronics technology — is moving ahead with volume production of extreme ultraviolet (EUV) lithography materials to address the next 5 to 7 nm generation processes. The display materials business is experiencing intensifying competition driven by the ongoing commodification of display materials, despite forecasts of continued robust growth in the LC panel market. In response, the segment will promote the expansion of sales of display materials for wide-screen LC panels, especially its competitive alignment films and insulating films in the China market, where favorable growth is predicted.

In the Life Sciences Business, the Group made Crown Bio — a provider of preclinical drug discovery and development services — a consolidated subsidiary, complementing KBI, MEDICAL & BIOLOGICAL LABORATORIES CO., LTD., and Selexis S.A. The addition of Crown Bio completes a framework that provides end-to-end process support, from antibody drug discovery to production. These Group companies will work in unison to develop a drug-discovery-process support business, which includes the provision of magnetic particles, protein A media, and other materials. The segment will concentrate on realizing benefits from advance investments, pursuing further revenue expansion, and improving operating profits.

For FY ending March 2020, JSR forecasts revenue of 508,000 million yen (up 2.3% year-on-year), operating profit of 44,500 million yen (up 3.4% year-on-year), and profit for the year attributable to owners of parent of 31,000 million yen (down 0.4% year-on-year). These forecasts assume an exchange rate of 110 yen per U.S. dollar.

Analysis of Financial Position

Analysis of Assets, Liabilities, and Net Assets

Total assets as of March 31, 2019 amounted to 691,435 million yen, up 43,736 million yen from the previous year.

Current assets totaled 338,983 million yen, down 18,925 million yen, due to a decrease in cash and cash equivalents owing chiefly to the acquisition of Crown Bio shares, which offset an increase in inventories and trade and other receivables generated by the merger of Techno-UMG Co., Ltd.

Non-current assets totaled 352,452 million yen, up 62,661 million yen, primarily due to an increase in goodwill and other assets associated with the acquisition of Crown Bio shares and an increase in property, plant and equipment through the merger of Techno-UMG Co., Ltd.

Total liabilities amounted to 251,075 million yen, up 14,991 million yen from the previous year, due to an increase in borrowings and an increase in trade and other payables primarily caused by the merger of Techno-UMG Co., Ltd.

In terms of equity, total equity attributable to owners of parent amounted to 401,998 million yen, up 8,499 million yen, because of an increase in retained earnings and other equity. Total equity, including non-controlling interests, amounted to 440,360 million yen, up 28,745 million yen.

Analysis of Cash Flows

Cash and cash equivalents ("funds") as of March 31, 2019 stood at 70,785 million yen, down 54,171 million yen from the previous year.

Net cash provided by operating activities amounted to 30,940 million yen, down 12,656 million yen from the previous year. The main factors included profit before tax of 44,176 million, depreciation and amortization of 21,842 million yen, decrease caused by an increase in inventories of 22,039 million yen, and income taxes paid of 12,183 million yen.

Net cash used in investing activities totaled 66,266 million yen, up 45,842 million yen from the previous year. The main items were 36,210 million yen in payments for purchase of property, plant and equipment associated with plant expansion and 36,225 million yen in payments for purchase of shares of Crown Bio.

Net cash used in financing activities totaled 18,966 million yen, versus 3,860 million yen in net cash provided by financing activities in the previous year. The main items were 12,175 million yen in dividends paid and 5,001 million yen in payments for purchase of treasury shares.

The Group formulates a funding plan based on the annual business plan and controls liquidity risk in consideration of an appropriate balance of direct and indirect funding, as well as short-term and long-term funding.

Basic Policy on Profit Allocation and Dividends for the Fiscal Year ended March 31, 2019 and the Fiscal Year ending March 31, 2020

With respect to profit appropriation, the Company regards business growth over the long term as its top priority. To generate sustainable long-term growth, JSR strives to increase its competitiveness by developing new businesses through the reinforcement of research and development activities.

The Company determines returns to shareholders by taking into account business performance and medium-term and long-term demand for funds, while giving consideration to a balance between returning profits to shareholders and retaining earnings necessary for future business advancement. During the JSR20i9 mid-term business plan, JSR aims for a total return ratio, through a combination of dividends and share buybacks, of more than 50%.

Based on this policy, as already announced, we have decided to pay a year-end dividend of 30.00 yen per share, the same amount as the interim dividend. Including the interim dividend already paid, the total annual dividend for FY ended March 2019 will be 60.00 yen per share.

With regard to the dividend for the next fiscal year (FY ending March 2020), JSR plans to pay 60.00 yen per share annually (an interim dividend of 30.00 yen and a year-end dividend of 30.00 yen), taking into account the business outlook.

Risk Information

JSR Group is exposed to the following risks that may impact on operating results, financial position, cash flows and other aspects of performance. Forward-looking statements in this discussion are based on JSR's judgments as of March 31, 2019. Risks at JSR include, but are not limited to, the following items:

(1) Changes in Demand due to Economic Trends

In the major industries where JSR Group's products are sold, such as automobiles and electronics, demand is influenced by the economic climate in a country or region. An economic slowdown could reduce demand in an industry and adversely affect JSR Group's operating results.

(2) Fluctuation in Prices for Crude Oil, Naphtha and Other Major Raw Materials

Higher prices for crude oil and naphtha, or changes in the markets for JSR's major raw materials, could raise prices of raw materials and adversely affect JSR Group's operating results, especially in the elastomers business and emulsions business.

(3) Fluctuation in Exchange Rates

As JSR Group undertakes product exports in foreign currencies and imports goods such as raw materials, the Company takes measures to reduce risks such as entering into forward exchange contracts; however, fluctuation in exchange rates could give rise to adverse 06 JSR Corporation Annual Report 2017 outcomes. In addition, operating results of consolidated subsidiaries and equity-method affiliates located overseas are converted into Japanese yen amounts for the purposes of preparing the consolidated financial statements. However, due to the yen's appreciation, JSR Group's business results could be adversely affected.

(4) Procurement of Raw Materials

JSR Group works to ensure a stable supply of raw materials by procuring materials from a number of sources. However, an interruption to the supply of raw materials due to an accident, bankruptcy or quality problem at a supplier could adversely affect production activities and JSR Group's operating results.

(5) Development of New Products

Rapid technological progress is constantly taking place in the electronics industry, which is the primary source of demand for semiconductor manufacturing materials, display materials and edge computing related items, the major products of JSR Group's digital solutions business. JSR is constantly working on developing state-of-the-art materials in line with this progress. However, unforeseen changes in the industry or market could prevent the timely development of new products and adversely affect JSR Group's operating results.

(6) R&D Involving Next-Stage Growth Businesses

JSR Group makes substantial investments in R&D to create nextstage growth businesses. However, there is no guarantee that these R&D activities will always yield worthwhile results. Depending on R&D results, there could be an adverse effect on JSR Group's operating results.

(7) Protection of Intellectual Property

Protection of intellectual property is extremely important for JSR Group's business activities. JSR has established a system for protecting its intellectual property and takes various actions as required. However, a dispute about intellectual property with another company or an infringement on JSR's intellectual property by another company could adversely affect JSR Group's operating results.

(8) Product Quality Assurance and Product Liability

JSR Group has a product quality assurance system and product liability insurance. However, damage or injury caused by a product manufactured by JSR Group could adversely affect JSR Group's operating results.

(9) Natural Disasters and Accidents

To minimize the negative effect on its business activities of any disruption to manufacturing activities, all JSR Group manufacturing facilities have established countermeasures based on the identification of all potential sources of a crisis and conducts periodic inspections of facilities. The Group also works constantly on safety measures with regard to earthquakes and other natural disasters. However, a major natural disaster or accident that damages a production facilityor disrupts manufacturing could adversely affect JSR Group's operating results.

JSR's main production facility, the Yokkaichi Plant, houses private power generation equipment, and the Kashima Plant is able to access electric power from shared power generation facilities when necessary. In the event that electric power shortages become severe due to natural disasters and the like, however, JSR Group's operating results could be affected.

(10) Environmental Issues

Positioning environmental protection as an important element of its operations, JSR Group complies with all laws and regulations concerning the environment. The Group also takes actions aimed at reducing its environmental impact, lowering and eliminating waste materials, and cutting energy and resource consumption. The Group has taken many actions to prevent the external release of all types of chemicals.

However, in the event that a spill occurs or that environmental regulations become stricter, the Group's business activities could be restricted, the Group may have to pay compensation and other expenses, or the Group may have to make substantial capital expenditures. Any of these events could adversely affect JSR Group's operating results.

(11) Overseas Operations

JSR Group is aggressively expanding operations on a global scale, conducting manufacturing, sales and other activities in countries and regions in the North America, Europe, Asia and other parts of the world. Overseas operations are exposed to a number of risks that include, but are not limited to, an unfavorable political environment or economic trends; labor disputes and other problems due to differences in labor laws and other working conditions; difficulty in recruiting and retaining employees; an adverse impact on business activities due to an inadequate social infrastructure; and the impact of wars, terrorism and other social instability. Any of these events could adversely affect JSR Group's operating results.

(12) Laws and Regulations

In the countries where it operates, JSR Group is subject to various laws and regulations involving business and investment permits, export and import activities, trade, labor relations, intellectual property, taxes, foreign exchange and other items. The Group has established a clear compliance policy in order to ensure strict observance of laws and regulations as well as ethical standards. In the event that a law or regulation is violated, or a law or regulation becomes stricter or is significantly altered, there could be limitations to the Group's business activities or additional compliance costs. Any of these events could adversely affect JSR Group's operating results.

(13) Litigation

In conjunction with its business activities in Japan and overseas, JSR Group may be sued or be involved in other litigation concerning a dispute with a supplier, customer or other external party. The outcome of significant litigation could adversely affect JSR Group's operating results.

CONSOLIDATED FINANCIAL STATEMENTS

Financial Section

1. Preparation Policy of the Consolidated Financial Statements

The consolidated financial statements of the Company are prepared in accordance with International Financial Reporting Standards (hereinafter "IFRS") pursuant to the provisions of Article 93 of the Regulation on Terminology, Forms and Preparation Methods of Consolidated Financial Statements (Ministry of Finance Order No. 28 of 1976; hereinafter the "Regulation on Consolidated Financial Statements").

2. Audit Certification

In accordance with the provisions of Article 193-2, paragraph 1 of the Financial Instruments and Exchange Act of Japan, the consolidated financial statements for the fiscal year ended March 31, 2019 were audited by KPMG AZSA LLC.

3. Special Efforts to Ensure the Appropriateness of Consolidated Financial Statements, etc., and Development of a System for Fair Preparation of Consolidated Financial Statements, etc. in Accordance with IFRS

(1) The Company has implemented special efforts to ensure the appropriateness of consolidated financial statements, etc. Specifically, the Company has become a member of the Financial Accounting Standards Foundation and obtains information including the latest accounting standards in order to develop a system that enables it to properly understand contents of accounting standards, etc. or respond appropriately to changes in accounting standards, etc. In addition, the Company's staff members have attended seminars, lectures and other events held by the Accounting Standards Board of Japan.

(2) For the adoption of IFRS, the Company keeps up with the latest accounting standards by obtaining press releases and standards published by the International Accounting Standards Board as needed. To prepare appropriate consolidated financial statements under IFRS, the Company has developed accounting policies, etc. of the Group in accordance with IFRS and performs accounting procedures based on these policies.

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

JSR Corporation and Consolidated Subsidiaries
Years ended March 31, 2018 and 2019

	Note	Millions of yen As of March 31, 2018	Millions of yen As of March 31, 2019	Thousands of U.S. dollars As of March 31, 2019
Assets				
Current assets				
Cash and cash equivalents	9	¥ 124,956	**¥ 70,785**	**$ 637,759**
Trade and other receivables	10, 32	122,476	**135,280**	**1,218,851**
Inventories	12	87,567	**117,046**	**1,054,567**
Other financial assets	11, 32	13,776	**5,002**	**45,064**
Other current assets	13	9,134	**10,870**	**97,937**
Total current assets		357,908	**338,983**	**3,054,178**
Non-current assets				
Property, plant and equipment	14, 16	159,834	**183,457**	**1,652,918**
Goodwill	15, 16	19,389	**59,066**	**532,177**
Other intangible assets	15	10,403	**14,205**	**127,980**
Investments accounted for using equity method	17	24,777	**24,269**	**218,659**
Retirement benefit asset	21	1,003	**1,503**	**13,541**
Other financial assets	11, 32	64,970	**58,895**	**530,632**
Other non-current assets	13	1,862	**2,305**	**20,770**
Deferred tax assets	18	7,552	**8,751**	**78,847**
Total non-current assets		289,791	**352,452**	**3,175,526**
Total assets		647,699	**691,435**	**6,229,704**
Liabilities and equity				
Liabilities				
Current liabilities				
Trade and other payables	20, 32	110,303	**118,053**	**1,063,640**
Borrowings	19, 32	25,947	**33,519**	**302,002**
Income taxes payable		4,520	**5,598**	**50,437**
Other financial liabilities	19, 32	641	**532**	**4,791**
Other current liabilities	22	12,607	**14,752**	**132,916**
Total current liabilities		154,019	**172,455**	**1,553,786**
Non-current liabilities				
Borrowings	19, 32	53,456	**50,777**	**457,492**
Retirement benefit liability	21	14,500	**15,870**	**142,987**
Other financial liabilities	19, 32	1,674	**1,675**	**15,094**
Other non-current liabilities	22	2,480	**2,733**	**24,621**
Deferred tax liabilities	18	9,955	**7,565**	**68,161**
Total non-current liabilities		82,064	**78,620**	**708,354**
Total liabilities		236,084	**251,075**	**2,262,140**
Equity				
Equity attributable to owners of parent				
Share capital	23	23,370	**23,370**	**210,562**
Capital surplus	23	18,502	**18,436**	**166,104**
Retained earnings	23	331,913	**351,476**	**3,166,733**
Treasury shares	23	(5,358)	**(10,042)**	**(90,473)**
Other components of equity	23	25,071	**18,758**	**169,007**
Total equity attributable to owners of parent		393,499	**401,998**	**3,621,933**
Non-controlling interests		18,116	**38,361**	**345,630**
Total equity		411,615	**440,360**	**3,967,563**
Total liabilities and equity		¥ 647,699	**¥ 691,435**	**$ 6,229,704**

See accompanying notes.

CONSOLIDATED STATEMENT OF PROFIT OR LOSS

JSR Corporation and Consolidated Subsidiaries
Years ended March 31, 2018 and 2019

	Note	Millions of yen		Thousands of U.S. dollars
		Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Revenue	7, 25	¥ 421,930	**¥ 496,746**	**$ 4,475,596**
Cost of sales		(291,796)	**(349,998)**	**(3,153,423)**
Gross profit		130,134	**146,748**	**1,322,173**
Selling, general and administrative expenses	26	(86,977)	**(103,080)**	**(928,735)**
Other operating income	27	2,262	**1,723**	**15,527**
Other operating expenses	16, 27	(2,187)	**(2,895)**	**(26,082)**
Share of profit of investments accounted for using equity method		338	**533**	**4,804**
Operating profit	7	43,569	**43,030**	**387,688**
Finance income	7, 28	3,659	**2,499**	**22,515**
Finance costs	7, 28	(1,022)	**(1,352)**	**(12,184)**
Profit before tax	7	46,206	**44,176**	**398,020**
Income tax expenses	18	(11,227)	**(10,591)**	**(95,419)**
Profit		¥ 34,979	**¥ 33,586**	**$ 302,601**

Profit attributable to:				
Owners of parent		33,230	**31,116**	**280,348**
Non-controlling interests		1,749	**2,470**	**22,253**
Total		¥ 34,979	**¥ 33,586**	**$ 302,601**

		Yen		U.S. Dollars
		Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Earnings per share				
Basic earnings per share	30	¥ 149.32	**¥ 140.62**	**$ 1.27**
Diluted earnings per share	30	148.89	**140.27**	**1.26**

See accompanying notes.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

JSR Corporation and Consolidated Subsidiaries
Years ended March 31, 2018 and 2019

	Note	Millions of yen		Thousands of U.S. dollars
		Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Profit		¥ 34,979	**¥ 33,586**	**$ 302,601**
Other comprehensive income				
Items that will not be reclassified to profit or loss				
Net change in financial assets measured at fair value through other comprehensive income	29	8,046	**(4,678)**	**(42,145)**
Remeasurements of defined benefit plans	29	160	**54**	**490**
Share of other comprehensive income of investments accounted for using equity method	29	(50)	**5**	**48**
Items that may be reclassified to profit or loss				
Net change in fair value of cash flow hedges	29	154	**(79)**	**(715)**
Exchange differences on translation of foreign operations	29	1,001	**476**	**4,285**
Share of other comprehensive income of investments accounted for using equity method	29	1,581	**(1,213)**	**(10,931)**
Total other comprehensive income, net of tax		10,892	**(5,435)**	**(48,967)**
Total comprehensive income		45,871	**28,151**	**253,634**
Comprehensive income attributable to:				
Owners of parent		43,275	**25,611**	**230,748**
Non-controlling interests		2,596	**2,540**	**22,885**
Total		¥ 45,871	**¥ 28,151**	**$ 253,634**

See accompanying notes.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

JSR Corporation and Consolidated Subsidiaries
Years ended March 31, 2018 and 2019

Fiscal year ended March 31, 2018

		Millions of yen							
		Equity attributable to owners of parent							
	Note	Share capital	Capital surplus	Retained earnings	Treasury shares	Other components of equity	Total	Non-controlling interests	Total equity
Balance at April 1, 2017		¥ 23,320	¥ 18,441	¥ 309,517	¥ (5,396)	¥ 16,006	¥ 361,889	¥ 14,475	¥ 376,364
Profit				33,230			33,230	1,749	34,979
Other comprehensive income						10,045	10,045	847	10,892
Total comprehensive income		—	—	33,230	—	10,045	43,275	2,596	45,871
Share-based remuneration transactions		50	27			(25)	52		52
Dividends	24			(11,127)			(11,127)	(42)	(11,169)
Changes in treasury shares			5		38		43	0	43
Transfer from other components of equity to retained earnings				292		(292)	—		—
Changes in non-controlling interests			28			4	32	111	143
Other				1		(666)	(665)	976	311
Total transactions with owners, etc.		50	60	(10,833)	38	(980)	(11,665)	1,045	(10,620)
Balance at March 31, 2018		¥ 23,370	¥ 18,502	¥ 331,913	¥ (5,358)	¥ 25,071	¥ 393,499	¥ 18,116	¥ 411,615

Fiscal year ended March 31, 2019

		Millions of yen							
		Equity attributable to owners of parent							
	Note	Share capital	Capital surplus	Retained earnings	Treasury shares	Other components of equity	Total	Non-controlling interests	Total equity
Balance at April 1, 2018		¥ 23,370	¥ 18,502	¥ 331,913	¥ (5,358)	¥ 25,071	¥ 393,499	¥ 18,116	¥ 411,615
Profit				31,116			31,116	2,470	33,586
Other comprehensive income						(5,505)	(5,505)	70	(5,435)
Total comprehensive income		—	—	31,116	—	(5,505)	25,611	2,540	28,151
Share-based remuneration transactions			(202)		88	(1)	(115)		(115)
Dividends	24			(12,175)			(12,175)	(623)	(12,798)
Changes in treasury shares			(10)		(4,772)		(4,782)		(4,782)
Transfer from other components of equity to retained earnings				689		(689)	—		—
Changes by business combination	8		146			(119)	27	17,610	17,637
Other				(67)		1	(67)	718	651
Total transactions with owners, etc.		—	(66)	(11,554)	(4,684)	(808)	(17,111)	17,705	594
Balance at March 31, 2019		**¥ 23,370**	**¥ 18,436**	**¥ 351,476**	**¥ (10,042)**	**¥ 18,758**	**¥ 401,998**	**¥ 38,361**	**¥ 440,360**

Fiscal year ended March 31, 2019

		Thousands of U.S. dollars							
		Equity attributable to owners of parent							
	Note	Share capital	Capital surplus	Retained earnings	Treasury shares	Other components of equity	Total	Non-controlling interests	Total equity
Balance at April 1, 2018		$ 210,562	$ 166,697	$ 2,990,481	$ (48,271)	$ 225,887	$ 3,545,356	$ 163,224	$ 3,708,580
Profit				280,348			280,348	22,253	302,601
Other comprehensive income						(49,600)	(49,600)	633	(48,967)
Total comprehensive income		—	—	280,348	—	(49,600)	230,748	22,885	253,634
Share-based remuneration transactions			(1,821)		792	(11)	(1,040)		(1,040)
Dividends	24			(109,692)			(109,692)	(5,614)	(115,306)
Changes in treasury shares			(86)		(42,994)		(43,081)		(43,081)
Transfer from other components of equity to retained earnings				6,204		(6,204)	—		—
Changes by business combination	8		1,314			(1,072)	243	158,667	158,910
Other				(608)		7	(601)	6,468	5,867
Total transactions with owners, etc.		—	(593)	(104,096)	(42,202)	(7,280)	(154,171)	159,521	5,350
Balance at March 31, 2019		**$ 210,562**	**$ 166,104**	**$ 3,166,733**	**$ (90,473)**	**$ 169,007**	**$ 3,621,933**	**$ 345,630**	**$ 3,967,563**

See accompanying notes.

CONSOLIDATED STATEMENT OF CASH FLOWS

JSR Corporation and Consolidated Subsidiaries
Years ended March 31, 2018 and 2019

	Note	Millions of yen		Thousands of U.S. dollars
		Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Cash flows from operating activities				
Profit before tax		¥ 46,206	**¥ 44,176**	**$ 398,020**
Depreciation and amortization		16,973	**21,842**	**196,789**
Interest and dividend income		(2,321)	**(1,631)**	**(14,692)**
Interest expenses		1,022	**1,352**	**12,184**
Share of loss (profit) of investments accounted for using equity method		(338)	**(533)**	**(4,804)**
Impairment loss	16	—	**438**	**3,948**
Decrease (increase) in trade and other receivables		(9,798)	**1,553**	**13,990**
Decrease (increase) in inventories		(5,421)	**(22,039)**	**(198,566)**
Increase (decrease) in trade and other payables		9,388	**(5,834)**	**(52,564)**
Other		2,003	**3,026**	**27,261**
Dividends received		2,505	**1,785**	**16,084**
Interest received		243	**224**	**2,015**
Interest paid		(976)	**(1,236)**	**(11,135)**
Income taxes paid		(15,892)	**(12,183)**	**(109,765)**
Net cash provided by (used in) operating activities		43,596	**30,940**	**278,764**
Cash flows from investing activities				
Net decrease (increase) in time deposits		22,205	**(1,108)**	**(9,979)**
Net decrease (increase) in marketable securities		8,000	**10,000**	**90,098**
Purchase of property, plant and equipment		(37,312)	**(36,210)**	**(326,241)**
Proceeds from sale of property, plant and equipment		733	**273**	**2,460**
Purchase of investments		(5,403)	**(4,449)**	**(40,084)**
Proceeds from sale of investments		1,179	**1,656**	**14,924**
Purchase of shares of subsidiaries resulting in change in scope of consolidation	8	(9,231)	**(36,225)**	**(326,380)**
Proceeds from company split	8	—	**3,213**	**28,950**
Purchase of shares in associates		(1,104)	**(163)**	**(1,467)**
Payments for loans receivable		(2,292)	**(2,814)**	**(25,354)**
Collection of loans receivable		2,968	**290**	**2,615**
Other		(168)	**(731)**	**(6,583)**
Net cash provided by (used in) investing activities		(20,423)	**(66,266)**	**(597,041)**
Cash flows from financing activities				
Net increase (decrease) in short-term borrowings	19	3,379	**(1,938)**	**(17,460)**
Repayments of long-term borrowings	19	(5,951)	**(7,975)**	**(71,851)**
Proceeds from long-term borrowings	19	18,173	**9,231**	**83,167**
Purchase of treasury share		(2)	**(5,001)**	**(45,058)**
Dividends paid	24	(11,127)	**(12,175)**	**(109,695)**
Dividends paid to non-controlling interests		(42)	**(623)**	**(5,612)**
Proceeds from sale of investments in subsidiaries not resulting in change in scope of consolidation		98	**—**	**—**
Other	19	(667)	**(486)**	**(4,376)**
Net cash provided by (used in) financing activities		3,860	**(18,966)**	**(170,883)**
Effect of exchange rate changes on cash and cash equivalents		506	**121**	**1,091**
Net increase (decrease) in cash and cash equivalents		27,539	**(54,171)**	**(488,069)**
Cash and cash equivalents at beginning of period		97,416	**124,956**	**1,125,828**
Cash and cash equivalents at end of period	9	¥ 124,956	**¥ 70,785**	**$ 637,759**

See accompanying notes.

NOTES ON CONSOLIDATED FINANCIAL STATEMENTS

JSR Corporation and Consolidated Subsidiaries
Years ended March 31, 2018 and 2019

(1) Reporting Entity

JSR Corporation (the "Company") is incorporated in Japan. The consolidated financial statements comprise the Company and its subsidiaries (collectively, the "Group") together with the Group's attributable share of the results of associates and joint ventures. The Group is primarily engaged in the Elastomers Business, the Plastics Business, the Digital Solutions Business and the Life Sciences Business as well as businesses related to these. The products of these businesses are wide ranging. See the note "(7) Segment Information" for further details.

(2) Basis of Preparation

1) Compliance with Accounting Standards
The Group meets the requirements of a "specified company" set forth in Article 1-2 of the "Ordinance on Consolidated Financial Statements." Accordingly, the Group prepares consolidated financial statements in accordance with IFRS pursuant to the provisions of Article 93 of said Ordinance.

2) Basis for Measurement
The Group's consolidated financial statements, with the exception of assets pertaining to post-employment benefit plans, financial instruments measured at fair value, etc., stated on "(4) Significant Accounting Policies," are prepared on a historical cost model.

3) Presentation Currency and Units
The Group's consolidated financial statements are presented in Japanese yen, the currency of the primary economic environment in which the Company performs business activities (the "functional currency"), with amounts rounded to the nearest million yen.

The translation of the amounts in Japanese yen into U.S. dollars is included solely for the convenience of readers outside Japan, using the prevailing exchange rate on March 31, 2019, which was ¥110.99 to U.S. $1.00. The amounts translated should not be construed as representations that the amounts in Japanese yen have been, could have been, or could in the future be, converted into U.S. dollars at this or any other rates of exchange.

4) Authorization of Consolidated Financial Statements
The consolidated financial statements have been authorized by Nobuo Kawahashi, the Company's representative director and president and COO, and Hideki Miyazaki, the Company's CFO, on June 18th, 2019.

(3) Explanation of New Standards and Interpretations Not Applied

Of the major new or revised standards and interpretations published prior to the date of authorization of the consolidated financial statements, the Group is not applying the following standards at the end of the current fiscal year because their application is not yet mandatory.

Standard	Name of Standard	Mandatory Effective Date	The Group's application timing	Summary of New / Revised Standard
IFRS 16	Leases	January 1, 2019	Reporting period ending March 2020	Revises accounting related to lease contracts (replaces IAS 17, IFRIC 4, SIC-15, and SIC-27)

IFRS 16 eliminates the classification of leases as either operating leases or finance leases and introduces a single accounting model for lessee. In addition, IFRS 16 requires a lessee to recognize the right-of-use assets to express the rights to use original assets and lease liabilities to express obligation to pay lease charges which last for the lease term for all leases as a general rule. However, in the case of short term leases or low value assets, a lessee may elect not to apply the requirementof the standard. After the right-of-use assets and the lease liabilities are recognized, depreciation of the right-of-use assets and interest of the lease liabilities are reported. The Group is going to adopt IFRS 16 by applying the method to recognize the cumulative effect of this new standard on the date of the initial application, which is allowed as a transition approach. The right-of-use assets of ¥11.9 billion ($107 million) and the lease liabilities of ¥11.6 billion ($104 million) will be recognized at the date of the initial application by applying the standard.

(4) Significant Accounting Policies

The significant accounting policies that have been applied to the consolidated financial statements are as follows and are identical to those applied to all periods stated in the consolidated financial statements.

1) Basis of Consolidation

(i) Subsidiaries

Subsidiaries refer to all entities controlled by the Group. The Group is deemed to have control over an entity if it has exposure or rights to variable returns from its involvement in the entity and has the ability to use its power over an entity to affect such returns. The financial statements of subsidiaries are included in the Group's consolidated financial statements from the date that control commences until the date the control ceases.

In cases where the accounting policies applied by a subsidiary are different from those applied by the Group, adjustments are made to the subsidiary's financial statements, if necessary. All intergroup balances of payables and receivables, internal transactions and unrealized gains or losses arising from transactions within the Group are eliminated in preparing the consolidated financial statements.

When the Company retains control when there has been partial disposal of ownership interest in a subsidiary, the partial disposal is accounted for as an equity transaction. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity attributable to owners of parent.

If the Company loses control over the subsidiary, gains or losses derived from such loss are recognized as profit or loss.

When the fiscal year-end of a subsidiary is different from the end of reporting period of the Group, the Company uses financial statements of the subsidiary based on the provisional accounting as of the end of reporting period of the Group.

(ii) Associates

Associates are entities over which the Group has significant influence, and of which does not have control over the financial and operating policies. The equity method is applied to all associates from the date that the Group acquires significant influence to the date that it loses the significant influence.

Goodwill recognized on acquisition (less accumulated impairment losses) is included in investments in associates.

In cases where the accounting policies applied by an associate are different from those applied by the Group, adjustments are made to the associate's financial statements, if necessary.

(iii) Joint Ventures

A joint venture is an entity jointly controlled by two or more parties including the Group under the contractually agreed sharing of control over economic activities of the joint venture, which exists only when decisions for strategic financial and operating decisions related to relevant activities require unanimous consent of the parties sharing control.

Joint ventures of the Group are accounted for using the equity method.

In cases where the accounting policies applied by a joint venture are different from those applied by the Group, adjustments are made to the joint venture's financial statements, if necessary.

2) Business Combinations

The Group accounts for business combinations using the acquisition method.

The aggregate of the consideration paid for a business combination measured at fair value on the acquisition date and the amount of non-controlling interests in the acquired entity are taken as the acquisition costs based on the acquisition method.

Non-controlling interests are measured at equivalent amount for the fair price of the acquired entity's identifiable net assets and liabilities in proportion to the share of the non-controlling interest.

Ancillary costs incurred relating to business combination such as brokerage fees, attorney's fees, due diligence costs, and other professional fees, consulting fees, and other acquisition-related costs are recognized as expenses in the periods in which such costs are incurred.

If the initial accounting for the business combination has not been completed by the closing date of the reporting period in which the business took place, such incomplete items are measured at provisional amounts based on the best estimate.

If the new information obtained during the measurement period, which lasts for a year from the acquisition date, affects the measurement of the amount recognized on the acquisition date, the provisional amount recognized on the acquisition date is retrospectivelyrevised.

In the event that the aggregate amount of fair value of the consideration paid in relation to the business combination, the amount of non-controlling interests in the acquired entity, and the fair value of equity interests on the control commencement date in the acquired entity previously held by the acquiring entity exceeds the net value of identifiable assets and liabilities at the acquisition date, the excess amount is recognized as goodwill.

If, on the other hand, such aggregate amount does not exceed the net value of identifiable assets and liabilities at the acquisition date, the difference is recognized in profit or loss. Additional acquisitions of non-controlling interests after the controlling acquisition are accounted for as capital transactions and are not recognized as goodwill from the original transaction.

3) Foreign Currency Translation

(i) Functional Currency and Presentation Currency

The Group's consolidated financial statements are presented in Japanese yen being the Company's functional currency. The Group's foreign operations generally use the local currency as their functional currency, but if any currency other than the local currency is primarily used in the economic environment in which the entity operates, such currency is used as the entity's functional currency.

(ii) Foreign Currency Transactions

Foreign currency transactions, meaning transactions conducted in a currency other than the respective entity's functional currency, are translated into the functional currency either by using the exchange rates prevailing at the date of the transaction or using an average rate when there are no material fluctuations in exchange rates. Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the exchange rates prevailing at the reporting date, and exchange differences are recognized in profit or loss in principle.

(iii) Foreign Operations

The assets and liabilities (including goodwill arising from acquisitions and adjustments of fair value) of foreign operations that use a currency other than Japanese yen as their functional currency are translated into Japanese yen at the exchange rates prevailing at the reporting date. The revenues and expenses of foreign operations are translated into Japanese yen at the average rates of exchange over the reporting period, unless there are material fluctuations in exchange rates. Exchange differences arising from such translations in foreign operations' financial statements are recognized in other comprehensive income, and are included and accounted for in other components of equity.

4) Cash and Cash Equivalents

Cash and cash equivalents comprise cash in hand, deposits that can be withdrawn as needed, and short-term investments that are easily converted into cash and with minimal risk of changes in value.

5) Inventories

Inventories are measured at the lower of cost or net realizable value. Cost of inventories is calculated based on the weighted-average cost formula. Net realizable value is the estimated selling price of inventories in the ordinary course of business, less the estimated costs of completion and estimated selling expenses. Inventories and work in process manufactured by the Company include the amounts of manufacturing overhead appropriately allocated based on the ordinary operating rate.

6) Property, Plant and Equipment

The cost model has been adopted, and all property, plant and equipment are measured at cost less any accumulated depreciation and accumulated impairment losses. Cost includes costs directly attributable to the acquisition of the assets, and the present value of the estimated costs of removal of the assets and site restoration. Furthermore, borrowing costs that satisfy certain conditions directly attributable to the acquisition, construction, etc., of the assets are recognized as part of the cost of the assets.

Depreciation expenses are recognized using the straight-line method over the estimated useful life of each asset to depreciate the cost less the residual value of the asset. The estimated useful lives, residual values, and depreciation methods are reviewed at the end of the reporting period. In the event of the modification in estimates, any impacts therefrom are recognized in the accounting period in which the estimates were modified and in the future accounting periods.

The estimated useful lives of major assets are as follows:

- Buildings and structures: 15 to 50 years
- Machinery, equipment, and vehicles: 5 to 25 years
- Tools, furniture, and fixtures: 4 to 10 years

7) Intangible Assets

(i) R&D Expenses

Research-related expenditures are recognized as expenses when they are incurred. Development-related expenditures are capitalized as intangible assets only when all of the following conditions are satisfied; the amount for such expenditures can be reliably measured; the products or the processes to be developed therefrom are technically and commercially viable; there is a high probability of generating future economic benefits; the Group has intention to complete the development and use the process or the products therefrom as well as sufficient resources to make them feasible. All other expenditures are recognized as expenses when they are incurred.

(ii) Goodwill

The measurement of goodwill at initial recognition is stated in "2) Business Combinations." The Group does not amortize goodwill, but tests for impairment every fiscal year. Impairment of goodwill is stated in "8) Impairment of Non-Financial Assets." Impairment losses of goodwill are recognized as profit or loss and not reversed subsequently.

After the initial recognition, goodwill is presented at cost less accumulated impairment losses.

(iii) Intangible Assets Acquired as a Result of a Business Combination

Cost of intangible assets acquired as a result of a business combination is measured at fair value on the acquisition date.

Intangible assets acquired as a result of a business combination are accounted after initial recognition at cost less any accumulated amortization and accumulated impairment losses, which are amortized using straight-line method over the estimated useful life of each asset.

The estimated useful life of major assets is as follows:

- Technology-based intangible assets: 5 years

(iv) Intangible Assets Acquired Individually

Other intangible assets acquired individually inclusive of software, etc., are accounted at cost less any accumulated amortization and accumulated impairment losses, which are amortized using the straight-line method over the estimated useful life of each asset.

The estimated useful life of major asset is as follows:

- Software: 5 years

8) Impairment of Non-Financial Assets

The Group assesses its non-financial assets, excluding inventories and deferred tax assets at the end of each reporting period to identify any indications of a potential inability to recover the carrying amount due to changes in such assets or circumstances. If any such indication exists, impairment testing is conducted.

If the carrying amount of an asset exceeds its recoverable amount, the difference is recognized as impairment loss.

The recoverable amount of an asset is the higher of the fair value less costs of disposal and the value in use. In calculating value in use, the estimated future cash flows from the asset are discounted to the present value using a before-tax discount rate that reflects the time value of money and the inherent risks of the asset. For the purposes of determining impairment, assets are grouped into an individual asset or the smallest asset group (cash-generating unit) generating cash inflows that are largely independent of the cash flows of other assets.

Goodwill is tested for impairment once a year periodically, regardless of whether any indications of impairment exist, and the cost at the time of acquisition less any accumulated impairment losses is recognized as the carrying amount.

In the case of property, plant and equipment and intangible assets, excluding goodwill, for which impairment losses have been recognized in prior years, an assessment is conducted at the end of each reporting period to determine if there are any possibilities of reversal of such impairment losses.

9) Financial Instruments

(9.1) Financial Assets

(i) Initial Recognition and Measurement

The Group initially recognizes financial assets on the date when it becomes a party to the contract on the financial instruments concerned. Financial assets bought or sold by ordinary methods are initially recognized on the transaction date. Financial assets are subsequently classified into those measured at amortized cost or those measured at fair value.

Financial assets measured at fair value through profit or loss are initially measured at fair value. Financial assets measured at fair value through other comprehensive income and financial assets measured at amortized cost are initially measured at fair value plus transaction costs that are directly attributable to the acquisition of the financial asset. Additionally, trade receivables that do not include significant financing components are initially measured at the transaction price.

(a) Financial Assets Measured at Amortized Cost

Financial assets are classified as those measured at amortized cost only when both of the following conditions are satisfied; the asset is held within a business model whose objective is to hold assets in order to collect contractual cash flows; 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.

(b) Financial Assets Measured at Fair Value

Financial assets are classified as those measured at fair value if they fail to meet either of the two requirements given above.

Of these assets, financial assets which generate, on specified dates, cash flows that are solely payments of principal and interest on the principal amount outstanding and which are held within a business model whose objective is achieved both by collecting contractual cash flows and by selling the assets are classified as debt financial assets measured at fair value through other comprehensive income.

Moreover, for certain equity financial assets, the Group has made an irrevocable election to present subsequent changes in fair value in other comprehensive income and classified these assets as equity financial assets measured at fair value through other comprehensive income.

Financial assets such as derivative assets, other than the above assets, are classified as financial assets measured at fair value through profit or loss.

(ii) Subsequent Measurement

After initial recognition, financial assets are measured according to their classification as follows:

(a) Financial Assets Measured at Amortized Cost

Measured at amortized cost using the effective interest method

(b) Financial Assets Measured at Fair Value

Measured at fair value on the reporting date

Any changes in fair value of financial assets are recognized in profit or loss or in other comprehensive income according to their respective classification of the financial asset. Dividends received arising from designated equity instruments measured at fair value through other comprehensive income are recognized in profit or loss. If the fair value of the equity instrument depreciates materially or if the equity instrument is disposed of, any accumulated other comprehensive income or loss is reclassified to retained earnings.

(iii) Derecognition

Financial assets are derecognized when the contractual rights to the cash flows from the investment expire or when the contractual rights to the cash flows from the investment are assigned and substantially all the risks and rewards of the Group's ownership of such financial assets are transferred.

(9.2) Financial Liabilities

(i) Initial Recognition and Measurement

The Group initially recognizes financial liabilities on the contract date. Financial liabilities are initially measured at fair value less transaction costs that are directly attributable to the acquisition of the financial liability.

(ii) Subsequent Measurement

After initial recognition, financial liabilities are measured according to their classification as follows:

(a) Financial Liabilities Measured at Amortized Cost

Measured at amortized cost using the effective interest method

(b) Financial Liabilities Measured at Fair Value Through Profit or Loss

Financial liabilities measured at fair value through profit or loss, which include those designated financial liabilities measured at fair value through profit or loss, are measured at fair value.

(iii) Derecognition

Financial liabilities are derecognized when contractual obligations are discharged, cancelled, or expired.

(9.3) Offsetting Financial Instruments

Financial assets and liabilities are offset if and only if: there is a legally enforceable right to set off the recognized amount of financial assets against the recognized amount of financial liabilities; there is the intent either to settle on a net basis or to realize assets and settle liabilities simultaneously.

10) Impairment of Financial Assets

The Group estimates expected credit losses as of the reporting date for financial assets measured at amortized cost.

If the credit risk has not increased materially from initial recognition, the 12-month expected credit loss is recognized as a loss allowance. In the case of trade receivables that do not include significant financial components, however, the loss allowance is always measured at lifetime expected credit loss. If the credit risk has increased materially from initial recognition, the lifetime expected credit loss is recognized as a loss allowance. Judgment as to whether or not a material increase in credit risk has occurred from the initial recognition is based on degree of changes in default risk. When the Group judges whether or not there are material changes in default risk, it reviews the information on the past due status as well as the following factors;

- External credit grades of the financial asset
- Internal credit grades
- Results of operations of the borrower
- Financial assistance from the parent company, etc. of the borrower

Expected credit losses are measured as weighted average of the present value of difference between all contractual cash flows that are due to the entity in accordance with the contract and all cash flows that the entity expects to receive, weighted by respective risks of default occurring. The Group treats any financial assets as a credit-impaired financial asset in cases where the financial asset is considered to have defaulted, including cases where the financial asset is significantly past due even after enforcement activities for the performance of obligations are taken and where the debtor files legal proceedings for bankruptcy, corporate reorganization, civil rehabilitation and special liquidation. The Group presents the financial assets measured at amortized cost at the net amount that the loss allowance is deducted from the carrying amount in the consolidated statement of financial position and recognizes the loss as profit or loss.

When the Group has no reasonable expectations of recovering all or part of a financial asset, the carrying amount of the asset is directly written off by that amount.

11) Derivatives and Hedge Accounting

Derivatives are initially recognized at fair value at the date in which the derivative contract is entered into and are subsequently remeasured at their fair value at the end of each reporting period after initial recognition. The method of recognizing the resulting gain or loss depends on whether or not the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged.

The Group designates certain derivatives as hedging instruments of cash flow hedges (hedges of a particular risk associated with a recognized asset or liability, or a highly probable forecast transaction), and certain foreign currency borrowings as hedging instruments of net investment in foreign operations.

The Group documents, at the start of the transaction, the relationship between hedging instruments and hedged items as well as the objectives and strategies for managing risk regarding execution of their hedging transactions. Furthermore, the Group documents at the start of the hedge, and on a continuing basis, assessments of whether or not the derivatives used in the hedging transaction are effective in offsetting changes in the hedged items' cash flow.

Hedge effectiveness is assessed on a continuing basis, and a hedge is deemed effective when it satisfies all of the following conditions: an economic relationship exists between hedged items and hedging instruments; the effect of credit risk is not such that it materially dominates value changes arising from the economic relationship; the hedge ratio of the hedging relationship is equivalent to the ratio arising from the volume of hedging instruments and hedged items that are actually being hedged.

The effective portions of change in the fair values of derivatives designated as hedging instruments of cash flow hedges and satisfying the conditions thereof are recognized in other comprehensive income. Gains or losses arising from ineffective portions are recognized immediately as profit or loss. Accumulated gains or losses recognized through other comprehensive income are reclassified to profit or loss in the period when the cash flow originating from the hedged items effects profit or loss.

When hedge accounting conditions are no longer satisfied due to forfeit, sale, etc., of hedging instruments, hedge accounting will no longer be applied prospectively. When hedged future cash flow is expected to occur again, the accumulated gains or losses recognized in other comprehensive income will continue to be recognized as other components of equity. In cases where forecast transactions are no longer expected to occur, the accumulated gains or losses recognized in other comprehensive income are reclassified immediately to profit or loss.

With regard to certain foreign currency borrowings that are retained for the purpose of hedging exposure to exchange rate fluctuation risks for net investments in foreign operations, the portion of foreign exchange differences deemed effective as a hedge is recognized in other comprehensive income as hedges of net investment in foreign operations. Of exchange differences in the hedging instruments, any ineffective portion of the hedge or any portion of the hedge not subject to the assessment of hedge effectiveness is recognized in profit or loss.

Through net investment hedges, the cumulative amount of gain or loss recognized in other comprehensive income is reclassified to profit or loss on the disposal of foreign operations.

12) Leases

Lease transactions are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee, while all other leases are classified as operating leases.

Whether a contract is a lease or whether a contract contains a lease is determined based on the substance of the contract following IFRIC 4 — *Determining Whether an Arrangement Contains a Lease*, even when the contract is not legally a lease-type contract.

In finance lease transactions, lease assets and lease liabilities are recognized in the consolidated statement of financial position at the lower of the fair value of the leased property calculated on the inception date of the lease term and the aggregate present value of the minimum lease payments. Lease payments are allocated to liabilities and finance costs. Interest components in finance costs are expensed as profit or loss over the lease term in such a way that a fixed term interest rate applies to the liability balance in each reporting period. Lease assets are depreciated using the straight-line method based on the accounting policies applied to the assets.

In operating lease transactions, lease payments are recognized as an expense over the lease term on a straight-line basis.

13) Employee Benefits

(i) Short-Term Employee Benefits

Short-term employee benefits are recognized as an expense in the period in which the employee renders the related service without discounting. Bonus payments are recognized as liabilities in the amount estimated to be paid based on the applicable bonus payment system when there is a legal or constructive obligation to pay and the obligation can be estimated reliably.

(ii) Long-Term Employee Benefits

The Group has adopted defined contribution plans and defined benefit plans as post-employment benefit plans for employees.

Liabilities (assets) recognized in connection to defined benefit pension plans are calculated at the present value of defined benefit obligations under such plans at the end of the reporting period less the fair value of the plan assets. An independent specialist calculates the defined benefit obligations each reporting period using the projected unit credit method. Any amount recognized as assets from this calculation is limited to the present value of any future economic benefit available in the form of refunds from the plans or reductions in future contributions to the plans when there is a possibility for the assets to generate these to the Group. Calculations of the present value of economic benefits take into consideration the minimum funding requirement. The present value of defined benefit obligations is calculated by discounting estimated future cash flows in reference to market yields on high-quality corporate bonds that pay benefits and with maturities similar to the estimated timing of payment of the obligations.

Changes due to remeasurements of net defined benefit liabilities (assets) that were recognized in other comprehensive income in the period they occurred are immediately reclassified from other comprehensive income to retained earnings.

Defined contribution plans are post-employment benefit plans under which an employer pays fixed contributions into an independent entity and has no legal or constructive obligation to pay further contributions. Contribution obligations under the defined contribution plans are recognized as an expense in the period in which the employee renders the related service.

14) Provisions

Provisions are recognized if the Group has a present legal or constructive obligation as a result of a past event that can be estimated reliably and it is probable that an outflow of resources will be required to settle the obligation.

When the time value of money is significant, the estimated future cash flow is discounted by the present value using a before-tax discount rate that reflects the time value of money and inherent risks of the liability. Transfer-backs of the discounted amount over time are recognized as finance costs.

15) Share Capital

The issue price of equity instruments issued by the Company are recognized in share capital and capital surplus, and direct issue costs (net of tax effects) are deducted from capital surplus.

On the purchase of treasury shares, costs net of tax effects including direct transaction costs are recognized as an equity deduction. On the sale of treasury shares, including disposal of treasury shares with the exercise of stock options, the balance of disposals is recognized as capital surplus. Common shares are classified to equity.

16) Share-Based Remuneration Plans

(i) Stock Options

The Group operated an equity-settled share-based remuneration plan where the Group received services from directors, executive officers, and employees and paid equity instruments (options) as consideration thereof until June 2017.

The fair value on the date the option was granted under the plan is recognized as an expense over the option's vesting period and the same amount is recorded as an increase of equity. The plan was terminated in June 2017 (however, of share acquisition rights as share-based stock options that were already granted to directors, etc., those share acquisition rights which have not been exercised will be continued).

(ii) Restricted Share-Based Remuneration Plan

The Company has adopted the restricted share-based remuneration plan for its directors and others as a performance-linked remuneration plan and applied the accounting treatment for equity-settled share-based plans under this plan.

Fair value of the share-based remuneration is determined using fair value of ordinary shares on the grant date. The fair value is recognized as an expense over the share's vesting period, and the same amount is recorded as an increase in equity.

17) Revenue Recognition

As from the adoption of IFRS 15, the Group recognizes revenue by applying the following five steps, apart from interest and dividend income accounted for in accordance with IFRS 9 — Financial Instruments.

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

In case of sales contracts with customers for products and merchandise, the Group recognizes the sale as revenue when the products and merchandise are delivered to the customer, considering that control of the products and merchandise is transferred to the customer and the performance obligation is fulfilled. For rendering of services, the Group recognizes revenue over time with fulfillment of performance obligation based on the contract between the Group and the customer.

18) Government Grants

Government grants are recognized when there is reasonable assurance that the Group will comply with the conditions attached to the grant and that the grant will be received. Government grants are recognized in profit or loss on a systematic basis over the period the associated costs, which the grant is intended to compensate, are recognized as expenses.

For government grants associated with acquiring assets, the amounts of the grants are deducted directly when calculating the carrying amounts of the assets. Grants are recognized in profit or loss over the useful lives of the depreciated assets as changes in depreciation expense.

19) Finance Income and Finance Cost

Finance income comprises interest received, dividends received, etc. Interest received is recognized when it incurs using the effective interest method. Dividends received are recognized when the Group's rights to receive dividends has been established; there is a high probability that the economic benefits associated with the dividends will flow into the Group; the amounts can be measured reliably.

Finance cost comprises interest paid, etc.

With respect to an asset that necessarily takes a substantial period of time to get ready for its intended use or sale, borrowing costs that are directly attributable to the acquisition, construction or manufacture of the asset form part of the cost of that asset. All other borrowing costs are recognized as an expense in the period in which they are incurred.

20) Income Taxes

Income taxes comprise current taxes and deferred taxes. They are recognized in profit or loss, with the exception of income taxes associated with items recognized in other comprehensive income or items that are directly recognized in equity.

(i) Current Taxes

The Group recognizes current taxes based on taxable profits for the reporting period. Current tax amounts are calculated using the tax rates that are in force or substantially in force on the final day of the reporting period. Income taxes receivable and payable are measured at the estimated refund from or payment to the tax authorities.

(ii) Deferred Taxes

The Group recognizes deferred taxes using the asset and liability approach for temporary differences between the amounts of assets and liabilities for accounting purposes and their tax bases. In principle, deferred tax liabilities are all recognized in taxable temporary differences, and deferred tax assets are recognized only to the extent that it is probable that there will be taxable profits against which deductible temporary differences, tax losses, etc., may be utilized. Deferred tax assets and liabilities, however, are not recognized for the following temporary differences:

- Taxable temporary differences arising from initial recognition of goodwill;
- Temporary differences arising from initial recognition of assets or liabilities in transactions (excluding business combinations) that do not affect taxable profits (tax losses) in profit or loss for accounting purposes; and
- Taxable temporary differences pertaining to investments in subsidiaries and associates where the timing of the reversal of the temporary differences can be controlled by the Group and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred tax assets pertaining to deductible temporary differences associated with investments in subsidiaries and associates are recognized only to the extent that the temporary difference will reverse in the foreseeable future and that it is probable that there will be adequate taxable profits against which benefits from the temporary difference can be utilized.

Deferred tax assets and liabilities are calculated at the tax rates expected to apply to the period when the associated deferred tax assets will be realized or the period when the deferred tax liabilities will be settled, based on the tax rates that are in force or substantially in force at the end of the reporting period.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when the deferred tax assets and liabilities are associated with the income taxes levied on the same taxable entity, or the equivalent or different taxable entity intended to be settled on a net basis, by the same tax authority.

21) Earnings per Share

Basic quarterly earnings per share are calculated by dividing profit for the quarter attributable to ordinary shareholders by the weighted-average number of common stock outstanding during the reporting period. Diluted quarterly earnings per share are calculated through adjustments for the effect of all potentially dilutive common stock.

(5) Changes in Accounting Policies

The Group has applied the following standard from the current fiscal year.

IFRS	Summary of New / Revised Standard
IFRS 15 — Revenue from Contracts with Customers	Revision related to recognition of revenue

The Group has applied IFRS 15 — Revenue from Contracts with Customers (published in May 2014) and Clarifications to IFRS 15 (published in April 2016) (hereafter jointly referred to as "IFRS 15") from the current fiscal year. For the adoption of IFRS 15, the Group used the method to recognize the cumulative effect of IFRS15 on the date of the initial application, which is allowed as a transition approach.

As from the adoption of IFRS 15, the Group recognizes revenue by applying the following five steps, apart from interest and dividend income accounted for in accordance with IFRS 9 — Financial Instruments.

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

The effect of applying the new accounting standard on the Group's consolidated financial statements is immaterial compared to case where the previous accounting standard had been applied. Further details of policies on revenue recognition are provided in "(25) Revenue."

(6) Significant Accounting Estimates and Judgments Involving Estimates

In the preparation of consolidated financial statements, management is required to make judgments, estimates, and assumptions.

The estimates and the underlying assumptions are reviewed on an ongoing basis, and the effects of the review are recognized in the period in which the review was conducted and in future periods.

Actual results may differ from these estimates.

Estimates and judgments that have significant effects on amounts recognized in the Group's consolidated financial statements are as follows. These assumptions have been determined based on management's best estimates and judgments. However, the assumptions may be affected by results of uncertain changes in economic conditions in the future and amendment or promulgation of related laws and regulations, and if a review is necessary, this may have significant effects on amounts recognized in consolidated financial statements in the following fiscal years.

1) Impairment of Non-Financial Assets

In the calculation of recoverable amount in impairment test, certain assumptions have been made for useful life of the asset, future cash flows, discount rate reflecting risks inherent to the asset, long-term growth rate and others. Details of the method for calculating recoverable amount, etc. are provided in the note "(16) Impairment of Non-Financial Assets."

2) Employee Benefits

The present value of defined benefit plan obligations, service cost, etc. pertaining to post-employment benefit plans adopted by the Group have been calculated based on actuarial assumptions. For actuarial assumptions, estimates and judgments on a variety of variables including discount rate are required. Actuarial assumptions and related sensitivity are provided in the note "(21) Employee Benefits."

3) Recoverability of Deferred Tax Assets

For the recognition of deferred tax assets, the amount is determined, assuming the probability that there will be the taxable profits, by estimating the timing when taxable profits that can be obtained in the future are available and the amount of these profits based on the business plan. The relevant content and amount of deferred tax assets are provided in the note "(18) Income Taxes."

(7) Segment Information

1) Overview of Reportable Segments

JSR Group's reportable segments are based on the Group's business segments for which separate financial information is available and which the Board of Directors determines the basis that are subject to regular reviews for decisions on the allocation of managerial resources and the evaluation of business results.

The Group has established divisions by product at its head office. Each division formulates comprehensive domestic and overseas strategies for its products and conducts business activities according to the strategies. Core Group companies also take the initiative in working out comprehensive domestic and overseas strategies and conduct business activities according to the strategies. Thus, the JSR Group's businesses consist of business segments by product based on divisions and core Group companies.

JSR Group has four reportable segments: Elastomers Business, which consists mainly of the manufacture and sale of general-purpose synthetic rubber products for automobile tires, functional special synthetic rubber for automobile components, thermoplastic elastomers for modifying plastics, and synthetic rubber latex for coated paper; Plastics Business, which engages mainly in the manufacture and sale of ABS and other resins for automobiles, office equipment, and amusement applications; Digital Solutions Business, which conducts mainly the manufacture and sale of semiconductor materials, display materials, and products related to edge computing; and Life Sciences Business. The Digital Solutions Business is a reportable segment comprising multiple segments based on the nature of the products and services, the nature of production processes, and similarity in markets and other economic characteristics.

Main Products in Each Business Segment

Business segments	Main products
Elastomers Business	Synthetic rubbers, such as styrene-butadiene rubber, poly-butadiene rubber, ethylene and propylene rubber and compounded products; thermoplastic elastomers and compounded products; latex for paper processing; general industrial-use latex; acrylic emulsions; natural latex compounded products; high-functional coating materials; high-functional dispersants; industrial particles; thermal control materials; materials for heat insulation paints; materials for batteries; butadiene monomers; etc.
Plastics Business	Synthetic resins including ABS resins, AES resins, AS resins, and ASA resins
Digital Solutions Business	<Semiconductor Materials> Lithography materials (photoresists, multilayer materials); CMP materials; mounting materials; etc. <Display Materials> Materials for color LCDs; functional coating materials; etc. <Edge Computing Materials> Heat-resistant transparent resins and functional films; high-functional UV curable resins; photo fabrication and photo molding systems; etc.
Life Sciences Business	Diagnostic and research reagents and similar materials; bio-process materials; contract bio-process development and manufacturing, etc.

Priviously, JSR Group maintained three reportable segments: Elastomers Business, Plastics Business, and Fine Chemicals and Other Products Business. With the expansion of the Life Sciences Business, which included in the Fine Chemicals and Other Products Business, Life Sciences Business has become a new reportable segment starting from the current fiscal year. Furthermore, the Fine Chemicals Business, which included in the Fine Chemicals and Other Products Business, has been renamed Digital Solutions Business and became a reportable segment. The Group does not use “Petrochemical Products Business” and “Fine Chemicals and Other Products Business” as a name of reportable segments any more. Accordingly, the Group’s reportable segments from the current fiscal year are the Elastomers Business, the Digital Solutions Business, the Life Sciences Business, and the Plastics Business led by Techno-UMG Co., Ltd. With the revisions to each business’s details caused by the segment changes, the Group has reclassified and presented segment information for the previous consolidated fiscal year with the segment categories used for the current fiscal year. The accounting methods for reportable segments are the same as the methods adopted for the preparation of consolidated financial statements.

2) Segment Revenues, Profits or Losses, and Other Material Items

The following information pertains to the Group’s reportable segments.

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

Millions of yen

	Reportable Segment							
	Elastomers	Plastics	Digital Solutions	Life Sciences	Other [Note 1]	Total	Adjustment [Note 2]	Amount Recorded in the Consolidated Financial Statements
Revenue from external customers	¥ 195,693	¥ 53,842	¥ 140,394	¥ 26,424	¥ 5,256	¥ 421,609	¥ 321	¥ 421,930
Operating profit (loss)	14,866	5,579	30,684	(1,803)	(2,240)	47,086	(3,517)	43,569
Finance income						—		3,659
Finance costs						—		(1,022)
Profit before tax						—		46,206
Segment assets	282,456	38,428	129,723	58,326	16,341	525,274	122,425	647,699
Other items								
Depreciation and amortization	7,878	718	5,794	1,903	272	16,565	408	16,973
Capital expenditures	22,880	1,028	8,726	8,591	239	41,463	945	42,408

Note 1: The Other segment is a business segment not contained in the reportable segments. It includes the lithium-ion capacitor and other businesses.

Note 2: The operating profit or operating loss downward adjustment of ¥3,517 million contains company-wide profits and losses not allocated to the reportable segments. The adjustment amount in the segment assets line are corporate assets not allocated to any reportable segment. Corporate assets mainly include investment of surplus funds (deposits, cash equivalents, and securities (debt instrument assets)) and long-term investment funds (securities (equity instrument assets)) owned by the parent company.

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Millions of yen							
	Reportable Segment							
	Elastomers	Plastics	Digital Solutions	Life Sciences	Other [Note 1]	Total	Adjustment [Note 2]	Amount Recorded in the Consolidated Financial Statements
Revenue from external customers	¥ 200,736	¥ 105,446	¥ 142,216	¥ 43,872	¥ 4,475	¥ 496,745	¥ 1	¥ 496,746
Operating profit (loss)	7,421	9,214	32,663	781	(2,097)	47,983	(4,953)	43,030
Finance income						—		2,499
Finance costs						—		(1,352)
Profit before tax						—		44,176
Segment assets	291,256	77,794	131,779	114,353	12,061	627,242	64,193	691,435
Other items								
Depreciation and amortization	8,821	2,395	6,036	3,740	266	21,258	584	21,842
Impairment losses	—	—	—	—	438	438	—	438
Capital expenditures	19,738	3,108	7,194	5,218	—	35,257	781	36,038

Note 1: The Other segment is a business segment not contained in the reportable segments. It includes the lithium-ion capacitor and other businesses.
Note 2: The operating profit or operating loss downward adjustment of ¥4,953 million contains company-wide profits and losses not allocated to the reportable segments. The adjustment amount in the segment assets line are corporate assets not allocated to any reportable segment. Corporate assets mainly include investment of surplus funds (deposits, cash equivalents, and securities (debt instrument assets)) and long-term investment funds (securities (equity instrument assets)) owned by the parent company.

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Thousands of U.S. dollars							
	Reportable Segment							
	Elastomers	Plastics	Digital Solutions	Life Sciences	Other [Note 1]	Total	Adjustment [Note 2]	Amount Recorded in the Consolidated Financial Statements
Revenue from external customers	$ 1,808,597	$ 950,051	$ 1,281,342	$ 395,281	$ 40,316	$ 4,475,586	$ 10	$ 4,475,596
Operating profit (loss)	66,866	83,020	294,285	7,033	(18,890)	432,314	(44,626)	387,688
Finance income						—		22,515
Finance costs						—		(12,184)
Profit before tax						—		398,020
Segment assets	2,624,162	700,912	1,187,303	1,030,296	108,666	5,651,340	578,364	6,229,704
Other items								
Depreciation and amortization	79,471	21,579	54,387	33,699	2,392	191,529	5,260	196,789
Impairment losses	—	—	—	—	3,948	3,948	—	3,948
Capital expenditures	177,837	28,000	64,814	47,011	—	317,661	7,039	324,700

Note 1: The Other segment is a business segment not contained in the reportable segments. It includes the lithium-ion capacitor and other businesses.
Note 2: The operating profit or operating loss downward adjustment of ¥4,953 million contains company-wide profits and losses not allocated to the reportable segments. The adjustment amount in the segment assets line are corporate assets not allocated to any reportable segment. Corporate assets mainly include investment of surplus funds (deposits, cash equivalents, and securities (debt instrument assets)) and long-term investment funds (securities (equity instrument assets)) owned by the parent company.

3) Information on Products and Services

Information on products and services is stated on "1) Overview of Reportable Segments."

4) Information by Region

The following is a breakdown of revenue and non-current assets by region.

Revenue from External Customers

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Japan	¥ 183,308	**¥ 220,710**	**$ 1,988,560**
China	53,547	**64,092**	**577,455**
U.S	41,076	**58,201**	**524,384**
Other regions	143,999	**153,743**	**1,385,196**
Total	¥ 421,930	**¥ 496,746**	**$ 4,475,596**

Note: Revenue is divided into countries or regions based on the locations of customers.

Property, Plant and Equipment

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Japan	¥ 79,686	**¥ 93,327**	**$ 840,862**
Thailand	27,642	**27,202**	**245,085**
Hungary	28,280	**32,075**	**288,987**
Other regions	24,227	**30,854**	**277,985**
Total	¥ 159,834	**¥ 183,457**	**$ 1,652,918**

Note: We confine items presented to property, plant and equipment considering cost of the preparation.

5) Information on Major Customers

Information on major customers is omitted, since no single external customer accounts for more than 10% of the Group's revenue in terms of revenue through transactions with a single external customer.

(8) Business Combination and Acquisition of Non-Controlling Interest

1) Business Combination

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

Subsidiary establishment by means of the acquisition of Selexis S.A.

(i) Overview

(a) Name and Business of the Company Acquired

Name: Selexis S.A.

Industry and Business

Life sciences; development and sales of products using mammalian cell line generation technologies

(b) Date of Acquisition

June 21, 2017

(c) Ownership Acquired

100%

(d) Method to Obtain Control

Acquisition of shares in exchange for cash payment

(e) Major Reason of the Business Combination

The purpose of this business combination is to expand the Group's life sciences business.

Selexis S.A. has made its mark with its technologies that facilitates the rapid, stable, and cost-effective generation of cell lines producing virtually any recombinant protein in mammalian cell line development. With our subsidiary KBI Biopharma, Inc.'s strengths in process development and analytics, the Group will be able to deliver the fastest timelines of new drug development and substantial cost savings in the pharmaceutical industry.

(ii) Fair Value of Consideration Transferred and Recognized Amount of Assets Acquired and Liabilities Received on the Date of Acquisition

	Millions of yen
Fair value of consideration	**¥ 9,307**
Current assets	
Cash and cash equivalents	**585**
Trade and other receivables	**339**
Other	**46**
Non-current assets	
Property, plant and equipment	**158**
Other intangible assets	**497**
Assets acquired	**1,624**
Current liabilities	
Borrowings	**(1,171)**
Other current liabilities	**(320)**
Non-current liabilities	
Deferred tax liabilities	**(107)**
Liabilities assumed	**1,597**
Recognized value of assets acquired and liabilities assumed (net amount)	**27**
Goodwill	**9,280**

As of March 31, 2018, the amount of goodwill incurred and the amounts of assets acquired and liabilities assumed on the date of the business combination had been calculated provisionally because the identifiable assets and liabilities on the date of the business combination were not identified and the allocation of purchase price. The allocation of purchase price has completed in the current fiscal year and therefore the provisional amounts were adjusted. The effect of this adjustment is immaterial.

Acquisition-related costs pertaining to the business combination was ¥16 million ($154 thousand) and recorded as expenses in "Selling, general and administrative expenses." The incurred goodwill is primarily composed of expected future earning power. The good will is not deductible.

(iii) Cash Flow Through the Acquisition

	Millions of yen
Cash and cash equivalents used for the acquisition	**¥ 9,307**
Cash and cash equivalents held by the company acquired on the date of acquisition	**585**
Purchase of investments in subsidiaries resulting in change in scope of consolidation	**¥ 8,722**

(iv) The Impact of the Business Combination on the Group's Result

The impact of revenue and profit or loss arisen from the acquisition of Selexis S.A. after the acquisition date was immaterial. On the assumption that the business combination had been executed on April 1, 2017, the impact on the Group's revenue and profit or loss would have been immaterial.

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

1. Absorption-Type Split in which a Subsidiary is the Successor Company

(i) Overview of the Business Combination

The Company executed an absorption-type split dated April 1, 2018, with UMG ABS, Ltd., which was equally owned by Ube Industries, Ltd. (50%) and Mitsubishi Chemical Corporation (50%), as the absorbed company and Techno Polymer Co., Ltd. (renamed Techno-UMG Co., Ltd. on April 1, 2018), a wholly-owned subsidiary of the Company, as the successor company.

In keeping with the absorption-type split, Techno-UMG Co., Ltd. issued new common shares so that the Company owns 51% of the issued shares of Techno-UMG Co., Ltd.

(a) Name of Acquired Company and Business Domain

Name of acquired company: UMG ABS, Ltd.

Business domain: manufacture and sale of ABS resins

(b) Date of Business Combination

April 1, 2018

(c) Method by which the Acquiring Company Obtained Control of the Acquired Company

Absorption-type split through the allocation of 58,800 common shares of Techno Polymer Co., Ltd., with UMG ABS, Ltd. as the absorbed company and Techno Polymer Co., Ltd. as the successor company

(ii) Primary Reason for the Business Combination

The conditions surrounding the ABS resin business will become increasingly challenging both in and outside of Japan. The primary purpose of the business combination is to optimize operations, enhance manufacturing efficiencies, and secure cost competitiveness for the ABS resin business, in order to ensure the stable supply of products in Japan and expand sales in global markets.

(iii) Fair Value of Assets Acquired, Liabilities Assumed, and Goodwill Recognized on the Acquisition Date

(a) Fair Value of the Consideration Transferred

Techno-UMG Co., Ltd. common shares

¥19,350 million ($174,340 thousand)

(b) Share Valuation Method

The Company calculated the share valuation in consultation with the transaction parties, referring to a share valuation report and other materials received from a third-party appraiser.

(c) Assets Acquired, Liabilities Assumed, and Goodwill Recognized

Acquisition date (April 1, 2018)

	Millions of yen	Thousands of U.S. dollars
Current assets		
Cash and cash equivalents	¥ 2,617	$ 23,577
Trade and other receivables	10,508	94,675
Inventories	6,945	62,578
Other	736	6,634
Non-current assets		
Property, plant and equipment	11,356	102,319
Other intangible assets	357	3,219
Deferred tax assets	992	8,939
Other	1,775	15,992
Assets acquired	35,287	317,931
Current liabilities		
Trade and other payables	13,865	124,922
Borrowings	3,450	31,084
Income taxes payable	719	6,475
Other	910	8,196
Non-current liabilities		
Borrowings	80	721
Retirement benefit liability	629	5,669
Other	45	408
Liabilities assumed	19,698	177,475
Recognized value of assets acquired and liabilities assumed (net amount)	15,589	140,457
Goodwill	3,760	33,880

Goodwill is primarily composed of synergies with existing businesses and excess earning power that are expected to arise from the acquisition, which do not individually fulfill the criteria for recognition. Furthermore, the goodwill is not deductible for tax purposes.

The amount of goodwill included in the consolidated statement of financial position as of the date of the business combination was ¥1,918 million ($17,279 thousand) because of the change in ownership ratio in Techno-UMG Co., Ltd.

(iv) Acquisition-Related Costs

Acquisition-related costs pertaining to the business combination were ¥136 million ($1,227 thousand), including those incurred prior to the current fiscal year. The amount incurred in the current fiscal year is accounted for as an expense in "Selling, general and administrative expenses" in the consolidated statement of profit or loss.

(v) Impacton Cash Flows of Business Combination

	Millions of yen	Thousands of U.S. dollars
Cash and cash equivalents held by the company acquired on the date of acquisition	¥ 3,213	$ 28,950
Proceeds from company split	¥ 3,213	$ 28,950

(vi) Impacton the Group's Result

A quantitative statement of the impact on the Group's result has been omitted as it is difficult to calculate rationally the quantitative effect on the Group during the current fiscal year.

(vii) Effect on Non-Controlling Interests

Non-controlling interests increased by ¥17,625 million ($158,802 thousand) due to the decrease in ownership ratio in Techno-UMG Co., Ltd. from 100% to 51%.

2. Subsidiary Establishment by Means of the Acquisition of Crown Bioscience International

(i) Overview of the Business Combination

(a) Name of Acquired Company and Business Domain

Name of acquired company: Crown Bioscience International
Business domain: drug discovery and development services

(b) Acquisition Date

May 31, 2018

(c) Percentage of Voting Rights Acquired

100%

(d) Method for the Acquiring Company to Obtain Control over the Acquired Company

Acquisition of shares in exchange for cash payment

(e) Primary Reason for the Business Combination

The primary purpose of the business combination is to incorporate a drug discovery and development contracting business into the Group's Life Sciences Business and to provide seamless value to the pharmaceutical industry, from the provision of products and services for drug-discovery processes to GMP manufacturing.

(ii) Fair Value of Consideration Transferred and Recognized Value of Assets Acquired and Liabilities Assumed on the Acquisition Date

	Millions of yen	Thousands of U.S. dollars
Fair value of consideration	¥ 40,583	$ 365,649
Current assets		
Cash and cash equivalents	4,398	39,624
Trade and other receivables	2,164	19,501
Other	429	3,864
Non-current assets		
Property, plant and equipment	2,412	21,729
Other intangible assets	2,438	21,968
Deferred tax assets	132	1,190
Other	87	785
Assets acquired	12,060	108,661
Current liabilities		
Trade and other payables	1,282	11,547
Other	3,941	35,506
Non-current liabilities		
Borrowings	2,581	23,258
Deferred tax liabilities	376	3,388
Liabilities assumed	8,180	73,699
Non-controlling interests	157	1,415
Goodwill	36,860	332,104

As of March 31, 2019, the allocation of the purchase price , for the amount of goodwill incurred and the amounts of assets acquired and liabilities assumed on the date of the business combination, has completed because the identifiable assets and liabilities on the date of the business combination wereidentified. As a result, goodwill decreased ¥1,257 million ($11,324 thousand) from the amount calculated provisionally. The increase of the assets and liabilities received from the original provisional amounts is other intangible assets of ¥1,505 million ($13,561 thousand) and deferred tax liabilities of ¥248 million ($2,238 thousand).

Acquisition-related costs pertaining to the business combination were ¥335 million ($3,017 thousand), including those incurred prior to the current fiscal year. The amount incurred in the current fiscal year is accounted for as an expense in "Selling, general and administrative expenses" in the consolidated statement of profit or loss.

The incurred goodwill is primarily composed of expected future earning power. The goodwill is not deductible.

(iii) Impact on Cash Flows of Business Combination

	Millions of yen	Thousands of U.S. dollars
Cash and cash equivalents used for the acquisition	**¥ 40,583**	**$ 365,649**
Cash and cash equivalents held by the company acquired on the date of acquisition	**4,398**	**39,624**
Purchase of investments in subsidiaries resulting in change in scope of consolidation	**¥ 36,186**	**$ 326,025**

(iv) Impact on the Group's Result

Revenue of ¥8,380 million ($75,502 thousand) and profit of ¥800 million ($7,211 thousand) arising from Crown Bioscience International since the acquisition date, are respectively included in the Group's Consolidated Statement of Profit or Loss. The impact on the Group's result in the current fiscal year would have been immaterial on the assumption that the business combination had been executed at the beginning of the term.

2) Acquisition of Non-Controlling Interest

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

Not Applicable

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

Not Applicable

(9) Cash and Cash Equivalents

Cash and cash equivalents comprise cash, short-term deposits (not later than three months) and short-term investments (e.g. securities redeemable not later than three months from the date of acquisition).

Cash and cash equivalents on the indicated dates consisted of the following items.

The total amount of cash and cash equivalents corresponds to cash and cash equivalents at end of period in the consolidated statement of cash flows.

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Cash and cash equivalents			
Cash and deposit	¥ 68,955	**¥ 55,784**	**$ 502,606**
Short-term investment	56,000	**15,001**	**135,153**
Total	¥ 124,956	**¥ 70,785**	**$ 637,759**

(10) Trade and Other Receivables

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

Trade and other receivables include following items.

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Trade receivables			
Notes and account receivable-trade	¥ 101,934	**¥ 116,956**	**$ 1,053,748**
Other receivables			
Account receivables-other	20,193	**18,053**	**162,657**
Other	350	**271**	**2,445**
Total	¥ 122,476	**¥ 135,280**	**$ 1,218,851**

(11) Other Financial Assets

1) Breakdown of Other Financial Assets

The breakdown of other financial assets is as follows.

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Derivative asset	¥ 160	**¥ 60**	**$ 537**
Investments (equity financial assets)	61,267	**55,005**	**495,584**
Investments (debt financial assets)	10,000	**0**	**0**
Term deposits	3,287	**4,485**	**40,410**
Other	4,033	**4,347**	**39,165**
Total	¥ 78,746	**¥ 63,896**	**$ 575,696**
Current assets	13,776	**5,002**	**45,064**
Non-current assets	64,970	**58,895**	**530,632**
Total	¥ 78,746	**¥ 63,896**	**$ 575,696**

Derivative assets are classified as financial assets measured at fair value through profit or loss. Investments (equity financial assets) are classified as financial assets measured at fair value through other comprehensive income, or those through profit or loss. Investments (debt financial assets) and time deposits are classified as financial assets measured at amortized cost.

2) Financial Assets Measured at Fair Value through Other Comprehensive Income

Major stocks classified as financial assets measured at fair value through other comprehensive income and their fair values are as follows.

	Millions of yen		Thousands of U.S. dollars
Name of Stock	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
BRIDGESTONE Corporation	¥ 22,389	**¥ 20,656**	**$ 186,107**
Tosoh Corporation	3,296	**2,717**	**24,480**
Optorun Co., Ltd.	7,900	**4,941**	**44,518**
Mitsubishi Chemical Holdings Corporation	1,652	**1,249**	**11,256**
Carbon, Inc.	3,359	**3,509**	**31,616**

Amounts of dividends received recognized related to financial assets measured at fair value through other comprehensive income are as follows.

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Dividends received	¥ 2,083	**¥ 1,409**	**$ 12,691**

3) Derecognition of Financial Assets Measured at Fair Value through Other Comprehensive Income

The Group has derecognized certain financial assets measured at fair value through other comprehensive income by disposing of such assets for the purpose of improving the asset efficiency. Fair value and accumulated gains or losses (net of tax) recognized as other comprehensive income at the time of disposal in each fiscal year are as follows:

Millions of yen				Thousands of U.S. dollars	
Fiscal year ended March 31, 2018		**Fiscal year ended March 31, 2019**		**Fiscal year ended March 31, 2019**	
Fair Value	Accumulated gains or losses	Fair Value	Accumulated gains or losses	Fair Value	Accumulated gains or losses
¥ 1,179	¥ 183	**¥ 1,656**	**¥ 629**	**$ 14,924**	**$ 5,666**

For financial assets measured at fair value through other comprehensive income, accumulated gains or losses recognized as other comprehensive income are transferred to retained earnings when the assets are derecognized.

(12) Inventories

Inventories consist of following items.

	Millions of yen		Thousands of U.S. dollars
Name of Stock	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Finished goods and merchandise	¥ 55,979	**¥ 78,707**	**$ 709,136**
Work in process	4,161	**3,665**	**33,022**
Raw materials and supplies	27,427	**34,674**	**312,409**
Total	¥ 87,567	**¥ 117,046**	**$ 1,054,567**

The amount of valuation losses on inventories recognized as expenses was ¥131 million as of March 31, 2018 and ¥835 million ($7,526 thousand) as of March 31, 2019, respectively. The write-off amount is included in "cost of sales" on the consolidated statement of profit or loss. The amount included in cost of sales was ¥280,273 million as of March 31, 2018 and ¥330,718 million ($2,979,707 thousand) as of March 31, 2019, respectively.

(13) Other Assets

The breakdown of other assets is as shown below.

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Other current assets			
Excise tax receivable	¥ 5,803	**¥ 6,650**	**$ 59,916**
Income taxes receivable	485	**566**	**5,099**
Prepaid expenses	1,007	**1,446**	**13,030**
Other	1,839	**2,208**	**19,892**
Total	¥ 9,134	**¥ 10,870**	**$ 97,937**
Other non-current assets			
Long-term prepaid expenses	379	**472**	**4,256**
Other	1,484	**1,833**	**16,514**
Total	¥ 1,862	**¥ 2,305**	**$ 20,770**

(14) Property, Plant and Equipment

Changes in carrying amounts and the balance of acquisition costs and accumulated depreciation of property, plant and equipment are as follows. For the information of impairment losses, see "(16) Impairment of Non-Financial Assets."

Changes in Carrying Amounts

	Millions of yen						
	Buildings and structures	Machinery and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Other	Total
April 1, 2017	¥ 33,652	¥ 55,371	¥ 8,181	¥ 15,734	¥ 18,804	¥ 5	¥ 131,748
Acquisition	64	2,056	490	—	37,417	203	40,230
Acquisition from business combination	1	140	24	—	—	—	165
Depreciation	(2,758)	(8,957)	(3,449)	—	—	0	(15,163)
Sales and disposals	(68)	(121)	(40)	(524)	(630)	—	(1,382)
Transfer	7,694	10,282	3,867	—	(21,838)	(5)	—
Exchange differences of foreign operations	(49)	955	23	(58)	1,360	(3)	2,228
Other	(24)	(264)	(2)	—	2,298	0	2,009
March 31, 2018	¥ 38,512	¥ 59,463	¥ 9,095	¥ 15,153	¥ 37,412	¥ 199	¥ 159,834
Acquisition	525	2,194	1,090	102	30,198	(182)	33,927
Acquisition from business combination	6,403	4,616	701	2,171	924	—	14,816
Depreciation	(3,717)	(11,552)	(3,899)	—	—	—	(19,167)
Impairment loss	(46)	(117)	(101)	(163)	(2)	—	(430)
Sales and disposals	(187)	(492)	(130)	(32)	0	—	(840)
Transfer	6,115	13,502	4,342	(3)	(23,956)	—	—
Exchange differences of foreign operations	(2)	574	(47)	13	(1,423)	5	(879)
Other	(309)	1,508	(23)	—	(4,980)	—	(3,804)
March 31, 2019	**¥ 47,295**	**¥ 69,697**	**¥ 11,029**	**¥ 17,240**	**¥ 38,173**	**¥ 23**	**¥ 183,457**

	Thousands of U.S. Dollars						
	Buildings and structures	Machinery and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Other	Total
March 31, 2018	$ 346,991	$ 535,750	$ 81,945	$ 136,522	$ 337,076	$ 1,797	$ 1,440,080
Acquisition	4,726	19,771	9,823	918	272,075	(1,639)	305,674
Acquisition from business combination	57,689	41,593	6,315	19,560	8,328	—	133,486
Depreciation	(33,487)	(104,080)	(35,125)	—	—	—	(172,692)
Impairment loss	(414)	(1,053)	(912)	(1,470)	(21)	—	(3,871)
Sales and disposals	(1,682)	(4,433)	(1,167)	(285)	0	—	(7,566)
Transfer	55,096	121,648	39,123	(29)	(215,838)	—	—
Exchange differences of foreign operations	(17)	5,172	(421)	113	(12,817)	49	(7,921)
Other	(2,781)	13,587	(209)	—	(44,868)	—	(34,271)
March 31, 2019	**$ 426,120**	**$ 627,957**	**$ 99,371**	**$ 155,329**	**$ 343,935**	**$ 206**	**$ 1,652,918**

Acquisition Cost

	Millions of yen						
	Buildings and structures	Machinery and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Other	Total
March 31, 2018	¥ 117,510	¥ 312,766	¥ 60,729	¥ 15,153	¥ 37,412	¥ 199	¥ 543,769
March 31, 2019	**¥ 141,647**	**¥ 356,983**	**¥ 65,906**	**¥ 17,240**	**¥ 38,173**	**¥ 156**	**¥ 620,105**

	Thousands of U.S. Dollars						
	Buildings and structures	Machinery and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Other	Total
March 31, 2019	**$ 1,276,218**	**$ 3,216,350**	**$ 593,805**	**$ 155,329**	**$ 343,935**	**$ 1,402**	**$ 5,587,039**

Accumulated Depreciation and Impairment

	Millions of yen						
	Buildings and structures	Machinery and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Other	Total
March 31, 2018	¥ 78,998	¥ 253,303	¥ 51,634	¥ —	¥ —	¥ —	¥ 383,935
March 31, 2019	**¥ 94,352**	**¥ 287,286**	**¥ 54,877**	**¥ —**	**¥ —**	**¥ 133**	**¥ 436,648**

	Thousands of U.S. Dollars						
	Buildings and structures	Machinery and vehicles	Tools, fixtures and fittings	Land	Construction in progress	Other	Total
March 31, 2019	**$ 850,098**	**$ 2,588,392**	**$ 494,434**	**$ —**	**$ —**	**$ 1,196**	**$ 3,934,120**

(Notes) 1. Depreciation expenses of property, plant and equipment are recorded as "inventories" on the consolidated statement of financial position, or "cost of sales" and "selling, general and administrative expenses" on the consolidated statement of profit or loss.
2. "Other" in the changes of carrying amounts includes transfer to/from "inventories" on the consolidated statement of financial position, or "cost of sales" and "selling, general and administrative expenses" on the consolidated statement of profit or loss.
3. Amounts of property, plant and equipment pledged as collateral for liabilities are stated in "(19) Borrowings and Other Financial Liabilities."

(15) Goodwill and Other Intangible Assets

Changes in carrying amounts and the balance of acquisition costs and accumulated amortization of goodwill and other intangible assets are as follows. For the information of impairment losses, see "(16) Impairment of Non-Financial Assets."

Changes in Carrying Amounts

	Millions of yen			
		Other intangible asset		
	Goodwill	Software	Other	Total
April 1, 2017	¥ 9,331	¥ 3,834	¥ 5,356	¥ 9,190
Acquisition	—	2,032	146	2,179
Acquisition from business combination	10,593	9	78	87
Amortization	—	(895)	(914)	(1,809)
Sales and disposals	—	(134)	(66)	(199)
Transfer to other property, plant and equipment	—	(2,593)	2,593	—
Exchange differences of foreign operations	(535)	135	462	597
Other	0	345	14	359
March 31, 2018	¥ 19,389	¥ 2,734	¥ 7,670	¥ 10,403
Acquisition	—	1,773	339	2,112
Acquisition from business combination	38,549	444	2,898	3,342
Amortization	—	(1,138)	(1,536)	(2,675)
Impairment loss	—	(9)	—	(9)
Sales and disposals	—	(11)	(59)	(71)
Transfer to other property, plant and equipment	—	(153)	153	—
Exchange differences of foreign operations	1,128	18	132	150
Other	—	480	471	951
March 31, 2019	**¥ 59,066**	**¥ 4,137**	**¥ 10,068**	**¥ 14,205**

	Thousands of U.S. dollars			
		Other intangible asset		
	Goodwill	Software	Other	Total
March 31, 2018	$ 174,690	$ 24,629	$ 69,104	$ 93,733
Acquisition	—	15,974	3,051	19,026
Acquisition from business combination	347,322	4,003	26,110	30,114
Amortization	—	(10,256)	(13,841)	(24,097)
Impairment loss	—	(78)	—	(78)
Sales and disposals	—	(102)	(533)	(636)
Transfer to other property, plant and equipment	—	(1,381)	1,381	—
Exchange differences of foreign operations	10,165	159	1,193	1,352
Other	—	4,322	4,245	8,566
March 31, 2019	**$ 532,177**	**$ 37,270**	**$ 90,710**	**$ 127,980**

Acquisition Cost

	Millions of yen			
		Other intangible asset		
	Goodwill	Software	Other	Total
March 31, 2018	¥ 19,389	¥ 18,141	¥ 20,927	¥ 39,068
March 31, 2019	**¥ 59,066**	**¥ 21,045**	**¥ 24,315**	**¥ 45,359**

	Thousands of U.S. dollars			
		Other intangible asset		
	Goodwill	Software	Other	Total
March 31, 2019	**$ 532,177**	**$ 189,608**	**$ 219,073**	**$ 408,681**

Accumulated Amortization and Impairment

	Millions of yen			
		Other intangible asset		
	Goodwill	Software	Other	Total
March 31, 2018	¥ —	¥ 15,408	¥ 13,257	¥ 28,665
March 31, 2019	**¥ —**	**¥ 16,908**	**¥ 14,247**	**¥ 31,155**

	Thousands of U.S. dollars			
		Other intangible asset		
	Goodwill	Software	Other	Total
March 31, 2019	**$ —**	**$ 152,338**	**$ 128,363**	**$ 280,701**

(Notes) 1. Amortization expenses of other intangible assets are recorded as "cost of sales" and "selling, general and administrative expenses" on the consolidated statement of profit or loss.
2. "Other" in the changes of carrying amounts includes transfer to/from "cost of sales" and "selling, general and administrative expenses" on the consolidated statement of profit or loss.

(16) Impairment of Non-Financial Assets

1) Impairment Losses on Property, Plant and Equipment and Intangible Assets Other Than Goodwill

Impairment losses in the fiscal years ended March 31, 2018 and 2019 are as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Property, plant and equipment			
Buildings and structures	¥ —	**¥ 46**	**$ 414**
Machinery and vehicles	—	**117**	**1,053**
Tools, fixtures and fittings	—	**101**	**912**
Land	—	**163**	**1,470**
Construction in progress	—	**2**	**21**
Subtotal	—	**430**	**3,871**
Other intangible asset			
Software	—	**9**	**78**
Total	¥ —	**¥ 438**	**$ 3,948**

The impairment losses were recognized in the fiscal year ended March 31, 2019 due to the decrease of future profitability regarding a part of non-current assets in the Other Business segment. The carrying amounts of above assets were reduced to the recoverable amount and impairment loss of ¥438 million ($3,948 thousand) was recorded in other operating expenses on the consolidated statement of profit or loss. The recoverable amount was measured at the value in use and that of the relevant assets was calculated as zero.

2) Impairment Test on Goodwill

Carrying amount of goodwill allocated to cash-generating units (or groups of cash-generating units) is as follows:

		Millions of yen		Thousands of U.S. dollars
Segment	Cash-generating units (groups of cash-generating units)	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Plastics business	Plastics	¥ 585	**¥ 2,598**	**$ 23,411**
Life Sciences business	In-vitro Diagnostics and Research Reagents	3,641	**3,641**	**32,806**
	Contract Development and Manufacturing for Biomedicine	5,002	**5,226**	**47,086**
	Contract of the Services for Development and Generation of Cell-lines	9,330	**9,133**	**82,290**
	Drug Discovery and Development Services	—	**37,637**	**339,105**
	Other	830	**830**	**7,479**
Total		¥ 19,389	**¥ 59,066**	**$ 532,177**

Of the above goodwill, major goodwill was tested for impairment as follows. The recoverable amount was measured as the higher of the value in use or the fair value less costs of disposal.

Measured at the Value in Use

Cash-generating units (groups of cash-generating units)	The continued growth rate	The pre-tax discount rate	The term to estimate cash flows
Plastics	0.0%	17.5%	5 years
In-vitro Diagnostics and Research Reagents	1.0%	8.0%	5 years
Contract Development and Manufacturing for Biomedicine	2.0%	15.7%	5 years
Contract of the Services for Development and Generation of Cell-lines	2.0%	11.2%	5 years
Drug Discovery and Development Services	2.0%	12.1%	5 years

The value in use was calculated by discounting estimated cash flows to the present value based on the plan reflecting past experience and external information and approved by the management.

In cash-generating units apart from drug discovery and development services, the recoverable amounts sufficiently exceed the carrying amounts in the four cash-generating units other than the drug discovery and development services. The Group considers that the recoverable amounts will not fall below the carrying amounts even if there is a change in future cash flows, discount rates, etc. used for the calculation of the recoverable amounts within a reasonable range.

As for the drug discovery and development services, if the discount rate increased by 0.4%, or the continued growth rate used to calculate the terminal value for business decreased by 0.7%, the recoverable amount would equate to the carrying amount.

(17) Investments Accounted for Using Equity Method

1) Investments in Associates

There are no investments in significant associates.

Carrying amount of investments in associates that are not individually significant is as follows:

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Carrying amount	¥ 2,892	**¥ 3,628**	**$ 32,691**

The Group's share of comprehensive income of associates that are not individually significant is as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Share of profit (loss)	¥ 408	**¥ 442**	**$ 3,982**
Share of other comprehensive income	2,124	**(39)**	**(352)**
Share of total comprehensive income	¥ 2,532	**¥ 403**	**$ 3,630**

2) Investments in Joint Ventures

There are no investments in significant joint ventures.

Carrying amount of investments in joint ventures that are not individually significant is as follows:

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Carrying amount	¥ 21,893	**¥ 20,641**	**$ 185,969**

The Group's share of comprehensive income of joint ventures that are not individually significant is as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Share of profit (loss)	¥ (70)	**¥ 91**	**$ 822**
Share of other comprehensive income	(593)	**(1,169)**	**(10,531)**
Share of total comprehensive income	¥ (663)	**¥ (1,078)**	**$ (9,708)**

(18) Income Taxes

1) Deferred Tax Assets and Liabilities

(i) Deferred Tax Assets and Liabilities Recognized

The breakdown of deferred tax assets and liabilities by major causes for occurrence in each fiscal year is as follows:

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

	Millions of yen				
	April 1, 2017	Recognized through profit (loss)	Recognized through other comprehensive income	Other	March 31, 2018
Deferred Tax Assets					
Inventories	¥ 1,507	¥ (354)	¥ —	¥ —	¥ 1,153
Accrued bonuses	1,432	140	—	2	1,574
Non-current assets	2,747	(849)	—	—	1,898
Retirement benefit liability	4,083	184	(71)	9	4,205
Unused tax losses	281	109	—	—	390
Other	3,879	(1,004)	(140)	15	2,751
Total	¥ 13,930	¥ (1,774)	¥ (210)	¥ 26	¥ 11,972
Deferred Tax Liabilities					
Non-current assets	(2,479)	965	—	—	(1,513)
Financial asset measured at fair value through other comprehensive income	(7,629)	—	(3,468)	—	(11,097)
Other	(1,912)	148	—	—	(1,764)
Total	¥ (12,019)	¥ 1,113	¥ (3,468)	¥ —	¥ (14,374)

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Millions of yen				
	April 1, 2018	Recognized through profit (loss)	Recognized through other comprehensive income	Other	**March 31, 2019**
Deferred Tax Assets					
Inventories	¥ 1,153	¥ (20)	¥ —	¥ —	**¥ 1,133**
Accrued bonuses	1,574	(18)	—	154	**1,710**
Non-current assets	1,898	58	—	—	**1,956**
Retirement benefit liability	4,205	426	(24)	173	**4,780**
Unused tax losses	390	(97)	—	132	**425**
Other	2,751	(50)	181	679	**3,562**
Total	¥ 11,972	¥ 299	¥ 157	¥ 1,138	**¥ 13,566**
Deferred Tax Liabilities					
Non-current assets	(1,513)	(111)	—	—	**(1,625)**
Financial asset measured at fair value through other comprehensive income	(11,097)	—	2,334	—	**(8,763)**
Other	(1,764)	243	0	(471)	**(1,992)**
Total	¥ (14,374)	¥ 132	¥ 2,334	¥ (471)	**¥ (12,380)**

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Thousands of U.S. dollars				
	April 1, 2018	Recognized through profit (loss)	Recognized through other comprehensive income	Other	**March 31, 2019**
Deferred Tax Assets					
Inventories	$ 10,390	$ (180)	$ —	$ —	**$ 10,210**
Accrued bonuses	14,181	(160)	—	1,387	**15,408**
Non-current assets	17,104	522	—	—	**17,626**
Retirement benefit liability	37,888	3,839	(216)	1,556	**43,066**
Unused tax losses	3,513	(876)	—	1,190	**3,827**
Other	24,789	(451)	1,633	6,120	**32,092**
Total	$ 107,864	$ 2,694	$ 1,417	$ 10,253	**$ 122,228**
Deferred Tax Liabilities					
Non-current assets	(13,636)	(1,002)	—	—	**(14,638)**
Financial asset measured at fair value through other comprehensive income	(99,983)	—	21,027	—	**(78,956)**
Other	(15,892)	2,190	1	(4,246)	**(17,947)**
Total	$ (129,511)	$ 1,188	$ 21,028	$ (4,246)	**$ (111,542)**

(ii) Temporary Differences, etc. for Which Deferred Tax Assets Have Not Been Recognized

The Group assesses the recoverability of deferred tax assets in each period and recognizes deferred tax assets taking into account significant uncertainty on the recoverability of its deferred tax assets.

The amount of tax losses carried forward and deductible temporary differences for which deferred tax assets have not been recognized is as follows:

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Unused tax losses	¥ 5,274	**¥ 8,211**	**$ 73,980**
Deductible temporary differences	3,128	**3,086**	**27,800**
Total	¥ 8,402	**¥ 11,297**	**$ 101,780**

Expiration schedule of tax losses carried forward for which no deferred tax asset is recognized is as follows:

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Not later than one year	¥ 208	**¥ 88**	**$ 788**
Later than one year and not later than five years	1,159	**4,017**	**36,193**
Later than five year	3,907	**4,107**	**36,999**
Total	¥ 5,274	**¥ 8,211**	**$ 73,980**

The amount of taxable temporary differences pertaining to investments in subsidiaries, etc. for which deferred tax liabilities have not been recognized was ¥16,899 million as of March 31, 2018 and ¥26,338 million ($237,303 thousand) as of March 31, 2019, respectively. For these temporary differences, deferred tax liabilities have not been recognized because the Group can control the timing of the reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.

2) Income Tax Expense

The breakdown of income tax expense is as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Current tax expenses	¥ 10,566	**¥ 11,021**	**$ 99,301**
Deferred tax expenses	661	**(431)**	**(3,882)**
Total	¥ 11,227	**¥ 10,591**	**$ 95,419**

Deferred tax expenses include tax losses of ¥243 million ($2,191 thousand) which had not been recognized previously in the current consolidated fiscal year. Also, the amounts of benefits arising from temporary differences in past periods are included in the previous consolidated fiscal year and the current consolidated fiscal year, which were ¥304 million and ¥232 million ($2,095 thousand) respectively.

Differences between statutory income tax rates and average effective tax rates can be explained with following factors.

	%	
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**
Statutory income tax rate	30.9	**30.6**
Tax credit on experiment and research expenses	(3.6)	**(3.9)**
Differences in tax rates applied to foreign operations	(3.6)	**(2.2)**
Special deduction for reconstruction district	(0.2)	**(0.6)**
Share of loss (profit) of entities accounted for using equity method	(0.2)	**(0.4)**
Valuation allowance	0.3	**0.8**
Other	0.7	**(0.4)**
Average effective tax rate	24.3	**24.0**

(19) Borrowings and Other Financial Liabilities

1) Financial Liabilities

Borrowings and other financial liabilities consisted of the followings.

	Millions of yen		Thousands of U.S. dollars	%	
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**	Average interest rates	Payment Due
Current borrowings	¥ 18,901	**¥ 21,695**	**$ 195,465**	1.69%	—
Current portion of non-current borrowings	7,047	**11,824**	**106,536**	1.97%	—
Non-current borrowings	53,456	**50,777**	**457,492**	1.68%	Over one year within 7 years
Current lease obligations	523	**515**	**4,640**	—	—
Non-current lease obligation	1,674	**1,216**	**10,954**	—	Over one year within 9 years
Derivative liabilities	119	**17**	**152**	—	—
Other	—	**460**	**4,140**	—	—
Total	¥ 81,719	**¥ 86,503**	**$ 779,379**	—	—
Current liabilities	26,589	**34,051**	**306,793**	—	—
Non-current liabilities	55,130	**52,452**	**472,586**	—	—
Total	¥ 81,719	**¥ 86,503**	**$ 779,379**	—	—

Borrowings and lease obligations are classified as financial liabilities measured at cost. Derivative liabilities are classified as financial liabilities measured at fair value through profit or loss.

No restrictive financial covenants have been attached to the Group's borrowings.

Payment schedules of non-current borrowings are as follows:

	Later than one year and not later than two years	Later than two years and not later than three years	Later than three years and not later than four years	Later than four years and not later than five years	Later than five years	Total
Millions of yen	¥ 11,998	¥ 11,678	¥ 9,265	¥ 7,687	¥ 10,149	¥ 50,777
Thousands of U.S. dollars	$ 108,101	$ 105,217	$ 83,474	$ 69,261	$ 91,439	$ 457,492

2) Pledged Assets

The Company and its consolidated subsidiaries have pledged collateral under standard customary terms in standard borrowing contracts.

Pledged assets are as follows:

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Cash and cash equivalents	¥ 393	**¥ 590**	**$ 5,316**
Trade and other current receivables	4,884	**8,283**	**74,625**
Current inventories	2,170	**3,656**	**32,944**
Other current financial assets	0	**44**	**395**
Other current non-financial assets	837	**279**	**2,509**
Property, plant and equipment	12,098	**20,319**	**183,071**
Intangible assets	694	**671**	**6,045**
Non-current assets	2,007	**1,099**	**9,899**
Total	¥ 23,082	**¥ 34,940**	**$ 314,801**

Corresponding liabilities are as follows:

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Current borrowings and current portion of non-current borrowings	¥ 1,912	**¥ 7,037**	**$ 63,400**
Non-current portion of non-current borrowings	4,203	**2**	**18**
Total	¥ 6,116	**¥ 7,039**	**$ 63,418**

3) Reconciliation of Liabilities Arising from Financing Activities

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

	Millions of yen							
			Non-cash items					
	As of April 1, 2017	Cash flow	Business Combination	Acquisition	Exchange differences	Transfer between non-current and current	Other	As of March 31, 2018
Borrowings (non-current)	¥ 38,381	¥ 18,154	¥ 362	¥ —	¥ 232	¥ (4,779)	¥ 1,106	¥ 53,456
Borrowings (current)	23,740	(2,554)	37	—	(115)	4,779	60	25,947
Lease obligations	2,601	(667)	—	288	(32)	—	6	2,196
Total	¥ 64,723	¥ 14,933	¥ 399	¥ 288	¥ 85	¥ —	¥ 1,173	¥ 81,600

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Millions of yen							
			Non-cash items					
	As of April 1, 2018	Cash flow	Business Combination	Acquisition	Exchange differences	Transfer between non-current and current	Other	**As of March 31, 2019**
Borrowings (non-current)	¥ 53,456	**¥ 8,641**	**¥ 828**	**¥ —**	**¥ (586)**	**¥ (11,610)**	**¥ 48**	**¥ 50,777**
Borrowings (current)	25,947	**(9,323)**	**3,450**	**—**	**1,831**	**11,610**	**3**	**33,519**
Lease obligations	2,196	**(551)**	**0**	**63**	**23**	**—**	**(1)**	**1,731**
Total	¥ 81,600	**¥ (1,233)**	**¥ 4,278**	**¥ 63**	**¥ 1,268**	**¥ —**	**¥ 51**	**¥ 86,027**

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Thousands of U.S. dollars							
			Non-cash items					
	As of April 1, 2018	Cash flow	Business Combination	Acquisition	Exchange differences	Transfer between non-current and current	Other	**As of March 31, 2019**
Borrowings (non-current)	$ 481,631	**$ 77,852**	**$ 7,457**	**$ —**	**$ (5,283)**	**$ (104,601)**	**$ 436**	**$ 457,492**
Borrowings (current)	233,782	**(83,995)**	**31,084**	**—**	**16,499**	**104,601**	**30**	**302,002**
Lease obligations	19,789	**(4,969)**	**4**	**566**	**207**	**—**	**(5)**	**15,593**
Total	$ 735,202	**$ (11,112)**	**$ 38,545**	**$ 566**	**$ 11,423**	**$ —**	**$ 462**	**$ 775,087**

(20) Trade and Other Payables

Trade and other payables are classified as financial liabilities measured at amortized cost. The breakdown is show below.

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Trade Payable			
Notes and accounts payable-trade	¥ 82,942	**¥ 89,240**	**$ 804,033**
Other Payable			
Accounts payable-other, and accrued expenses	26,626	**28,134**	**253,481**
Other	735	**680**	**6,126**
Total	¥ 110,303	**¥ 118,053**	**$ 1,063,640**

(21) Employee Benefits

1) Outline of Post-Employment Benefit Plans

The Company and certain consolidated subsidiaries have adopted funded and unfunded defined benefit plans and defined contribution plans, and virtually all employees of these companies are covered by these plans. In Japan, as defined benefit plans under the Defined-Benefit Corporate Pension Act, defined benefit corporate pension plans and lump-sum retirement benefit plans have been operated. The amount of these benefits is calculated based on certain points, etc. given in accordance with service years and contribution. These pension plans are exposed to general investment risk, interest rate risk, inflation risk and others.

Funded defined benefit plans have been operated by a corporate pension fund that is legally separated from the Group in accordance with laws and regulations including Defined-Benefit Corporate Pension Act. The board of the corporate pension fund and the pension-managing trustee are required by laws and regulations to act in the best interests of plan participants, and are responsible for managing plan assets based on predetermined policies.

The management of plan assets is conducted based on basic asset allocation aimed to ensure stable revenue in the medium to long term within the limits of tolerable risks, in order to ensure the payment of pension benefits, etc. now and in the future. The basic asset allocation is periodically reviewed in order to respond to changes in the market environment and the funding position from initial assumptions made.

2) Defined Benefit Plans

(i) Reconciliation of Defined Benefit Plan Obligations and Plan Assets

The relationship between defined benefit plan obligations and plan assets, and net defined benefit liabilities and assets recorded in the consolidated statement of financial position is as follows:

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Present value of funded retirement benefit obligation	¥ 37,795	**¥ 39,636**	**$ 357,116**
Fair value of plan assets	(36,227)	**(37,772)**	**(340,320)**
Subtotal	1,568	**1,864**	**16,796**
Present value of unfunded retirement benefit obligation	11,929	**12,503**	**112,650**
Total Net liability (asset) for retirement benefit	¥ 13,498	**¥ 14,367**	**$ 129,445**
Amounts on consolidated statement of financial position			
Retirement benefit liability	14,500	**15,870**	**142,987**
Retirement benefit asset	(1,003)	**(1,503)**	**(13,541)**
Total Net liability (asset) for retirement benefit	¥ 13,498	**¥ 14,367**	**$ 129,445**

(ii) Reconciliation of Present Value of Defined Benefit Plan Obligations

Increase or decrease in the present value of defined benefit plan obligations is as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Balance of present value of retirement benefit obligation at the beginning of the fiscal year	¥ 50,124	**¥ 49,724**	**$ 448,008**
Service cost	2,461	**2,382**	**21,463**
Interest expense	221	**194**	**1,746**
Remeasurement			
Actuarial gains (losses) arising from changes in demographic assumptions	(487)	**(259)**	**(2,330)**
Actuarial gains (losses) arising from changes in financial assumptions	352	**444**	**4,003**
Benefits paid	(2,989)	**(2,600)**	**(23,430)**
Other	42	**2,254**	**20,307**
Balance of present value of retirement benefit obligation at the end of the fiscal year	¥ 49,724	**¥ 52,139**	**$ 469,766**

The weighted average duration of defined benefit plan obligations was 13.7 years in the fiscal year ended March 31, 2018 and 13.7 years in the fiscal year ended March 31, 2019.

(iii) Reconciliation of Fair Value of Plan Assets

Increase or decrease in the fair value of plan assets is as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
The balance of fair value of plan assets at the beginning of the fiscal year	¥ 36,593	**¥ 36,227**	**$ 326,397**
Interest revenue	172	**177**	**1,594**
Remeasument			
Return on plan assets	95	**264**	**2,379**
Contributions paid by the employer	1,470	**1,620**	**14,593**
Benefits paid	(2,092)	**(2,027)**	**(18,265)**
Other	(12)	**1,512**	**13,621**
The balance of fair value of plan assets at the end of the fiscal year	¥ 36,227	**¥ 37,772**	**$ 340,320**

For contributions to defined benefit plans, contributions are determined by making an actuarial review periodically so that balanced budgets can be maintained in the future. In the actuarial review, the Group reviews assumptions related to the determination of contributions (such as expected rate of interest, expected mortality rate and expected withdrawal rate) and verifies the appropriateness of contributions determined.

The Group will make contributions of ¥1,600 million ($14,413 thousand) in the fiscal year ending March 31, 2020.

(iv) Items of Plan Assets

Plan assets consisted of the following items.

	Millions of yen					
	As of March 31, 2018			**As of March 31, 2019**		
	Assets for which active market prices are available	Assets for which active market prices are not available	Total	Assets for which active market prices are available	Assets for which active market prices are not available	Total
Cash and cash equivalents	¥ 3,961	¥ —	¥ 3,961	**¥ 4,041**	**¥ —**	**¥ 4,041**
Equity instruments						
Domestic equity securities	1,042	—	1,042	**1,313**	**—**	**1,313**
Foreign equity securities	3,111	—	3,111	**3,540**	**—**	**3,540**
Debt instruments						
Domestic bonds	8,740	—	8,740	**9,279**	**—**	**9,279**
Foreign bonds	10,054	—	10,054	**10,249**	**—**	**10,249**
General accounts of life insurance	—	551	551	**—**	**650**	**650**
Alternative investments*	—	8,768	8,768	**—**	**8,700**	**8,700**
Total	¥ 26,908	¥ 9,319	¥ 36,227	**¥ 28,422**	**¥ 9,350**	**¥ 37,772**

*Alternative investments include hedge funds.

	Thousands of U.S. dollars		
	As of March 31, 2019		
	Assets for which active market prices are available	Assets for which active market prices are not available	Total
Cash and cash equivalents	**$ 36,411**	**$ —**	**$ 36,411**
Equity instruments			
Domestic equity securities	**11,831**	**—**	**11,831**
Foreign equity securities	**31,891**	**—**	**31,891**
Debt instruments			
Domestic bonds	**83,599**	**—**	**83,599**
Foreign bonds	**92,346**	**—**	**92,346**
General accounts of life insurance	**—**	**5,855**	**5,855**
Alternative investments*	**—**	**78,388**	**78,388**
Total	**$ 256,078**	**$ 84,242**	**$ 340,320**

*Alternative investments include hedge funds.

(v) Main Components Used for Actuarial Assumption

	%	
	As of March 31, 2018	**As of March 31, 2019**
Discount rates (Weighted average)	0.44	**0.36**

(vi) Sensitivity Analysis

In the fiscal year ended March 31, 2019, a 0.5% increase (decrease) in the discount rate used in actuarial calculation would have resulted in a decrease (increase) in the present value of defined benefit plan obligations by ¥2,848 million ($25,661 thousand). This provisional calculation assumes that variables other than the assumptions used in the calculation are constant. In reality, since individual assumptions are affected by changes in economic indicators and conditions at the same time, the assumptions are expected to change independently or in a correlated fashion, and actual effects of such changes on defined benefit plan obligations may differ.

3) Defined Contribution Plans

The amount recognized as expenses in relation to defined contribution plans was ¥406 million in the fiscal year ended March 31, 2018 and ¥1,025 million ($9,234 thousand) in the fiscal year ended March 31, 2019.

4) Employee Benefits Expense

The total amount of employee benefits expense included in "cost of sales" and "selling, general and administrative expenses" in the consolidated statement of profit or loss in the fiscal year ended March 31, 2018 and the fiscal year ended March 31, 2019 was ¥2,865 million and ¥3,377 million ($30,424thousand), respectively.

(22) Other Liabilities

Other liabilities includes following items.

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Other current liabilities			
Unearned revenue	¥ 4,860	**¥ 34**	**$ 307**
Contract liabilities	—	**5,969**	**53,780**
Accrued bonuses	4,523	**5,353**	**48,229**
Accrued consumption taxes	751	**752**	**6,777**
Other	2,473	**2,644**	**23,824**
Total	¥ 12,607	**¥ 14,752**	**$ 132,916**
Other non-current assets			
Provision for environmental measures	701	**929**	**8,366**
Other	1,778	**1,804**	**16,256**
Total	¥ 2,480	**¥ 2,733**	**$ 24,621**

(23) Equity and Other Equity Items

1) Share Capital and Capital Surplus

Capital surplus consists of legal capital surplus and other capital surplus.

The Companies Act of Japan (hereinafter the "Companies Act") stipulates that at least half of payment or contribution at the share issue shall be credited to share capital, and the remaining amount may be recorded as legal capital surplus included in capital surplus. In addition, under the Companies Act, legal capital surplus may be credited to share capital by resolution of the general meeting of shareholders.

Increase or decrease in the number of authorized shares and the number of issued shares is as follows:

	Number of shares authorized	Number of shares issued
As of April 1, 2017	696,061,000	226,074,545
Increase/Decrease	—	51,600
As of March 31, 2018	696,061,000	226,126,145
Increase/Decrease	—	—
As of March 31, 2019	**696,061,000**	**226,126,145**

(Notes) 1. All shares issued by the Company are ordinary shares with no rights limitations and without par value and restricted shares. Issued shares are fully paid up.
2. Major factors for the increase or decrease during the period are changes related to directors' remuneration.

2) Treasury Shares

The Companies Act stipulates that entities may determine the number of shares to be acquired, the total amount of acquisition price, etc. and acquire treasury shares by resolution of the general meeting of shareholders, to the extent of the distributable amount. Moreover, in the case of acquisition through market transactions or a takeover bid, treasury shares may be acquired by resolution of the Board of Directors within the requirements prescribed in the Companies Act in accordance with the provisions of the Articles of Incorporation.

Increase or decrease in the number of treasury shares is as follows:

	Number of shares
As of April 1, 2017	3,560,532
Increase/Decrease	(25,753)
As of March 31, 2018	3,534,779
Increase/Decrease	2,160,170
As of March 31, 2019	**5,694,949**

(Note) Increase or decrease during the period is mainly due to purchase of shares resolved at the Board of Directors.

3) Retained Earnings

Retained earnings consist of legal retained earnings and other retained earnings.

The Companies Act stipulates that one tenth of the amount paid as dividends of surplus shall be reserved as legal capital surplus or legal retained earnings until the sum of legal capital surplus included in capital surplus and legal retained earnings included in retained earnings reaches one quarter of share capital. Accumulated legal retained earnings may be appropriated to cover a deficit. It is specified that legal retained earnings may be reversed by resolution of general meeting of shareholder.

4) Other Components of Equity

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

	Millions of yen						
	Net change in financial assets measured at fair value through other comprehensive income	Net change in fair value on cash flow hedges	Exchange differences on translation of foreign operations	Remeasurements of defined benefit plans	Restricted Shares	Other	Total
As of April 1, 2017	¥ 17,213	¥ (8)	¥ (1,198)	¥ —	¥ —	¥ —	¥ 16,006
Other comprehensive income	8,034	79	1,822	110	—	—	10,045
Total comprehensive income	8,034	79	1,822	110	—	—	10,045
Share-based remuneration plan	—	—	—	—	(25)	—	(25)
Transfer from other components of equity to retained earnings	(183)	—	—	(110)	—	—	(292)
Changes in non-controlling interests	—	—	4	—	—	—	4
Other movements	—	—	(206)	—	—	(460)	(666)
Total transactions with owners, etc.	(183)	—	(202)	(110)	(25)	(460)	(980)
As of March 31, 2018	¥ 25,064	¥ 70	¥ 422	¥ —	¥ (25)	¥ (460)	¥ 25,071

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Millions of yen						
	Net change in financial assets measured at fair value through other comprehensive income	Net change in fair value on cash flow hedges	Exchange differences on translation of foreign operations	Remeasurements of defined benefit plans	Restricted Shares	Other	Total
As of April 1, 2018	¥ 25,064	¥ 70	¥ 422	¥ —	¥ (25)	¥ (460)	¥ 25,071
Other comprehensive income	(4,754)	(40)	(770)	60	—	—	(5,505)
Total comprehensive income	(4,754)	(40)	(770)	60	—	—	(5,505)
Share-based remuneration plan	—	—	—	—	(1)	—	(1)
Transfer from other components of equity to retained earnings	(629)	—	—	(60)	—	—	(689)
Acquisition from business combination	(173)	—	54	—	—	—	(119)
Other movements	(0)	—	1	—	—	—	1
Total transactions with owners, etc.	(802)	—	55	(60)	(1)	—	(808)
As of March 31, 2019	**¥ 19,508**	**¥ 30**	**¥ (293)**	**¥ —**	**¥ (26)**	**¥ (460)**	**¥ 18,758**

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Thousands of U.S. dollars						
	Net change in financial assets measured at fair value through other comprehensive income	Net change in fair value on cash flow hedges	Exchange differences on translation of foreign operations	Remeasurements of defined benefit plans	Restricted Shares	Other	Total
As of April 1, 2018	$ 225,822	$ 632	$ 3,799	$ —	$ (226)	$ (4,140)	$ 225,887
Other comprehensive income	(42,834)	(365)	(6,939)	538	—	—	(49,600)
Total comprehensive income	(42,834)	(365)	(6,939)	538	—	—	(49,600)
Share-based remuneration plan	—	—	—	—	(11)	—	(11)
Transfer from other components of equity to retained earnings	(5,666)	—	—	(538)	—	—	(6,204)
Acquisition from business combination	(1,560)	—	488	—	—	—	(1,072)
Other movements	(3)	—	9	—	—	—	7
Total transactions with owners, etc.	(7,229)	—	498	(538)	(11)	—	(7,280)
As of March 31, 2019	**$ 175,760**	**$ 267**	**$ (2,643)**	**$ —**	**$ (237)**	**$ (4,140)**	**$ 169,007**

(a) Exchange Differences on Translation of Foreign Operations

They represent translation differences on foreign operations' financial statements.

(b) Net Change in Financial Assets Measured at Fair Value through Other Comprehensive Income

It represents valuation differences on fair value of equity instruments measured at fair value through other comprehensive income.

(c) Net Change in Fair Value of Cash Flow Hedges

It represents change in profit or loss on valuation of derivatives as hedging instruments that were recorded in the statement of comprehensive income on and before the date of cessation of hedge accounting.

(d) Remeasurements of Defined Benefit Liabilities (Assets)

Remeasurements of defined benefit liabilities (assets) are changes in actuarial differences, return on plan assets (excluding the amount included in interest revenue) and the effect of the asset ceiling (excluding the amount included in interest revenue). Actuarial differences are adjustments based on actual results related to defined benefit plan obligations (differences between actuarial assumptions at the beginning of the period and actual results) and the effect of changes in actuarial assumptions. These items are recognized in other comprehensive income when they arise, and immediately transferred from other components of equity to retained earnings.

(e) Restricted Shares

Under the restricted share-based remuneration plan, monetary remuneration to be used as contributed properties for restricted shares is provided. The amount equivalent to fair value of remuneration determined at the initial recognition is recorded in share capital, and recognized as the amount debited to other components of equity. Over the vesting period, other components of equity recognized as the debited amount are deducted at the time when remuneration cost is recognized.

Details of the restricted share-based remuneration plan are provided in the note "(31) Share-Based Remuneration."

(24) Dividends

The amounts of dividends paid are as follows:

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

Resolution	Class of shares	Total amount of dividends	Dividends per share	Record date	Effective date of dividends	Source of dividends
Ordinary General Meeting of Shareholders on June 16, 2017	Ordinary shares	¥ 5,563million	¥ 25	March 31, 2017	June 19, 2017	Retained Earnings
Board of Directors Meeting on October 30, 2017	Ordinary shares	¥ 5,564 million	¥ 25	September 30, 2017	November 30, 2017	Retained Earnings

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

Resolution	Class of shares	Total amount of dividends	Dividends per share	Record date	Effective date of dividends	Source of dividends
Ordinary General Meeting of Shareholders on June 15, 2018	**Ordinary shares**	**¥ 5,565million ($ 50,138 thousand)**	**¥ 25 ($ 0.23)**	**March 31, 2018**	**June 18, 2018**	**Retained Earnings**
Board of Directors Meeting on October 29, 2018	**Ordinary shares**	**¥ 6,610 million ($ 59,556 thousand)**	**¥ 30 ($ 0.27)**	**September 30, 2018**	**November 28, 2018**	**Retained Earnings**

Dividends of which record dates belong to the current consolidated fiscal year and of which effective dates of dividends fall after the end of the current consolidated fiscal year are as follows:

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

Resolution	Class of shares	Total amount of dividends	Dividends per share	Record date	Effective date of dividends	Source of dividends
Ordinary General Meeting of Shareholders on June 15, 2018	Ordinary shares	¥ 5,565 million	¥ 25	March 31, 2018	June 18, 2018	Retained Earnings

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

Resolution	Class of shares	Total amount of dividends	Dividends per share	Record date	Effective date of dividends	Source of dividends
Ordinary General Meeting of Shareholders on June 18, 2019	**Ordinary shares**	**¥ 6,613 million ($ 59,581 thousand)**	**¥ 30 ($0.27)**	**March 31, 2019**	**June 19, 2019**	**Retained Earnings**

(25) Revenue

1) Disaggregation of Revenue

Regarding the revenue arising from contracts with the Group's customers, the breakdown of revenue into domestic and overseas and its relation to the reportable segments are as follows.

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

		Millions of yen		
		Domestic	Overseas	Total
	Elastomers	**¥ 118,016**	**¥ 82,720**	**¥ 200,736**
	Plastics	**60,840**	**44,606**	**105,446**
	Digital Solutions	**30,995**	**111,221**	**142,216**
Reporting Segments	Semiconductor Materials	**17,056**	**59,044**	**76,100**
	Display Materials	**5,557**	**47,114**	**52,671**
	Edge Computing Materials	**8,382**	**5,063**	**13,445**
	Life Sciences	**9,038**	**34,834**	**43,872**
Other		**1,819**	**2,655**	**4,475**
Total		**¥ 220,709**	**¥ 276,036**	**¥ 496,745**
Adjustment		**1**	**—**	**1**
Amount Recorded in the Consolidated Financial Statements		**¥ 220,710**	**¥ 276,036**	**¥ 496,746**

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

		Thousands of U.S. dollars		
		Domestic	Overseas	Total
	Elastomers	**$ 1,063,302**	**$ 745,295**	**$ 1,808,597**
	Plastics	**548,160**	**401,891**	**950,051**
	Digital Solutions	**279,262**	**1,002,080**	**1,281,342**
Reporting Segments	Semiconductor Materials	**153,669**	**531,979**	**685,648**
	Display Materials	**50,069**	**424,487**	**474,556**
	Edge Computing Materials	**75,524**	**45,614**	**121,138**
	Life Sciences	**81,434**	**313,846**	**395,281**
Other		**16,391**	**23,926**	**40,316**
Total		**$ 1,988,549**	**$ 2,487,037**	**$ 4,475,586**
Adjustment		**10**	**—**	**10**
Amount Recorded in the Consolidated Financial Statements		**$ 1,988,559**	**$ 2,487,037**	**$ 4,475,596**

(i) Elastomers Business

In Elastomers business, the Group manufactures and sells general-purpose synthetic rubber products for automobile tires, functional special synthetic rubber for automobile components, thermoplastic elastomers for modifying plastics, and synthetic rubber latex for coated paper, etc.

For the sales contracts on products and merchandise, the Group recognizes revenue upon delivery because the control of the products and merchandise is considered to be transferred to the customer and the performance obligation is satisfied by delivery.

(ii) Plastics Business

In Plastics business, the Group manufactures and sells ABS and other resins for automobiles, office equipment, and amusement applications, etc.

For the sales contracts on products and merchandise, the Group recognizes revenue upon delivery because the control of the products and merchandise is considered to be transferred to the customer and the performance obligation is satisfied by delivery.

(iii) Digital Solutions Business

In Digital Solutions business, the Group manufactures and sells semiconductor materials, display materials, and products related to edge computing, etc.

For the sales contracts on products and merchandise, the Group recognizes revenue upon delivery because the control of the products and merchandise is considered to be transferred to the customer and the performance obligation is satisfied by delivery.

(iv) Life Sciences Business

(a) Manufacturing and Sale of In-vitro Diagnostics and Research Reagents, Related Materials, and Bioprocess Materials

For the sales contracts on products and merchandise, the Group recognizes revenue upon delivery because the control of the products and merchandise is considered to be transferred to the customer and the performance obligation is satisfied by delivery.

(b) Contract Development and Manufacturing for Bioprocess, etc.

The Group renders services in the contract research and manufacturing businesses related to bioprocess, etc.

For rendering of services, the Group recognizes revenue at over time with fulfillment of performance obligation based on the contract between the Group and the customer.

2) Liabilities Arising from Contracts with the Customers

The Group recognizes unearned revenue arising from contracts with the customers as contract liabilities.

The Group recognized all balances of contract liabilities at the beginning of the current fiscal year as revenue in that year.

Also, in the current consolidated fiscal year, there is no significant amount of revenue arisen from the performance obligations which were satisfied in the past periods.

There are no significant changes in the contract liabilities in the current consolidated fiscal year.

3) Transaction Price Allocated to the Remaining Performance Obligations

The Group applies the practical expedient and omits information on the remaining performance obligations because there are no significant transactions with initial expected contractual terms exceeding one year.

There are no significant amounts of consideration from contracts with customers that are not included in transaction prices.

The consideration does not include a significant financing component, since the consideration for transaction prices is mainly collected within one year from the time of delivery of products and merchandise to customers or the agreement based on the contract such as milestone achievement.

4) Assets Recognized from the Costs of Obtaining or Fulfilling Contracts with Customers

There is no significance in the amount of assets recognized from the costs incurred to obtain or fulfill a contract with a customer in the current consolidated fiscal year.

The Group applies the practical expedient of recognizing the incremental costs of obtaining a contract as an expense when incurred if the amortization period of the asset that the Group otherwise would have recognized is one year or less.

(26) Selling, General and Administrative Expenses

1) Major items in selling, general and administrative expenses are as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Transportation and warehousing expenses	¥ 8,776	**¥ 11,712**	**$ 105,526**
Salaries and allowances	18,949	**23,613**	**212,748**
Retirement benefit expenses	860	**1,489**	**13,418**
Experiment and research expenses	20,678	**24,318**	**219,104**
Depreciation	2,320	**3,489**	**31,437**
Supplies expenses	3,695	**4,025**	**36,266**
Business consignment expenses	3,631	**3,440**	**30,998**
Other	28,067	**30,993**	**279,238**
Total	¥ 86,977	**¥ 103,080**	**$ 928,735**

2) Amount of research and development expense included in general and administrative expenses and manufacturing costs

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Research and development expense	¥ 20,322	**¥ 24,733**	**$ 222,836**

(27) Other Operating Income and Expenses

Other operating Income consisted of as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Gain on sales of non-current assets	¥ 170	**¥ 52**	**$ 465**
Rent income	94	**90**	**809**
Gain on bargain purchase	441	**—**	**—**
Settlement received	602	**266**	**2,395**
Other	954	**1,316**	**11,858**
Total	¥ 2,262	**¥ 1,723**	**$ 15,527**

Other operating expenses consisted of as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Loss on abandonment of non-current assets	¥ 921	**¥ 237**	**$ 2,137**
Loss on sales of non-current assets	11	**21**	**193**
Impairment loss	—	**438**	**3,948**
Provision for environmental measures	—	**399**	**3,593**
Extra payments for early retirements	—	**199**	**1,796**
Other	1,255	**1,600**	**14,414**
Total	¥ 2,187	**¥ 2,895**	**$ 26,082**

(28) Financial Income and Costs

Financial income consisted of as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Financial assets measured at amortized cost			
Interest income	¥ 238	**¥ 222**	**$ 2,001**
Equity financial assets measured at fair value through other comprehensive income			
Dividend income	2,083	**1,409**	**12,691**
Foreign exchange gains	1,338	**868**	**7,825**
Total	¥ 3,659	**¥ 2,499**	**$ 22,515**

Financial costs consisted of as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
Financial liabilities measured at amortized cost			
Interest expenses	¥ 1,022	**¥ 1,352**	**$ 12,184**
Total	¥ 1,022	**¥ 1,352**	**$ 12,184**

(29) Other Comprehensive Income

Changes in items of other comprehensive income are shown below.

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

	Millions of yen				
	Amount incurred	Reclassification	Before tax	Income tax	Net of tax
Other comprehensive income that will not be reclassified to profit or loss					
Net change in financial assets measured at fair value through other comprehensive income	¥ 11,588	¥ —	¥ 11,588	¥ (3,541)	¥ 8,046
Remeasurements of defined benefit plans	230	—	230	(71)	160
Share of other comprehensive income of investments accounted for using equity method	(50)	—	(50)	—	(50)
Total	11,768	—	11,768	(3,612)	8,156
Items that may be reclassified to profit or loss					
Cash flow hedges	95	59	154	—	154
Exchange differences on translation of foreign operations	1,001	—	1,001	—	1,001
Share of other comprehensive income of investments accounted for using equity method	1,581	—	1,581	—	1,581
Total	2,677	59	2,736	—	2,736
Total	¥ 14,445	¥ 59	¥ 14,504	¥ (3,612)	¥ 10,892

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Millions of yen				
	Amount incurred	Reclassification	Before tax	Income tax	Net of tax
Other comprehensive income that will not be reclassified to profit or loss					
Net change in financial assets measured at fair value through other comprehensive income	**¥ (6,813)**	**¥ —**	**¥ (6,813)**	**¥ 2,135**	**¥ (4,678)**
Remeasurements of defined benefit plans	**78**	**—**	**78**	**(24)**	**54**
Share of other comprehensive income of investments accounted for using equity method	**5**	**—**	**5**	**—**	**5**
Total	**(6,729)**	**—**	**(6,729)**	**2,111**	**(4,618)**
Items that may be reclassified to profit or loss					
Cash flow hedges	**(30)**	**(49)**	**(79)**	**—**	**(79)**
Exchange differences on translation of foreign operations	**476**	**—**	**476**	**—**	**476**
Share of other comprehensive income of investments accounted for using equity method	**(1,213)**	**—**	**(1,213)**	**—**	**(1,213)**
Total	**(768)**	**(49)**	**(817)**	**—**	**(817)**
Total	**¥ (7,497)**	**¥ (49)**	**¥ (7,546)**	**¥ 2,111**	**¥ (5,435)**

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

	Thousands of U.S. dollars				
	Amount incurred	Reclassification	Before tax	Income tax	Net of tax
Other comprehensive income that will not be reclassified to profit or loss					
Net change in financial assets measured at fair value through other comprehensive income	**$ (61,380)**	**$ —**	**$ (61,380)**	**$ 19,235**	**$ (42,145)**
Remeasurements of defined benefit plans	**706**	**—**	**706**	**(216)**	**490**
Share of other comprehensive income of investments accounted for using equity method	**48**	**—**	**48**	**—**	**48**
Total	**(60,626)**	**—**	**(60,626)**	**19,019**	**(41,607)**
Items that may be reclassified to profit or loss					
Cash flow hedges	**(272)**	**(443)**	**(715)**	**—**	**(715)**
Exchange differences on translation of foreign operations	**4,285**	**—**	**4,285**	**—**	**4,285**
Share of other comprehensive income of investments accounted for using equity method	**(10,931)**	**—**	**(10,931)**	**—**	**(10,931)**
Total	**(6,917)**	**(443)**	**(7,360)**	**—**	**(7,360)**
Total	**$ (67,544)**	**$ (443)**	**$ (67,986)**	**$ 19,019**	**$ (48,967)**

(30) Earnings per Share

	Fiscal year ended March 31, 2018	**Fiscal year ended March 31, 2019**	**Fiscal year ended March 31, 2019**
1) Basic earnings per share	¥ 149.32	**¥ 140.62**	**$ 1.27**
(Basis of calculation)			
Profit attributable to owners of parent	¥ 33,230 million	**¥ 31,116 million**	**$ 280,348 thousand**
Average shares outstanding during the year (1,000 shares)	222,551	**221,276**	**221,276**
2) Diluted earnings per share	¥148.89	**¥140.27**	**$ 1.26**
(Basis of calculation)			
Increase in common stock due to stock options (1,000 shares)	637	**551**	**551**
Average diluted shares outstanding during the year (1,000 shares)	223,187	**221,827**	**221,827**

(31) Share-Based Remuneration

1) Stock Options

(i) Overview of Share-Based Remuneration Plan

The Group operated an equity-settled share-based remuneration plan where the Group received services from directors, executive officers, and employees and paid equity instruments (options) as consideration thereof until June 2018.

The fair value on the date the option was granted under the plan is recognized as an expense over the option's vesting period and the same amount is recorded as an increase of equity. The plan was terminated in June 2018 (however, of share acquisition rights as share-based stock options that were already granted to directors, etc., those share acquisition rights which have not been exercised will be continued).

(ii) Number and Weighted Average Exercise Prices of Stock Options

	Shares	Yen	Shares	Yen
	Fiscal year ended March 31, 2018		**Fiscal year ended March 31, 2019**	
	Number of shares	Weighted average exercise price	Number of shares	Weighted average exercise price
Outstanding at the beginning	642,100	¥ 1	**615,300**	**¥ 1**
Granted	—	—	**—**	**—**
Exercised	(26,800)	1	**(135,100)**	**1**
Forfeited	—	—	**—**	**—**
Expired	—	—	**—**	**—**
Outstanding at the end	615,300	1	**480,200**	**1**
Exercisable at the end	364,500	1	**267,700**	**1**

The weighted average share price as of the exercise date of stock options exercised during the period was ¥2,353 and ¥1,784 ($16.07) in the fiscal years ended March 31, 2018 and 2019, respectively.

In the fiscal years ended March 31, 2018 and 2019, the exercise price of unexercised stock options was ¥1 each. The weighted average remaining contract terms in the fiscal years ended March 31, 2018 and 2019 were 10.7 years and 11.0 years, respectively, for the unexercised balance at the end of the fiscal year, and 12.3 years and 12.3 years, respectively, for the exercisable balance at the end of the fiscal year.

2) Restricted Share-Based Remuneration Plan

The Group employs the restricted share-based remuneration plan in order to further promote sharing of values with shareholders and establish a remuneration structure that contributes to sustained improvement in corporate value in the medium to long term. Under this plan, to grant restricted shares to directors, excluding outside directors, and executive officers (hereinafter "Eligible Directors, etc."), the Company is to provide the Eligible Directors, etc. with claims for monetary remuneration in principle in each period and have them contribute these claims in kind as contributed properties to the Company. Accordingly, the Company is to issue or dispose of ordinary shares of the Company to the Eligible Directors, etc. and make them hold the shares.

The Company enters into an agreement with Eligible Directors, etc. for allotment of restricted shares, and Eligible Directors, etc. cannot transfer, pledge or dispose of in any other way shares granted under the allotment agreement at will during a given period of time stipulated in the agreement (hereinafter the "Transfer Restriction Period") (hereinafter, the "Transfer Restriction"). The Transfer Restriction is lifted for all shares held by Eligible Directors, etc. when the Transfer Restriction Period expires, on the condition that the Eligible Directors, etc. continued to hold a position of directors, executive officers, audit & supervisory board members, employees, or any other equivalent position of the Company or its subsidiaries during the Transfer Restriction Period. On the other hand, under this structure, shares for which the Transfer Restriction has not been lifted at the time when the Transfer Restriction Period expires are acquired by the Company without any payment in principle.

Details of restricted shares granted during the period are as follows:

	Fiscal year ended March 31, 2019 (from April 1, 2018 to March 31, 2019)
Number of restricted shares granted	56,200 shares
Fair value on the grant date	¥1,870 per share ($16.85 per share)
Calculation method for fair value measurement	Calculated on the basis of closing price of ordinary shares of the Company at the Tokyo Stock Exchange on the business day proceeding the date when the Board of Directors adopted a resolution.
Transfer Restriction Period	3 years

3) Share-Based Remuneration Expense

The amount of share-based remuneration expense included in "selling, general and administrative expenses" on the consolidated statement of profit or loss was, ¥98 million in fiscal year ended March 31,2018 and ¥104 million ($936 thousand) in fiscal year ended in March 31, 2019, respectively.

(32) Financial Instruments

1) Capital Management Policy

The Group considers it vitally important to improve corporate performance on a long-term basis and achieve improvement in corporate value in the medium to long term by strengthening its research and development activities from a long-term viewpoint and enhancing competitiveness through development of new businesses. For capital efficiency, the Group monitors ROE on a timely basis.

2) Financial Risks

The Group is exposed to financial risks related to operating activities (market risk, credit risk and liquidity risk), and conducts risk management based on certain policy to avoid or mitigate effects of the risks. For fund management, approval of the Company's Board of Directors is received in principle at the beginning of each period. Transactions and risk management during the period are principally conducted based on internal management regulations. The Group uses derivatives to avert risks described below, and as its policy, does not perform any speculative transaction.

(i) Market Risks

(a) Exchange Rate Risks

The Group operates business globally and sells products manufactured by the Company and each subsidiary and others abroad. Thus, the Group is exposed to the risk that profit or loss, cash flows, etc. are affected by fluctuations in exchange rates.

To avoid exchange rate risks, the Group mainly utilizes foreign exchange forward contracts as derivative transactions for trade receivables and payables denominated in foreign currencies.

The Company's responsible department manages risks in accordance with the derivative transaction management regulations that specify authority for transactions, maximum amount, etc. and reports monthly trading results to responsible Directors.

Details of currency derivatives are as follows:

Derivative Transactions which Hedge Accounting is Not Applied

	Millions of yen					
	As of March 31, 2018			**As of March 31, 2019**		
	Contracted Amount	Later than one year	Fair value	Contracted Amount	Later than one year	Fair value
U.S. dollar						
Forward exchange contracts						
Purchase	¥ 1,454	¥ —	¥ (33)	**¥ 911**	**¥ —**	**¥ (3)**
Sell	2,336	—	27	**6,543**	**—**	**(34)**
Total	¥ 3,790	¥ —	¥ (6)	**¥ 7,454**	**¥ —**	**¥ (37)**

	Thousands of U.S. dollars		
	As of March 31, 2019		
	Contracted Amount	Later than one year	Fair value
U.S. dollar			
Forward exchange contracts			
Purchase	**$ 8,204**	**$ —**	**$ (28)**
Sell	**58,951**	**—**	**(307)**
Total	**$ 67,155**	**$ —**	**$ (335)**

Although the Group does not apply hedge accounting to these derivative transactions, it considers that the transactions effectively offset effects of exchange fluctuations.

Exposure to Exchange Rate Risks

The Group's exposure of Japanese yen, Korean won and Thai baht as functional currencies against US dollar, the major foreign currency, is as follows. These amounts are after deduction of amounts of exchange rate risks hedged through derivative transactions, etc.

	Millions of yen		Thousands of U.S. dollars
Functional Currency	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Japanese yen	¥ 14,702	**¥ 6,232**	**$ 56,145**
Korean won	3,998	**4,753**	**42,825**
Thai baht	(11,231)	**4,008**	**36,115**

Foreign Exchange Sensitivity Analysis

With regard to foreign currency receivables and payables held by the Group at the end of each fiscal year, effects of 1% depreciation of US dollar against each functional currency on profit before tax in the consolidated statement of profit or loss are as follows. If each currency moves inversely, this will have effects opposite to and at the same amount as the table below. The calculation is based on the assumption that currencies other than the currency used do not fluctuate.

	Millions of yen		Thousands of U.S. dollars
Functional Currency	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Japanese yen (weak U.S. dollar)	¥ (147)	**¥ (62)**	**$ (561)**
Korean won (weak U.S. dollar)	(40)	**(48)**	**(428)**
Thai baht (weak U.S. dollar)	112	**(40)**	**(361)**

The Group hedges against the risk of exchange rate fluctuations regarding net investment in foreign operations by using foreign currency borrowings. The Group designates it as hedges of net investment.

(b) Equity Price Risks

Equity instruments held by the Group are principally shares of companies with which the Group has business relationships. These shares were acquired to expand businesses mutually and enhance the transaction relationships, and the Group does not hold the shares for the purpose of short-term trading.

Equity instruments include listed shares and unlisted shares. The Group periodically monitors market value, financial conditions of the issuers (business partners), etc. and reviews the ownership in light of the relationships with the business partners.

If the share price increases (decreases) by 5% with other changing factors remaining constant, other components of equity (net of related tax effects) will increase (decrease) by ¥1,889 million ($17,022 thousand) for the fiscal year ended March 31, 2019 (fiscal year ended March 31, 2018: ¥2,332 million) due to the change in fair value.

(c) Interest Rate Risks

The Group is exposed to interest rate fluctuation risks because it receives variable-rate loans from financial institutions.

For variable-rate, long-term borrowings involving interest rate fluctuation risks, the Group mitigates the risks by fixing cash flows using interest rate swap transactions, and applies cash flow hedges.

Exposure to interest rate fluctuation risks for the Group is limited, and effects of interest rate fluctuations are insignificant.

(ii) Credit Risks

The Group's trade and other receivables, other financial assets, etc. are exposed to credit risks of customers.

The Group establishes terms of collection and credit limit for transaction partners. In addition, the Group confirms the credit status periodically by obtaining the latest credit report on transaction partners from external organizations where necessary and analyzing the report as well as past results of collection and other factors. If it is considered that there is any change or abnormality in the credit status as a result of the confirmation, measures for protection of receivables are taken appropriately, including change in the credit limit, modification of the terms of collection or obtaining transaction credit insurance.

In the execution of derivative transactions, the Group conducts transactions only with financial institutions with high credit ratings in principle to mitigate credit risks.

The Group classifies receivables, etc. based on nature of the credit risk to calculate loss allowance.

In terms of trade receivables that do not include significant financial components, the loss allowance is always determined as the same amount as lifetime expected credit loss (simplified approach). The amount of expected credit loss is calculated by classifying receivables, etc. according to nature of the credit risk of the counterparty and multiplying the receivables amount by the allowance rate set according to the classification. This allowance rate is set in view of the probability of future occurrence of credit loss based on external credit reports.

In terms of other receivables, etc., the loss allowance is measured as the same amount as the 12-month expected credit loss in principle. The amount of expected credit loss is calculated by multiplying the gross carrying amount by the allowance rate established as stated above, in accordance with the general approach.

Of other receivables, etc., in terms of assets for which the credit risk has significantly increased from the initial recognition, including the case where the receivable is past due for payment, and credit-impaired financial assets, the loss allowance is recognized at the same amount as lifetime expected credit loss. In doing so, the amount of expected credit loss is determined as the difference between the present value, which is calculated by discounting future estimated cash flows using the original effective interest rate for the asset, and the gross carrying amount.

Gross carrying amount and loss allowance of financial assets for which loss allowance is recognized are as shown below. Investments (debt financial assets) and time deposits are excluded from the table below as those are judged as they are not exposed to credit risks.

	Millions of yen		Thousands of U.S. dollars
	Gross carrying amount		
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Trade and other receivables			
Measured at 12-month expected credit losses	¥ 20,520	**¥ 18,321**	**$ 165,066**
Measured at lifetime expected credit losses	287	**0**	**0**
Measured by simplified approach	99,059	**117,573**	**1,059,315**
Other financial assets			
Measured at 12-month expected credit losses	2,783	**2,884**	**25,986**
Measured at lifetime expected credit losses	390	**309**	**2,785**

* Financial assets for which loss allowance is measured at the amount equivalent to lifetime expected credit loss are principally credit-impaired financial assets.
* Credit risk rating:
For financial assets for which loss allowance is measured at 12-month expected credit loss, the credit risk rating for expected credit loss (assets to which the simplified approach is applied also correspond to this) is relatively high compared to financial assets for which loss allowance is measured at the amount equivalent to lifetime expected credit loss, and the credit rating of financial assets falling in the same category is basically the same.

	Millions of yen				
	Loss Allowance				
	Trade and other receivables			Other financial assets	
	Measured at 12-month expected credit losses	Measured at lifetime expected credit losses	Measured by simplified approach	Measured at 12-month expected credit losses	Measured at lifetime expected credit losses
As of April 1, 2017	¥ —	¥ 410	¥ 237	¥ 1	¥ 433
Increase	—	77	16	—	54
Decrease (Utilization)	—	(220)	—	—	—
Decrease (Reversal)	—	(13)	(15)	(0)	(35)
Other	—	10	34	—	(62)
As of March 31, 2018	¥ —	¥ 263	¥ 273	¥ 1	¥ 390
Increase	—	—	196	—	4
Decrease (Utilization)	—	—	(339)	—	(30)
Decrease (Reversal)	—	(17)	(137)	(0)	(54)
Other	—	(246)	624	—	(1)
As of March 31, 2019	**¥ —**	**¥ 0**	**¥ 618**	**¥ 1**	**¥ 309**

	Thousands of U.S. dollars				
	Loss Allowance				
	Trade and other receivables			Other financial assets	
	Measured at 12-month expected credit losses	Measured at lifetime expected credit losses	Measured by simplified approach	Measured at 12-month expected credit losses	Measured at lifetime expected credit losses
As of March 31, 2018	$ —	$ 2,370	$ 2,461	$ 6	$ 3,517
Increase	—	—	1,770	—	37
Decrease (Utilization)	—	—	(3,054)	—	(274)
Decrease (Reversal)	—	(151)	(1,231)	(1)	(483)
Other	—	(2,220)	5,621	—	(13)
As of March 31, 2019	**$ —**	**$ 0**	**$ 5,567**	**$ 5**	**$ 2,785**

* There is no significant change in gross carrying amount that could affect a change in loss allowance.

The maximum exposure for credit risk of financial assets is the carrying amount presented in the consolidated statement of financial position.

With regard to debt guarantees, the maximum exposure for credit risk is as follows:

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Guarantee Obligation	¥ 2,764	**¥ 3,032**	**$ 27,320**

* Loss allowance related to losses that could arise due to performance of a debt guarantee contract has not been recorded.

(iii) Liquidity Risks

Liquidity risks are the risk that the Group cannot execute a payment on the due date. Funds of the Group as a whole are in a position of net cash where funds held exceed borrowings. The Group formulates a financial plan based on the annual business plan, and then manages liquidity risks by ensuring an appropriate balance between direct and indirect financing and between short-term and long-term financing to prepare for these risks.

The balance of financial liabilities of the Group by maturity is as follows:

	Millions of yen							
As of March 31, 2018	Carrying amount	Not later than one year	1-2 years	2-3 years	3-4 years	4-5 years	Later than 5 years	Contractual cash flows Total
Trade and other receivables	¥ 110,303	¥ 110,303	¥ —	¥ —	¥ —	¥ —	¥ —	¥ 110,303
Borrowings	79,404	26,163	11,633	11,654	11,079	8,695	11,732	80,956
Derivative liabilities	119	119	—	—	—	—	—	119
Other	2,196	520	456	344	320	286	271	2,196
Total	¥ 192,022	¥ 137,105	¥ 12,089	¥ 11,998	¥ 11,399	¥ 8,981	¥ 12,003	¥ 193,574

	Millions of yen							
As of March 31, 2019	Carrying amount	Not later than one year	1-2 years	2-3 years	3-4 years	4-5 years	Later than 5 years	Contractual cash flows Total
Trade and other receivables	**¥ 118,053**	**¥ 118,053**	**¥ —**	**¥ —**	**¥ —**	**¥ —**	**¥ —**	**¥ 118,053**
Borrowings	**84,296**	**33,818**	**12,910**	**11,697**	**10,093**	**7,849**	**10,182**	**86,549**
Derivative liabilities	**17**	**17**	**—**	**—**	**—**	**—**	**—**	**17**
Other	**1,731**	**515**	**309**	**267**	**230**	**203**	**207**	**1,731**
Total	**¥ 204,097**	**¥ 152,403**	**¥ 13,219**	**¥ 11,964**	**¥ 10,323**	**¥ 8,052**	**¥ 10,389**	**¥ 206,350**

	Thousands of U.S. dollars							
As of March 31, 2019	Carrying amount	Not later than one year	1-2 years	2-3 years	3-4 years	4-5 years	Later than 5 years	Contractual cash flows Total
Trade and other receivables	**$ 1,063,640**	**$ 1,063,640**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**	**$ 1,063,640**
Borrowings	**759,493**	**304,696**	**116,319**	**105,385**	**90,935**	**70,717**	**91,740**	**779,792**
Derivative liabilities	**152**	**152**	**—**	**—**	**—**	**—**	**—**	**152**
Other	**15,593**	**4,640**	**2,782**	**2,404**	**2,074**	**1,831**	**1,863**	**15,593**
Total	**$ 1,838,878**	**$ 1,373,127**	**$ 119,101**	**$ 107,788**	**$ 93,009**	**$ 72,548**	**$ 93,603**	**$ 1,859,177**

3) Fair Value of Financial Instruments

The Group classifies financial instruments into the following three levels in the fair value hierarchy according to the observability of inputs used for fair value measurement in markets:

Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities
Level 2: Directly or indirectly observable inputs that are not included in Level 1
Level 3: Fair value that is determined using a valuation technique including unobservable inputs

Carrying amount and fair value of financial instruments measured at amortized cost are as follows:

	Millions of yen				Thousands of U.S. dollars	
	As of March 31, 2018		**As of March 31, 2019**		**As of March 31, 2019**	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Long-term loans payable	¥ 60,503	¥ 60,360	**¥ 62,601**	**¥ 61,868**	**$ 564,028**	**$ 557,418**

The above figures include balances to be collected within one year or to be repaid and redeemed within one year.

Financial instruments for which the carrying amount is reasonably approximate to the fair value are not included in the table above.

For fair value of long-term borrowings, the method where the fair value is calculated by discounting the total amount of principal and interest using the interest rate assumed for a similar new loan is used.

Borrowings are classified as Level 3 in the fair value hierarchy.

Assets and liabilities measured at fair value by the Group are as follows:

	Millions of yen			
As of March 31, 2018	Level 1	Level 2	Level 3	Total
<Financial Assets>				
Financial assets measured at fair value through profit or loss				
Investments (equity financial assets)	¥ —	¥ —	¥ 4,620	¥ 4,620
Derivatives	—	22	—	22
Financial assets measured at fair value through other comprehensive income				
Investments (equity financial assets)	46,636	—	10,011	56,646
Financial assets defined as hedging instruments				
Derivatives	—	138	—	138
Total	¥ 46,636	¥ 160	¥ 14,631	¥ 61,426
<Financial Liabilities>				
Financial liabilities measured at fair value through profit or loss				
Derivatives	—	119	—	119
Total	¥ —	¥ 119	¥ —	¥ 119

	Millions of yen			
As of March 31, 2019	Level 1	Level 2	Level 3	Total
<Financial Assets>				
Financial assets measured at fair value through profit or loss				
Investments (equity financial assets)	**¥ —**	**¥ —**	**¥ 4,570**	**¥ 4,570**
Derivatives	**—**	**1**	**—**	**1**
Financial assets measured at fair value through other comprehensive income				
Investments (equity financial assets)	**37,786**	**—**	**12,649**	**50,434**
Financial assets defined as hedging instruments				
Derivatives	**—**	**58**	**—**	**58**
Total	**¥ 37,786**	**¥ 60**	**¥ 17,219**	**¥ 55,064**
<Financial Liabilities>				
Financial liabilities measured at fair value through profit or loss				
Derivatives	**—**	**17**	**—**	**17**
Total	**¥ —**	**¥ 17**	**¥ —**	**¥ 17**

As of March 31, 2019	Thousands of U.S. dollars Level 1	Level 2	Level 3	Total
<Financial Assets>				
Financial assets measured at fair value through profit or loss				
Investments (equity financial assets)	$ —	$ —	$ 41,179	$ 41,179
Derivatives	—	13	—	13
Financial assets measured at fair value through other comprehensive income				
Investments (equity financial assets)	340,443	—	113,962	454,405
Financial assets defined as hedging instruments				
Derivatives	—	524	—	524
Total	$ 340,443	$ 537	$ 155,141	$ 496,121
<Financial Liabilities>				
Financial liabilities measured at fair value through profit or loss				
Derivatives	—	152	—	152
Total	$ —	$ 152	$ —	$ 152

(Note) Other than the above assets and liabilities, the Company has entered into an agreement with non-controlling shareholders that the Company purchases all interests held by the non-controlling shareholders under certain terms and conditions. With regard to the obligations to purchase these interests, ¥460 million ($4,140 thousand) that is the present value of the purchase amount has been recognized as financial liabilities. These are classified as Level 3 in the fair value hierarchy.

Transfer between levels in the fair value hierarchy is recognized on the day when the event or change in circumstances that caused the transfer occurred. In each fiscal year, there was no significant transfer between Level 1 and Level 2 in the fair value hierarchy.

Changes in financial instruments classified as Level 3 are as follows:

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018 (from April 1, 2017 to March 31, 2018)	Fiscal year ended March 31, 2019 (from April 1, 2018 to March 31, 2019)	Fiscal year ended March 31, 2019 (from April 1, 2018 to March 31, 2019)
Balance at the beginning	¥ 6,536	¥ 14,631	$ 131,823
Total gains and losses	2,165	195	1,753
Profit or loss	32	(53)	(482)
Other comprehensive income(Note)	2,133	248	2,234
Purchase	4,515	3,430	30,905
Selling	(673)	—	—
Other	2,088	(1,037)	(9,340)
Balance at the end	¥ 14,631	¥ 17,219	$ 155,141

(Note) Gains and losses included in other comprehensive income relate to financial assets measured at fair value through other comprehensive income as at the reporting date. These gains and losses are included in "net change in financial assets measured at fair value through other comprehensive income" in the consolidated statement of comprehensive income.

Financial assets and liabilities classified as Level 2 are derivative transactions related to foreign exchange forward contracts, interest rate swaps, etc. Fair value of foreign exchange forward contracts, interest rate swaps, etc. is calculated based on observable market data such as interest rate presented by financial institutions with which the Group has transactions and others.

Financial assets classified as Level 3 are mainly unlisted shares. With regard to valuation of unlisted shares, principally, the fair value is measured taking into account future profitability or cash flows of the investees comprehensively. The results are reviewed and approved by a person with appropriate authority. For financial instruments classified as Level 3, an increase or decrease in fair value if unobservable inputs are changed to reasonably possible alternative assumptions is not significant.

4) Hedge Accounting

Effects of hedging instruments designated as hedge on the Group's consolidated statement of financial position are as follows:

As of March 31, 2018	Millions of yen			
	Notional principal of hedging instruments	Carrying amount of hedging instruments: Asset	Carrying amount of hedging instruments: Liability	Item on the consolidated statement of financial position
Cash flow hedges				
Interest rate swap				
Interest rate swap	¥ 11,467	¥ 138	¥ —	Other financial liabilities

As of March 31, 2019	Millions of yen			
	Notional principal of hedging instruments	Carrying amount of hedging instruments: Asset	Carrying amount of hedging instruments: Liability	Item on the consolidated statement of financial position
Cash flow hedges				
Interest rate risk				
Interest rate swap	**¥ 7,869**	**¥ 58**	**¥ —**	**Other financial liabilities**
Hedging instruments of net investment in foreign operations				
Exchange rate risk				
Borrowings in U.S. dollars	**17,471**	**—**	**17,471**	**Borrowings**

As of March 31, 2019	Thousands of U.S. dollars			
	Notional principal of hedging instruments	Carrying amount of hedging instruments: Asset	Carrying amount of hedging instruments: Liability	Item on the consolidated statement of financial position
Cash flow hedges				
Interest rate risk				
Interest rate swap	**$ 70,900**	**$ 524**	**$ —**	**Other financial liabilities**
Hedging instruments of net investment in foreign operations				
Exchange rate risk				
Borrowings in U.S. dollars	**157,408**	**—**	**157,408**	**Borrowings**

There are no cash flow hedge reserve arising from hedge relationship for which the hedge accounting was discontinued, and no ineffective portion of hedges recognized in profit or loss.

Effects of hedging instruments designated as cash flow hedges and hedges of net investment on the Group's profit or loss and other comprehensive income are as follows:

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)	Millions of yen		
	Hedging gains(losses) recognized as other comprehensive income (Note)	Transfer from other components of equity to profit or loss as reclassification adjustments (Note)	Item of transfer to profit or loss as reclassification adjustments
Cash flow hedges			
Interest rate risk			
Interest rate swap	¥ 154	¥ 59	Financial costs

(Note) Before tax effect

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)	Millions of yen Hedging gains(losses) recognized as other comprehensive income (Note)	Transfer from other components of equity to profit or loss as reclassification adjustments (Note)	Item of transfer to profit or loss as reclassification adjustments
Cash flow hedges			
Interest rate risk			
Interest rate swap	¥ (79)	¥ (49)	Financial costs
Hedging instruments of net investment in foreign operations			
Exchange rate risk			
Borrowings in U.S. dollars	337	—	—

(Note) Before tax effect

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)	Thousands of U.S. dollars Hedging gains(losses) recognized as other comprehensive income (Note)	Transfer from other components of equity to profit or loss as reclassification adjustments (Note)	Item of transfer to profit or loss as reclassification adjustments
Cash flow hedges			
Interest rate risk			
Interest rate swap	$ (715)	$ (443)	Financial costs
Hedging instruments of net investment in foreign operations			
Exchange rate risk			
Borrowings in U.S. dollars	3,035	—	—

(Note) Before tax effect

(33) Subsidiaries

The number of consolidated subsidiaries as of March 31, 2019 is 61 (48 as of March 31, 2018).

Changes in the consolidated subsidiaries in the current fiscal year are as follows:

The number of company consolidated by acquisition, establishment, etc.: 16

The number of subsidiaries excluded by liquidation, sales, etc.: 3

The condensed financial information for consolidated subsidiaries which the Group has recognized significant non-controlling interests are as follows. The condensed financial information shows the amount before elimination of transactions within the Group.

Techno-UMG Co., Ltd.

1. Proportion of Non-Controlling Interests and the Cumulative Amount of Non-Controlling Interests

	Millions of yen As of March 31, 2019	Thousands of U.S. dollars As of March 31, 2019
Proportion of share of non-controlling interests	49%	49%
The cumulative amount of non-controlling interests	¥ 18,613	$ 167,698

2. Profit or Loss Allocated to Non-Controlling Interests and Dividends Paid for Non-Controlling Interests

	Millions of yen Fiscal year ended March 31, 2019	Thousands of U.S. dollars Fiscal year ended March 31, 2019
Profit or loss allocated to non-controlling interests	¥ 2,678	$ 24,124
Dividends paid for non-controlling interests	573	5,164

3. The Condensed Financial Information

(i) Condensed Statement of Financial Position

	Millions of yen	Thousands of U.S. dollars
	As of March 31, 2019	**As of March 31, 2019**
Current assets	**¥ 46,648**	**420,293**
Non-current assets	**23,186**	**208,905**
Total assets	**69,835**	**629,198**
Current liabilities	**26,973**	**243,018**
Non-current liabilities	**800**	**7,206**
Total current liabilities	**¥ 27,772**	**$ 250,225**
Total equity	**¥ 42,062**	**$ 378,974**
Total Liabilities and equity	**¥ 69,835**	**$ 629,198**

(ii) Condensed Statements of Profit or Loss and Comprehensive Income

	Millions of yen	Thousands of U.S. dollars
	Fiscal year ended March 31, 2019	**Fiscal year ended March 31, 2019**
Revenue	**¥ 90,053**	**$ 811,358**
Profit (loss)	**5,712**	**51,460**
Comprehensive income	**5,648**	**50,890**

(iii) Condensed Statement of Cash Flows

	Millions of yen	Thousands of U.S. dollars
	Fiscal year ended March 31, 2019	**Fiscal year ended March 31, 2019**
Cash flows from operating activities	**¥ 2,526**	**$ 22,758**
Cash flows from investing activities	**(291)**	**(2,624)**
Cash flows from financing activities	**(3,970)**	**(35,766)**
Net increase (decrease) in cash and cash equivalents	**(1,735)**	**(15,632)**
Cash and cash equivalents at end of period	**3,653**	**32,914**

(34) Related Parties

1) Transactions with Joint Venture

Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)

			Millions of yen	
Attribute	Name of company	Contents of transactions	Transaction amount	Balance at the end of the current fiscal year
Joint venture	KRATON JSR ELASTOMERS K. K.	Manufacturing consignment of elastomer products	¥ 11,032	¥ 6,123
		Supply of raw material gas	5,343	3,118

(Notes) 1. Transactions with joint venture have been determined through price negotiations in light of market prices and others. In addition, the receivables and payables are settled in cash and consistent with terms of third party settlements.
2. There is no outstanding balance of collateral or guarantee. Loss allowance has not been made for the receivables.

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

			Millions of yen	
Attribute	Name of company	Contents of transactions	Transaction amount	Balance at the end of the current fiscal year
Joint venture	KRATON JSR ELASTOMERS K. K.	Manufacturing consignment of elastomer products	**¥ 11,134**	**¥ 6,150**
		Supply of raw material gas	**5,558**	**3,013**

(Notes) 1. Transactions with joint venture have been determined through price negotiations in light of market prices and others. In addition, the receivables and payables are settled in cash and consistent with terms of third party settlements.
2. There is no outstanding balance of collateral or guarantee. Loss allowance has not been made for the receivables.

Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)

			Thousands of U.S. dollars	
Attribute	Name of company	Contents of transactions	Transaction amount	Balance at the end of the current fiscal year
Joint venture	KRATON JSR ELASTOMERS K. K.	Manufacturing consignment of elastomer products	**¥ 100,313**	**$ 55,406**
		Supply of raw material gas	**50,081**	**27,147**

(Notes) 1. Joint venture transactions have been determined through price negotiations in light of market prices and others. In addition, the receivables and payables are settled in cash and consistent with terms of third party settlements.
2. There is no outstanding balance of collateral or guarantee. Loss allowance has not been established for the receivables.

2) Key Management Personnel Compensation

	Millions of yen		Thousands of U.S. dollars
	Fiscal year ended March 31, 2018 (April 1, 2017 to March 31, 2018)	**Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)**	**Fiscal year ended March 31, 2019 (April 1, 2018 to March 31, 2019)**
Basic compensation	¥ 268	**¥ 276**	**$ 2,490**
Bonuses	44	**103**	**930**
Share-based remuneration	37	**37**	**330**
Total	¥ 348	**¥ 416**	**$ 3,751**

(35) Commitments

Commitments related to expenditures taking place after the last day of the fiscal year are as follows:

	Millions of yen		Thousands of U.S. dollars
	As of March 31, 2018	**As of March 31, 2019**	**As of March 31, 2019**
Acquisition of property, plant and equipment	¥ 4,429	**¥ 1,573**	**$ 14,171**
Acquisition of intangible assets	40	**—**	**—**

(36) Subsequent Events Purchase of treasury shares

On April 24, 2019, the Board of Directors of the Company resolved to purchase its treasury shares pursuant to the provisions of Article 156, which is applicable in accordance with Article 165 (3) of the Corporation Act of Japan.

1. Purpose of Purchase

It aims to improve capital efficiency and exercise agile capital policies corresponding to changes in the business environment. Based on the Company's shareholders return policy, which is approx. 50% of total shareholders return ratio while maintaining financial soundness for growth investments, it intends to purchase its own shares.

2. Details of Purchase

1) Type of shares to be purchased:
Common shares of the company
2) Maximum number of shares:
Up to 6,250,000 shares
(approximately 2.83% of total number of shares issued (excluding treasury stock))
3) Maximum value of buyback:
Up to ¥10,000 million ($90,098 thousand)
4) Method of purchase:
Market purchase through a securities company based on a trade contract
5) Period of purchase:
From April 25, 2019, to September 30, 2019
(Japan Standard Time)

KPMG

Independent Auditor's Report

To the Board of Directors of JSR Corporation

We have audited the accompanying consolidated financial statements of JSR Corporation and its consolidated subsidiaries , which comprise the consolidated statement of financial position as at March 31, 2019, and the consolidated statement of profit or loss, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended , and notes on consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

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

Auditor's Responsibility

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

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

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

Opinion

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

Convenience Translation

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2019 are presented solely for convenience. Our audit also included the translation of yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 2 to the consolidated financial statements.

KPMG AZSA LLC

KPMG AZSA LLC
June 28, 2019
Tokyo, Japan